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今年も本学会の活動の結実として Proceedings of JASFL 第 11 巻を発行することができました。これもひとえに会員諸氏の精力的な研究活動と学会活動へのご尽力の賜物と感謝しております。

今回発行されました Proceedings of JASFL Vol. 11　2017 は昨年 10 月 8 日と 9 日に立命館大学（びわこ・くさつキャンパス）で開催された日本機能言語学会第 24 回秋期大会の研究発表内容を論文に改定した論文集です。若手研究者による新しい視点からの発表、テーマを深く掘り下げた中堅・古参研究者の発表とその内容は広範で多岐にわたり、２日間にわたる有意義な質疑応答や議論の成果が反映された力作ぞろいとなっています。絵本を題材にしたマルチモダリティーの分析、視覚が言語構造とどのように関連しているかという認知科学的分析、アプレイザルの観点から分析した作文評価、テナーとしての読者にどのように価値判断を伝達するかという談話分析、科学的な教科書の語彙文法的分析、文化的な方略と評価がどのように異なるかを明示した談話分析、視覚的情報がどのように聴覚的情報の理解に関連するかというマルチモダリティーの教育的分析、和歌の英訳が SFL でどのように分析できるかを示した翻訳研究、いずれも最新の SFL 理論を準用した秀作ぞろいとなっています。

また特別講演としては、Fred C. C. Peng 博士をお迎えし、**‘What Is Language and Where Is It Located?’** と題して講演していただきました。Peng 先生は日本における SFL の先駆者のお一人でもあります。今回の講演では脳科学をわかりやすく解説しながら、言語が脳の局在にあるのではなく、コンテクストに沿った「行動としての言語」は脳全体の機能によって具現化されているということを明示的にご講義していただきました。また今回の Proceedings に特別にご講演内容をまとめていただいたものを寄稿していただきました。

上記のような SFL に関する最新の研究、知見などが満載された Proceedings of JASFL Vol. 11　2017 が会員諸氏にとって今後の SFL 研究の一助になれば、本学会を代表するものとして、これにまさる喜びはありません。

日本機能言語学会会長
龍城正明

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論文

Japan Association of Systemic Functional Linguistics

What Is Language and Where Is It Located?

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Abstract

These questions have been the core issue of my concern ever since I got my Ph.D. in 1963. My answers are now: Language exists in two places: the brain and society. However, the purpose is to elaborate the first, leaving the second for another occasion, so as to help linguists realize the importance of proper understanding of the brain functions of memory and cognition in relation to the production and reception of behaviors.

1. My Lecture

The answer to "What Is Language?" varies, depending on who answers the question and to whom the question is asked. Here are some examples.

I. **To laypeople**: the answer is likely to be:
(1) It has words, ways that we string them together and pronounce them to communicate ideas.
(2) It is a tool to communicate
(3) It is written texts, with no distinction from oral language, owing to some languages, like Chinese, which have a built-in restriction to make the distinction:
英語/英文 日語/日文 ?/中文 台語/? 美語/?
I was asked once by a Chinese from China, 你會不會講中文? Do you speak 中文? My answer was: 我不會 中文是用寫的. "I can't. 中文 is for writing".

II. **To linguists**: It has 'lexicon', 'syntax', 'phonology', and 'semantics'. For this view, linguists have made three independent definitions as follows:
(1) To structural linguists in the forties and fifties, the definition was: A system of arbitrary vocal symbols. This is what I was taught.
(2) In the sixties, however, the definition was changed to: An infinite set of sentences, which unfortunately dominated the scene in the Linguistic Society of America for two decades, owing to the upcoming trend in MT (Machine Translation) because of the Cold War with the then Soviet Union. Chomsky's *Syntactic Structures* (1957) was an offshoot of the Cold War, making use of the methodology in MT headed by Victor Yngvy at MIT.
(3) Then came along Michael Halliday in the seventies to propose yet another definition in Systemics, which is: A social-semiological system for making meanings in contexts of situation.

In general, however, most people make no distinction between language and speech or written texts.

III. **To medical people:** language exists in the brain as a single unit, a thing controlled by a center, a notion started by Gall who proclaimed the idea of phrenology. This led to the subsequent claims of language centers in the brain, as may be explained below.

(1) Gall's idea of phrenology: He claimed that the shape of the human skull covering the brain has different locations in each individual varying from one to another, which reveal the individual's personality, intelligence, emotion, and language. Although his notion has subsequently diminished, its traces can still be found in fortune telling, like palm-reading by Gypsy fortune tellers and Chinese fortune-tellers, as well as face-reading (面相) in Taiwan.

(2) Broca's claim of articulate center: It was not until 1861 when Paul Broca, a French neuroscientist and later phrenologist, published the first clinical report of his observation in a patient, by the name of Leborgne, known otherwise as Tan-Tan in the literature, to claim the idea of language being lateralized to the left hemisphere, an idea that began to emerge in subsequent medical literature.

Tan-Tan's brain was autopsied and taken to a conference in Paris where Broca presented the "evidence". Broca presented his second case report on another patient by the name of Lelong to solidify his view of lateralization of language to the left hemisphere. And the location of this lateralized language in the brain has become known as Broca's area, any damage to which produces language disorders which in aphasiology are therefore termed **Expressive Aphasia.**

However, Pierre Marie, another French neuroscientist, when he studied Tan-Tan's brain later and Broca's claim of lateralization of language to the left hemisphere on the basis of Tan-Tan's language pathology and Lelong's, referred to Gall's ideas mentioned above as "nonsense". Moreover, in 1906, he re-examined Tan-Tan's brain, which had been kept in formalin at a museum in Paris, and declared in *Semaine medicale*, 23 May 1906, that "la troisième circonvolution frontale gauch ne joue aucun rôle special dans la function du langage" (the third, left, frontal convolution plays no special role in the function of language).

(3) Karl Wernicke: a German neuroscientist, followed up Broca's line of development and published in 1874 his case report in an attempt to modify and define a systematic picture of aphasia which later was synthesized by Lichtheim to form what has become known in aphasiology as the Lichtheim-Wernicke's Model of Aphasia.

Wernicke's patient had a different location of lesion in the brain and his resultant aphasia has been known in the literature as **Receptive Aphasia** for which the responsible lesion site is known today as **Wernicke's Area;** it is supposed to be localized in the posterior one third of the superior gyrus of the left temporal lobe. But, interestingly enough, such an area cannot be pin-pointed by subsequent researchers as has been reported in the literature. Be that as it may, the point I am making is that Wernicke's case also had an apoplectic episode, and that he made a speculation that the posterior one third of the superior gyrus of the left temporal lobe had a pathway to connect Broca's area. It is now known as the Arcuatus Fasciculus.

But Wernicke's bold speculation was apparently inspired by Ferrier's publication in 1873, who localized the auditory center in the first temporal convolution and speculated that there had to be a pathway which connected the auditory center and the third, left, frontal convolution advocated by Broca as the site of the faculty of articulate language. The credit of this speculated pathway of the Arcuatus Fasciculus should also be given in part to Ferrier. I should add that these contributions have subsequently established the lasting tradition (albeit incorrectly) of two "language centers" – Broca's Area and Wernicke's Area – to this date.

The debates of lateralization of language to the left hemisphere have thus come down to focus on the issue of "cerebral dominance" of brain functions which is often equated with "cerebral laterality" in neuroscience. To me, the equation is wrong. The reason is that the proponents of "cerebral dominance" assume that there are language centers in the brain, -- remnant of phrenology in my view-- but that they in addition tie together the so-called "language centers" to handedness (hand predominance), eye-predominance, ear-predominance, and leggedness (leg-predominance).

The point I am stressing is that once the concept of "language centers" is proven erroneous, the issue of "cerebral dominance" evaporates, although cerebral laterality remains, because animals also have "handedness", eye-predominance, and ear-predominance. Put differently, the two hemispheres are functionally asymmetrical (i.e., different) but interdependent along with the peripheral nervous system in the brain stem, and structurally interrelated because they are more or less homologous in mirror-image. For this reason, I have changed **cerebral laterality** to **cerebral asymmetry**.

The difference between **cerebral dominance or cerebral laterality** and **cerebral asymmetry**, from my point of view, is this: The former assumes that one hemisphere dominates the other, in respect to brain functions for a behavior, say, language, to the extent that the dominant hemisphere does all the work to the exclusion of the other hemisphere; the latter, on the other hand, indicates the sharing of such brain functions between the two hemispheres, albeit unevenly, for the expression of behaviors as shown in Figure 1 and Figure 2 further below, making use of the various body parts involved for production and reception. For this reason, I have chosen to change the terminology in favor of **cerebral asymmetry.**

2. What Is Language in the Brain Like?

Since, to me, language exists in the brain, I shall now explicate what it is like. First, let me point out that in English there are two terms, **language** and **speech,** but that in French there are three terms, *la langue*, *la parole*, and *le langage.* To clarify this discrepancy I have divided language as behavior into two aspects: (1) Individual and (2) Social, by assigning *langue* and *parole* to the Individual Aspect of language -- the brain-- and *le langage* to the Social Aspect of language --society.

As such, let me also point out initially that language in the brain is behavior which is **memory-governed, meaning-centered, and multifaceted**, because sign language is now regarded as a language. The idea is to lead linguists to realize the importance of proper understanding of how brain functions work in production and reception of behaviors. First and foremost, such brain functions make use of body parts in order to enable each individual to make proper adjustments to the internal and external environment, be they proper or not.

In other words, I raise the question of whether there is grammar in the brain or not. My conclusion is that there is no grammar in the brain, and that Halliday`s notion of "grammar brain" is a farce. In particular, I comment on Saussure's notions of *langue* and *parole* as well as his notions of *signifiant* (sound) and *signifié* (concept) to point out with illustrations of contradictions that there is no grammar in the brain. It is an epistemological artifact conveniently created by linguists and not an ontological given.

For this approach, I introduce a brief description of neuroanatomy of the brain and the spinal cord below to pave the way for my theoretical frameworks of **catalytic mapping for production and coupling for reception**; both of them illustrate that language in the brain is behavior which depends very much on the basal ganglia as the subcortical structures for the extrapyramidal looping to form thinking and thoughts.

What is memory, then? To psychologists, cognition consists of **thinking**, **learning,** and **memory**. This is a wrong view, because it puts memory apart from cognition as a subordinate, when the brain functions of memory and cognition are heads and tails of the same coin, enabling each individual to make proper adjustments to the external and internal environments, making use of body parts available to each human. My aim is to stress that all behaviors are memory-governed in the brain, and that the brain functions of memory and cognition depend very much on the brain stem which is constantly telling the cortex what to do for production and reception of behaviors. Put differently, language in the brain is behavior which is not lateralized to the left hemisphere and music, also behavior, is not lateralized to the right hemisphere, as assumed by people who believe in the regional differences of brain functions.

Such erroneous views of regional differences as higher brain functions assume that each hemisphere does all the work to the exclusion of the other side. I challenge such regional differences on the following grounds: (1) the cranial nerves in the brain stem are needed by way of the important pathways called **corona radiata (including internal capsule)** in both hemispheres through the corpus callosum; (2) the **basal ganglia** must take part**;** and (3) other inner structures as well as the peripheral nervous system are also involved. They all contribute important functions and play important roles in the realization of behaviors in production and reception. Without their contributions, there is no behavior in production and reception from the cerebrum alone.

In so doing, I stress that the brain functions of memory and cognition are not confined to the two hippocampi; rather, they are the neurophysiological activities as electric impulses which result from the firing of neurotransmitters, transmitting from presynaptic neurons to postsynaptic neurons across the synaptic clefts. Therefore, the brain functions of memory and cognition are heads and tails of the same coin, owing to the chemical exchange of sodium and potassium, all or nothing, to become electric impulses which are the only signals the nervous systems recognize. I thus point out that there is no grammar in the brain and emphasize again that grammar is the epistemological artifact conveniently created by linguists, and not an ontological given.

For this reason, I quote de Saussure`s idea that when concept unlocks its corresponding sound as a psychological phenomenon to form a tightly knit union, they are bound together like two sides of a sheet of paper, with concept on the top and sound on the bottom, such that you cannot cut the surface without cutting the bottom as the same time. See Figure 5 further below. Therefore, there is no grammar between the two sides of each union, which are **catalytically mapped.** However, I will show that the sound so mapped must be separated from the concept for production by means of the appropriate cranial nerves in the brain stem, so as to come out as physical sounds through the vocal apparatus for oral language but through the brachial apparatus for sign language.

In such illustrations, I specifically point out two things: (1) The physical sounds or gestures in production have no meaning in and by themselves, because the meaning remains in the brain of each speaker/signer. (2) The hearer/viewer must then reconstruct meaning of the sounds heard from speaker and gestures viewed from signer, but the meaning hearer/viewer reconstructs is nine times out of ten not the same as the meaning speaker/signer originally constructed.

I conclude that members of the Society, JASFL, which was instigated by me when I invited Halliday and his followers to Japan for a series of lectures in one of the Summer Institutes, should continue to strive in order to find out what language really is without being disappointed that there is no “grammar brain”, a term invented by Halliday. You can continue to probe language in the brain as behavior for production and reception, or language in society for bilingualism, as more and more Japanese young people marry non-Japanese people and migrant refugees come to Japan, albeit not as many as to Europe and USA.

3. A Brief Description of My Theoretical Constructs

Although I illustrated neuroanatomical slides quoted from a textbook, because of copyright restriction, I will not employ such illustrations in writing; only brief written descriptions will be provided here.

The nervous system is made up of (1) a central nervous system and (2) a peripheral nervous system. The former consists of the brain and the spinal cord, each being wrapped up by three layers of membranes, called meninges; that is, **dural matter, arachnoid**, and **pia matter**.

The brain has two hemispheres which are homologous but asymmetrical in mirror-image. Each hemisphere has five lobes: (1) frontal lobe, (2) temporal lobe, (3) parietal lobe, (4) occipital lobe, on the lateral side, and (5) the limbic lobe on the medial side. Each lobe is “wrinkled up” to form varying bundles of concentrated nerve cells, each one of which is called a **gyrus**.

These gyri of each lobe are covered with layers of the cell bodies of neurons, referred to as cortex. The cortex of each lateral lobe is often referred to as neocortex in contrast with the cortex of the limbic lobe as paleocortex.

4. Language in the Brain Is Behavior Made up of Two Planes

In this section, I now delve into neuroanatomy and neurophysiology to further substantiate my theoretical constructs. However, I should remind the reader that my theoretical constructs rest on (1) the primary brain functions which constitute an inchoate mass of impulses and, in part, (2) the brain functions of neuromuscular coordination in both production and reception which also constitute an inchoate mass of impulses.

Since the former must be connected to the latter in the brain in order to enable the individual to make proper adjustments to the internal and external environments as behavior for production and reception in varying contexts, I claim that they constitute two planes, namely, (1) Content Plane and (2) Expression Plane, the physiological functions of which result in behaviors. To these I add a new core distinction, viz., **Individual** Aspect and **Social Aspect**. They are combined with Saussure's core distinction of ***Langue*** and ***Parole*** to constitute a matrix as follows:

SOCIAL	INDIVIDUAL	
I	II	*LANGUE*
III	IV	*PAROLE*

Figure 1. Matrix of the two aspects of language and Saussure's *langue* and *parole*

The concept embodied in this matrix can be re-constituted into two planes schematically as follows:

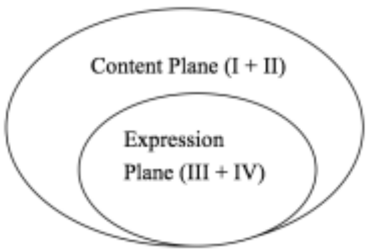

Figure 2. The Two Planes of Language in the Brain

These two planes are now explained below.

5. Content Plane: An Inchoate Mass of Impulses, Constituting Proto-meanings

In this section, I delineate the first plane in relation to the second plane on the basis of the above-mentioned matrix. Recall that language in the brain has two aspects which are like the two faces of Janus, one looking inward to the nervous system while the other looking outward to society. Thus, I claim that the intersections of the new core distinction and Saussure's *langue* constitute the content plane (i.e., I and II) in each individual's primary brain functions, whereas the intersections of the new core distinction and Saussure's *parole* constitute the expression plane (i.e., III and IV) in each individual's brain functions of neuromuscular coordination for both production and reception. The interactive connections between the individual's primary brain functions and brain functions of neuromuscular coordination may be depicted as follows

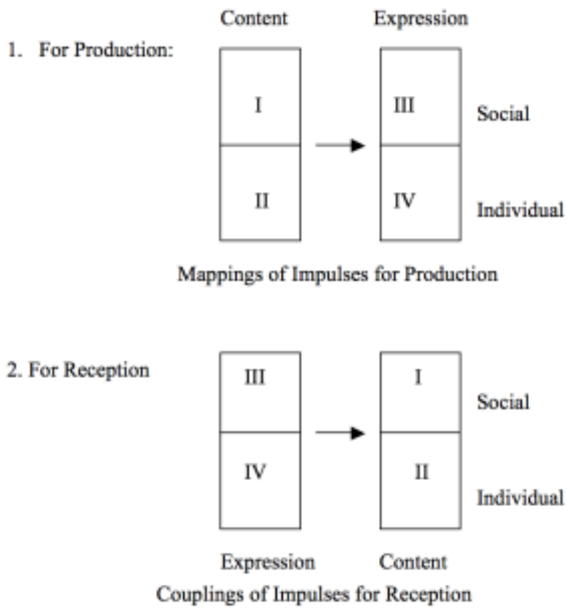

Figure 3. Interactive Connections between Primary Brain Functions and Brain Functions of Neuromuscuclar Coordination

I have also modified Saussure's speech circuit between members of a dyad in a diagram which ostensibly looks similar to the schematic representation illustrated above as Figure 3. Since there are significant differences, they are specifically stated below.

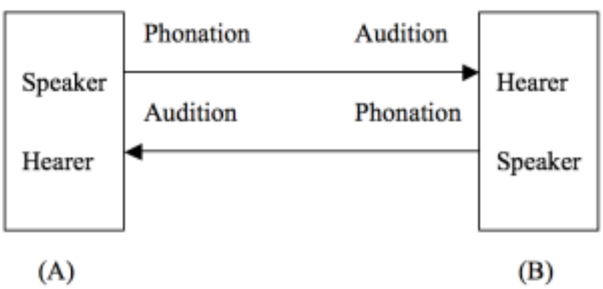

Figure 4. Modified Saussure's Speech Circuit between Members of a Dyad.

The major differences between Figure 3 and Figure 4 are the following:

(1) Figure 3 depicts each dyadic member's brain functions for production and reception resulting from the interactive connections between his/her primary brain functions (content plane) and his/her brain functions of neuromuscular coordination (expression plane), whereas Saussure's idea (Figure 4) only illustrates the verbal contact between members of a dyad. That is, to me the interactive connections are neurophysiological in terms of impulses (proto-meanings) for both verbal and nonverbal, but to Saussure what goes on in each dyadic member's brain is psychological, constituting **thought** (or concept) which is an inchoate mass of ideas, and what enters the ear or comes of the mouth is physiological, thereby resulting in **sound** which is physical but just as indeterminate.

(2) To me, there is no grammar (or social-semiological system) in the brain, and therefore the interactive connections between content plane (or primary brain functions) and expression plane (or brain functions of neuromuscular coordination) are made possible directly by impulses caused by neurotransmitters which are facilitated by CREB (camp Responsive Element Binding) proteins.

To Saussure, however, "the characteristic role of the language system (i.e., *langue*) *vis-ằ-vis* thought is not to create a material phonic means for the expression of ideas, but to serve as the intermediary between thought and sound … so that their union necessarily brings about reciprocal delimitations of units" (Thibault, 1997). It is this very characteristic role of the language system (i.e., grammar) purported by Saussure as the intermediary (or, in Hallidayan terminology, social-semiological system) between thought and sound that has influenced and dominated the contemporary theories of linguistics.

(3) Figure 3 indicates that there is no intermediary between primary brain functions and brain functions of neuromuscular coordination for production and reception in each dyadic partner's brain, and therefore each such dyadic partner is at one and the same time a speaker and a hearer (in oral language) or a signer and a viewer (in sign language). For this reason, there is no left or right sound, when it is uttered or heard, in oral language, unless there is a hearing impairment on the part of hearer. But in sign language, it makes a difference between a right-handed signer and a left-handed signer, especially when two-hand signs are involved; even finger-spellings also make a difference, depending on whether the finger-spelling system is a one-hand system (as in ASL and JSL) or a two-hand system (as in British Sign Language). It follows that what the signer sees when he/she signs is the mirror-image of what the viewer sees. No such differences exist in oral language between speaker and hearer, however.

(4) Thus, the meanings constructed by speaker or signer are nine times out of ten not the same as the meanings reconstructed by hearer or viewer. To Saussure, on the other hand, Figure 4 favors speaker at the expense of

hearer, without taking into consideration sign language, because it assumes that the meaning produced by speaker via the intermediary through phonation is the same as the meaning received by hearer via again the intermediary but through audition.

(5) Figure 3 implies that when an impulse (concept or meaning) in the content plane is mapped onto its corresponding impulse (sound-image) in the expression plane, the catalytic mapping results in a state of **language potentiation.** But there is no such provision in Figure 4.

I have in the preceding sections alluded to: (1) the primary brain functions in terms of impulses (proto-meanings) from varying contexts through the interactive connections with the brain functions of neuromuscular coordination in both production and reception; and (2) the results of contacts in terms of relationships between context of situation and context of culture. Therefore, I should explicate four terms; namely, **mind set**, **context of culture**, **thought**, and **ideology**. However, I must add that the first three terms overlap and will be used somewhat interchangeably. But let me explicate the term **thought** first in the content plane, so as to delineate the others, also in the content plane; my explications serve as the foundation on which the term **ideology** will be based, thereby resulting from them.

However, I must mention and illustrate that many contexts of situation, which are said to be more dynamic and change continuously as time goes by, will cumulatively become impulses in each dyadic partner's primary brain functions (i.e., content plane) as background noises.

These impulses accumulated over time in the content plane are not stationary "things" placed in "a box"; rather, they are electrical signals caused by chemical substances called neurotransmitters; the transductions of these neurotransmitters from one neuron to another are facilitated by the **activator** CREB protein and/or constantly controlled (or checked) by the **repressor** CREB protein regarding the excitatory and/or inhibitory transmissions of impulses. As a result, all impulses in the inchoate mass move around constantly, be they fresh and new impulses or background noises.

Many such impulses are fresh, like encountering a new or renewed context of situation, but the majority of them are not fresh nor are they newly evoked; that is, they have been moving around in the brain for quite some time, ranging from childhood to a few years back or several days ago, as part of the "background noises". On the basis of this dynamic nature of context of situation, I have postulated the many relationships between context of situation and context of culture, whereby context of culture can frequently merge with context of situation to serve as new contexts of situation in human behaviors. For this reason, the inchoate mass of impulses, of which the content plane is made up, is said to consist of three kinds of impulses:

(1) fresh impulses;
(2) "background noises"; and
(3) not so fresh impulses.

They together constitute **thought** in each dyadic partner's brain, on account of catalytic mappings. It derives from the **contexts of culture** through experiences encountered from childhood, of which learning is a part, formal (like schooling) or informal (like playing).

In this sense, **thought** and **context of culture** in the primary brain functions overlap. That is, not all contexts of culture will become thought. However, the former—thought-- pertains to language in the brain (oral, written, or sign), whereas the latter – context of culture -- refers to both language in the brain and other non-language impulses which stand ready at anytime to serve as new contexts of situation in behaviors through experiences.

The next point that needs to be clarified is the notion of **mind set.** I define it as a set of impulses confined to each dyadic partner's primary brain functions, irrespective of whether it is related to thought or context of culture, without much interactive connections with the brain functions of neuromuscular coordination for production, albeit not nil connection. However, the formation of a mind set in each dyadic partner's brain is developmental, its impulses being accumulated for a fairly long time, even from childhood.

In this sense, the genesis of a mind set is established more on the interactive connections of each dyadic partner's primary brain functions with the brain functions of neuromuscular coordination for reception, that is, more on passive than on active behaviors in the brain. Moreover, some individuals may maintain one mind set for a life time, because it is so strong that it can lead to destruction, as may be evidenced by many suicide bombers in relation to the 9/11 attacks of the World Trade Centers and the Pentagon, or the insurgents in Iraq and Afghanistan. Such a strong mind set is often "nurtured" by a fanatic religious faith as a part of context of culture.

It is this characteristic nature of **mind set** that psychiatrists, when treating a patient, tend to look into for the patient's past to determine the source or cause of his/her psychiatric problems (or illness), especially the experiences during childhood, by asking the patient to talk. It is here that the patient's impulses in the mind set are connected interactively with his/her brain functions of neuromuscular coordination for production.

On the basis of the three terms just explicated, I now consider **ideology** as the hidden dimension of **thought** and/or **context of culture**, which must be expressed through behaviors, mostly verbal or otherwise, to reflect the dyadic partner's **mind set**. In other words, ideology is the active behavior of **mind set** the impulses of which may come from the dyadic partner's thought and/or context of culture, especially in relation to the social institutions of politics, religion, or economy, or even to theorizing in a discipline, academic or otherwise. In extreme cases, ideology can be deadly and destructive, nurtured by a disordered mind set over time. A good example was vividly displayed by the suicide bombers in the wars in Iraq and Afghanistan.

In view of the aforementioned, I should emphasize that in the Content Plane (the primary brain functions), there are two kinds of impulses: (1) Motoric Impulses for production in connection with the brain functions of neuromuscular coordination and (2) Sensory Impulses from reception also in connection with the brain functions of neuromuscular coordination. The former start with motoric neurons in various regions of the cerebrum and the cerebellum and end in the peripheral body parts, while the latter start with sensory neurons from the body parts but end in various regions of the cerebrum and the cerebellum. However, between these two types of brain structures (i.e., neurons), there are association areas in the cerebrum where these two kinds of impulses communicate or interact by relaying from one gyrus to another, thereby resulting in either **meanings for production** or **meanings in reception.**

These two types of meanings, however, are not exactly identical one-to-one, that is, one meaning in reception does not necessarily become the same meaning for production, because of the associations areas which also change, modify, and/or improve the meanings in reception when such meanings are ready to become the meanings for production.

These brain functions of change, modification, and improvement of meanings are the neurophysiological underpinning of my theoretical construct. That is, each individual is simultaneously a speaker and a hearer (for oral language) or a signer and a viewer (for sign language), and that when the individual as a dyadic partner utters an oral passage or gesticulates a sign passage to the other dyadic partner, the meanings the producer constructs in his/her brain are nine times out of ten NOT the same as the meanings the receiver reconstructs in his/her brain upon hearing speaker's utterances or upon seeing signer's gesticulations.

5.1. Brain Functions in Production

With these points in mind, I shall now illustrate how the meanings as impulses for production in the content plane are to be sent to the expression plane for catalytic mappings. Here, I take it for granted that meanings as impulses for production in the content plane are ready to go, through the extrapyramidal loop, for interactions with the corresponding sound images, also as impulses, in the expression plane, without taking into consideration meanings in reception. Here, for the sake of explicitness, I call meanings as impulses for production **proto-meanings** and the corresponding sound images (in the case of oral language) **expression images** to also include sign images (in the case of sign language). This assumption is needed, because meanings as impulses for production depend on meanings as impulses in reception which come from two sources:

1. Impulses from instantaneous sensory inputs
2. A good portion of the background noises which are available on demand.

During the interactions of the two planes, that is, the interactions of proto-meanings and expression images, I postulate that two neurophysiological processes take place:

1. Catalytic Mappings
2. Binding

in order to set the stage of language potentiation.

Catalytic mapping refers to mapping of each proto-meaning onto each corresponding expression (acoustic or gesture) image. Binding refers to the result of such catalytic mappings whereby the proto-meanings so mapped changes to linguistic meanings and each corresponding expression image changes to a sound image or a sign image when binding takes place. The result of binding is the formation of a state of language potentiation in each speaker/signer's brain.

The results of binding are a series of unions as utterances – in the form of clusters of impulses – and must be lined up in the extrapyramidal looping, getting ready in a state of language potentiation, whether speaker intends to utter and signer intends to gesticulate or not for production. If so, then, the series of unions undergo the neurophysiological process of **separation**, so that only sound images go through the motor cortex in Figure 6 for exit. If not, the series of unions remain in the extrapyramidal looping for the neurophysiological continuation of **thinking** which takes places initially (1) when forming each series of unions and additionally (2) when binding occurs to result in each state of language potentiation.

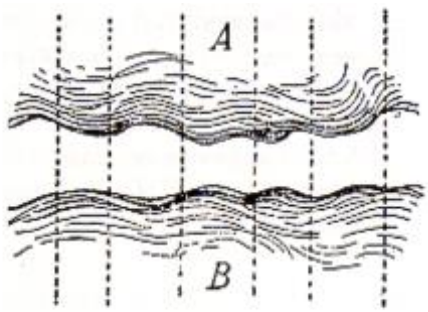

Figure 5: Saussure's Idea of Concept A and Sound B

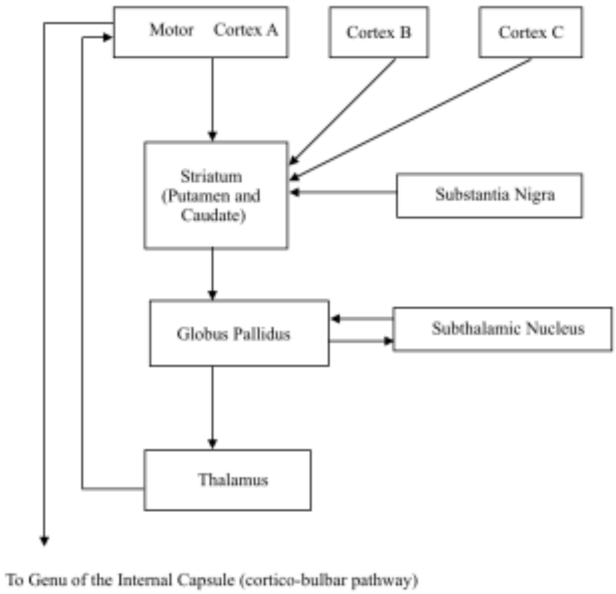

Figure 6: Schematic representation of the simplified extra-pyramidal loop

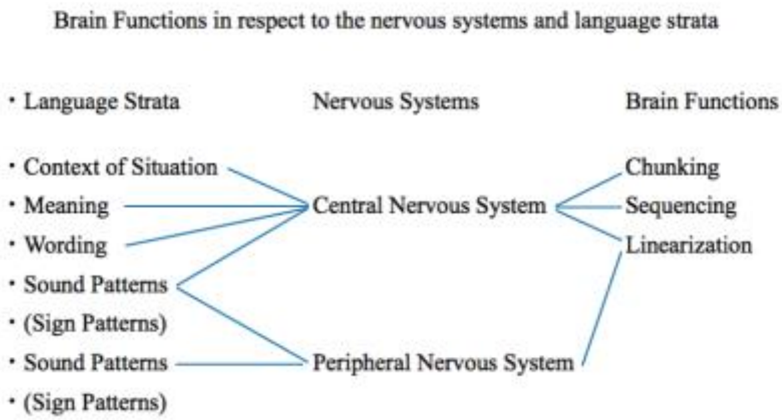

Figure 7. Brain Functions in Respect to the Nervous Systems and Language Strata.

Given the explication of Figure 6 above, I should now point out the relationships between Figure 6 and Figure 7. The focus is the brain functions of Chunking, Sequencing, and Linearization in Figure 7 which take place (1) inside Figure 6 where catalytic mapping and binding must occur as well as (2) when the results of catalytic mapping – sound images as impulses – after separation from linguistic meanings come out of the Motor Cortex A to move to the internal capsule for production.

The former takes shape during language potentiation, whereas the latter separates the corticobulbar pathway for oral language and the corticospinal pathways for sign language as well as non-language gestures. The corticobulbar pathways lead to the appropriate cranial nerves in the brain stem for vocalization – where phonetics comes in -- while the corticospinal pathways lead to the spinal nerves below the brain stem for gesticulation.

To illustrate the working of these brain functions in Figure 7, let me cite an example of phonetics which is the study of vocal tract shape accompanied by actual gestures in production as shown below.

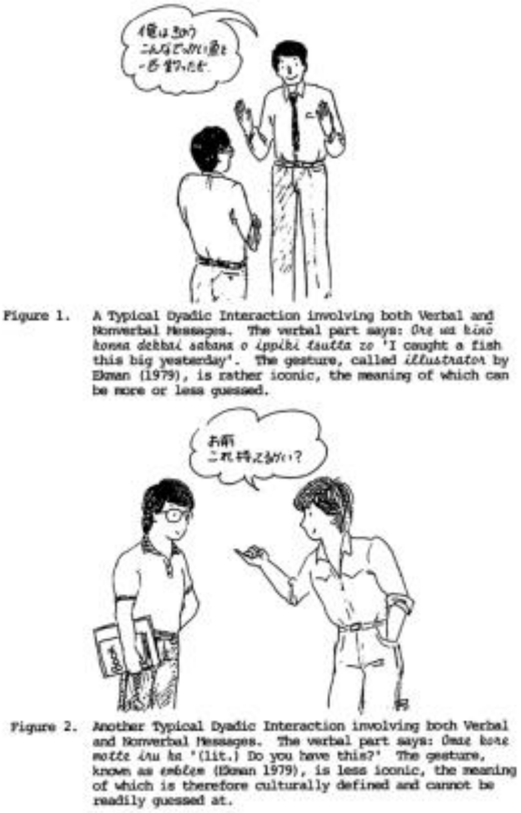

Figure 8: Illustrations of Oral and Manual Productions

Take note that in these cartoons, both articulation and gesticulation from the speaker/signer are produced **more or less together**. Nobody would normally produce them as Gesticulation – Articulation or Articulation – Gesticulation. Even so, the verbal articulation and the manual gesticulation take different pathways, after the sound-images and sign-images are separated from their respective linguistic meanings in the state of language potentiation. Be that as it may, there are two important neurophysiological facts:

(1) The sound-images must undergo the brain functions as shown in Figure 7, as there is more than one union of linguistic meanings and sound-images for chunking, sequencing, and linearization, whereas the sign-images need not be, although in the first cartoon of Figure 8 both upper limbs are made use of.

(2) The sound-images take the corticobulbar pathways through the internal capsule after they are activated by the appropriate cranial nerves in the brain stem. The sign images, on the other hand, take the corticospinal pathways, bypassing the cranial nerves to go directly through the brain stem to reach the spinal cord after decussation of the impulses for each limb; that is, in the second cartoon, only one decussation is needed, whereas in the first cartoon, two decussations, one for each limb, are needed.

Then and only then can speaker/signer's sound-images and sign-images be heard and seen by hearer/viewer. However, hearer-viewer must reconstruct what he has heard and seen to reconstruct the meanings speaker/signer constructed in each cartoon.

5.2. Brain Functions in Reception

Hearer/viewer, on the other hand, must reconstruct the meanings of what he has heard and seen, a neurophysiological process that requires three steps: (1) recognition, (2) identification, and (3) coupling. The first step is to recognize that those impulses heard as sound waves come from human voices which are familiar to him. The second step is to identify such familiar sounds with the impulses in his Expression Plane. (3) Once so identified, hearer/viewer must then couple those familiar sounds and signs as impulses with their appropriate impulses in his content plane in order to reconstruct his own linguistic meanings.

At that time, the background noises from his **context of culture** as I have explained must be evoked. Otherwise, a different reconstruction of meaning might result. For instance, an American who does NOT speak Japanese may take the gesture in the first cartoon to reconstruct the meaning of "something big" but will not be able to associate the meaning in his reconstruction with the linguistic meanings of speaker's utterances in Japanese, because he cannot identify the sounds heard in Japanese.

Likewise, the gesture in the second cartoon might be recognized by a Taiwanese who does not speak Japanese when he couples its impulses in his content plane. But he is likely to reconstruct the meaning of "something weak or inferior or small" without being able to associate the meaning in his reconstruction with the linguistic meanings of speaker's utterances in Japanese, because he likewise fails to identify the sounds heard in Japanese.

What I want to emphasize is that each individual's production depends very much on his/her reception spontaneously from varying contexts of situation or over time from accumulated contexts of culture.

6. Conclusion

By now I trust the reader has a fairly good understanding of what language in the brain is like. Even so, the task of language in the brain remains large, which requires a wide range of cooperative efforts to reveal the whole truth. The reason is that there remains the other half of language in society which many sociolinguists have already started to tackle. I hope that members of JASFL will join forces in this endeavor as a result of my lecture reported in this article.

Reference

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絵本の中の「いたずら」: SFL の枠組みで効果を語る
"Tricks" in Picturebooks: Analyzing and Explaining Their Effects in the Framework of SFL

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Abstract

This paper is a part of the multimodal studies on the typical bimodal text, picturebooks. Picturebooks are the treasuries of ideas and artistic devices to entertain readers. Not only stories are enjoyable, but also pictures contain a variety of "tricks" to surprise and amuse readers. This paper explores the ways these "tricks" work. To talk about meanings of pictures or visual texts, I introduce the systemic functional model of the visual grammar fully explained in Kress and Leeuwen (1996).

First, I classify the "tricks" into four categories: "Hidden Characters" "Hidden Ties" "Moving Immovable Things" and "Playfulness without Words". After that, I focus on the "Hidden Characters" only, and, with the help of the visual grammar proposed by Kress and Leeuwen, analyze why it is enjoyable for readers to seek a hidden character in the classical picturebook, *Goodnight Moon*.

The analysis will show that three kinds of meanings, representational, interactional, and compositional meanings, all collaborate in the picturebook to i) construct readers as observers, ii) create the sense of "peeking" and give observers a thrill, iii) liven up the search by making hidden characters less visible, and iv) give readers a sense of affinity with hidden characters.

1. はじめに

本稿は、絵本の面白さを言語学の枠組みから説明しようとする研究（早川、2007）の一環である。今回は、絵本のさまざまな面白さの中でも、「絵本の中のいたずら」と呼ばれるものに注目して、それが何か、どう働くか、なぜ効果的かを Systemic Functional Linguistics（以下 SFL）の枠組み(Halliday and Matthiessen, 2004)から論ずる。

そもそも、「絵本の中のいたずら」とは何か。このことばは、次の引用から借用した：

子どもの目をよく知っている画家は、ときどき絵本の中に、いろいろ

> と“いたずら”をするものです。さりげなく、何か意味のあるものを書きこむようなことをよくやります。読者が気づかなくともよい。しかし誰か気づくかもしれない。誰が気づくだろう。そんなことを考え、ひとりでにやにやしながら、秘密のサインを読者におくります。（松居、1973: 156）

この引用は、雑誌『こどものとも』の編集長として長年、素晴らしい絵本の数々を世に送り出してきた、松居直氏の著作からとった。このように、絵の中にちょっとした「遊び」または「いたずら」を仕込むのは、絵本ではよく見られる現象である。

では、具体的にはどのような「いたずら」があるのか。まだ分類が不十分だが、本稿では以下の 4 種類を提案する：

- 隠れ登場人物
- 隠れたつながり
- 動く無生物
- （本文にない）遊び

4 番目の「本文にない遊び」はかなり大雑把なくくりで、まだ細分できると考えられる。次節では、とりあえずこの 4 種類がどのようなものか、1 つずつ実例を見ながら簡単に説明していく。

2. 絵本の中のいたずら

2.1 隠れ登場人物

隠れ登場人物とは、本文では言及されないキャラクターが頻繁に絵に登場する、といういたずらである。実例として、Helen Cooper による *Pumpkin Soup* という絵本の一部を説明する。この作品は、猫とリスとアヒルが主人公の絵本で、したがって当然、ほぼすべてのページの絵にこの 3 人（3 匹）が描かれる。ところがよく見ると、この絵本には、この 3 人以外に継続的に出てくるキャラクターがいる。それは、最初に 3 人の家の外観を描いたページの中で、左下に描かれたカボチャ畑のカボチャに乗っている虫の二人組（カブトムシのようなホタルのような形をした、のっぽとふとっちょのペア）である。

この虫たちは、ごく小さくしか描かれておらず、本文でも一度もその存在が言及されることはない。にもかかわらず、よく見ると絵本のあらゆるところに顔を出す。ほかのページを確かめてみると、猫とリスがいなくなったリスを探すカボチャ畑のシーンでも、よく見ると右下に、まるで探し物のありかを示唆するように、傘の先でどこかを指したポーズで描かれている。3 人が喧嘩するシーンでも、左下に描かれた青いカップの横にいて、耳に両手を当てて「うるさい」というポーズをしている。また、裏表紙でも、バグパイプを弾くアヒルの演奏に合わせてダンスをしている姿が、小さく描き込まれている。

大人は絵本を読むとき、ついストーリーだけに気を取られて、絵をよく見ないが、子どもはこうした遊びにすぐに気づく。そして「あ、また見つけた」と言って喜ぶものである。

2.2 隠れたつながり

隠れた繋がりとは、絵の中に描き込まれた複数のものどうしが、何らかの（本文で言及されない）関係やつながりをもつという場合をいう。実例として、筒井頼子 作・林明子 絵の『はじめてのおつかい』の一部を見てみる。これは、「みいちゃん」がお母さんに頼まれて、はじめて牛乳を買いに行く話である。

この物語で、みいちゃんがおつかいの途中、友達のともちゃんに会う場面がある。見開き全体で町内の様子を俯瞰気味に捉えた構図で、下の方に小さく描き込まれたみいちゃんとともちゃんだけでなく、周りの通りや家、さらには窓を通して家々の内部の様子まで見て取れるように描かれている。その町内の一角、塀の上に、ごくごく小さくトラネコが描かれている。この時点では、背景の一部として、目立たずに小さく描き込まれているだけだが、この後、みいちゃんが途中で転んだりしつつも無事にお店にたどり着いた場面で、ふと店の横を見ると、町内掲示板に迷い猫捜索の張り紙が出ている。ここにまさに、さきほどのトラネコの絵が描かれている。これを見た時に読者は初めて、「さっきの猫は、この迷子になった猫だったのか」ということに気づく。

このような手の込んだ「いたずら」は、初めて読んだ時には気づかないかもしれないが、何度も繰り返し読むうちに、何人かの子どもは必ずこのつながりを発見する。そうした隠れたつながりを探すことを、子どもは誰にも教えられずとも自分で覚え、楽しむようになる。

2.3 動く無生物

次に、動く無生物とは、背景の家具や小物など、本来動かないはずのものが、ページが進むにつれて（意図的に）変化するといういたずらである。実例として、島田ゆか作の『かばんうりのガラゴ』の一部を見てみる。ガラゴが夜、かばんの中で眠りにつく場面である。漫画風のコマ割りがなされた構図の中で、かばんのベッドに横たわるガラゴの横に、ガラゴの顔柄のマグカップが置かれている。このマグカップが、コマを追っていくに従って、表情を変えていく。すなわち、ガラゴが目を細めるとカップの中の（動かない絵のはずの）顔も目を細め、ガラゴが目を閉じるとカップの中の顔も目を閉じるというように。このように、本来は動かないはずの小物が、持ち主に合わせて表情を変えるといういたずらが仕掛けられている。

同じページには、もう一つの「動く無生物」がある。それはガラゴが読んでいる雑誌である（タイトルは *Weekly Mammal*）。ガラゴの手の中で開かれた雑誌は、読者の側から見ると表紙と裏表紙だけが見える。表紙は、おすわりをした犬の足元にリンゴが転がっている絵である。しかしよく見ると、この

表紙の絵が動いているのである。コマが進むにつれ、リンゴが左から右に転がっていき、そのリンゴの動きを追うように、犬の目線も移動していく。

　このような変化は、今までの「いたずら」と同様、本文では一切説明されないところが特徴である。読者が自分で発見するところにこそ、驚きと喜びがある。

2.4 本文にない遊び

　最後に、本文にない遊びというのは、描かれたものが、ひっかけ・ことば遊びなど何らかの「遊び」になっているものという、かなり大雑把なくくりである。ほかの「いたずら」と大きく異なる点は、同じ絵本内の他の絵との連続性がないということである。例えば、最初に見た「隠れ登場人物」といういたずらの場合、1ページだけ見ても面白さが分からないが、あちこちに同じキャラクターが登場することで「あ、またこの人いた」という面白さを生み出すのが特徴だった。一方の「本文にない遊び」は、そのページの絵だけ見ても十分に面白いという意味で、別の項目とした。

　実例として、Oliver Jeffers.の *Lost and Found*.という作品の一部を見てみる。これは男の子とペンギンが主人公の物語で、迷子になったペンギンを南極に返してあげようとして、男の子とペンギンが、手作りのボートで苦難の旅の末に南極にたどり着くというお話である。その 2 人が南極に到着するシーンで、絵の右端に描かれた看板が、どう見ても現実とかけ離れている。南極の氷の上に、煌々とネオンで縁取られた看板が据え付けられ、そこには、「Welcome to the South Pole」とある。実際、南極にはそんな看板などない上に、文面のあっけらかんとした陽気さが、これまでの男の子とペンギンの大冒険との対比を生み出し、ユーモアを感じさせる。また、どこからこのネオンに電気を引いているのかなど、意図的に読者の「つっこみ」を誘う場面でもある。このような、明確には分類しがたいが、絵の中だけに、ちょっとした笑いを誘うようなネタが仕込まれている場合を「本文にない遊び」と名付けた。

3. 問題提起

　以上のような分類に基づき、今回分析する課題は以下の通りである：

> これらの、本文にない、すなわちことばによらない「いたずら」が、なぜ読者に面白さを感じさせるのか？

　芸術大学という勤務先の都合で、担当している英語講読の授業で絵本を利用することも多いが、どうしても、「こんなものが描いてあるよ、面白いね」で終わってしまい、なぜ面白いのか、どう面白いのか、を明確に説明することは難しい。しかし、絵という記号を用いて「面白い」という効果が生み出されている以上、その仕組みを分析して明示的に説明するのが言語学の役割ではないかと考え、今回この課題を立てた。

特に本稿は、SFL の画像分析の枠組みの基づき、言語以外の記号（＝絵）が効果を生み出す仕組みを明らかにする、というテーマを掲げる。その際の分析枠組みとして、SFL の枠組みで画像分析のシステムをつくりあげた、Kress and Leeuwen (1996)の *Reading Images: The Grammar of Visual Design* を用いる。

4. 分析テクスト

分析テクストとしては、Margaret Wise Brown & Clement Hurd 作の *Goodnight Moon* を用いる。日本では『おやすみなさいおつきさま』のタイトルで親しまれている本で、ごく小さい子どもを寝かしつけるために描かれた絵本である。

紙面の都合上、すべての種類の「いたずら」について分析できないため、本稿では、「隠れ登場人物」だけに注目して分析したい。この絵本の場合の隠れ登場人物は小さな白いネズミで、これが絵の中に繰り返し登場する。

この絵本は、カラーで部屋全体を描くページと、部屋の中にある個々のもの（椅子やテーブルなどの家具や、テーブル上のブラシやおかゆなどの小物）をクローズアップで描く白黒のページが交互に現れ、それらの「もの」に順に Goodnight.と挨拶していくだけの、非常にシンプルな絵本である。

この絵本の中で、白いネズミはカラーの絵（部屋の中全体を描いた絵）の中だけに主に登場し、数多くの家具や小物が散在する部屋の中に紛れて小さく描き込まれる。それらの絵の中で、この白いネズミが読者の注意を引くことは、すでにさまざまな絵本研究者が指摘している。例えば、以下の瀬田(1985: 368-9)がある：

> 色刷り見開きの部屋のなかは、しだいにあちこちの明かりが減って、生きものたちもしかるべきところへおさまり、かくれ、去っていく。絵が、ゆっくりくり返しで微妙な変化を示していくのである。小さな読者（観客というべきだろうか）は [中略]、ものをよく見ることを学ぶ。そして変化に気づく。小さな者のあいだにあって、それは発見といえるほどの作用をもたらす。だれにみせても、小さい子がいちばんさきに注意するのは、小鼠だ。鼠はそれとなく、部屋の片方から部屋を横切っていく。それを文章はまったく知らせはしない。絵が慎重にさりげなく示すだけだから、子どもたちが「発見」するのである。この絵本は、さがし絵風、注意表的な鋭い興味をよびおこす。

この引用にあるように、子どもは何も言わなくてもこの小さなネズミを自分で見つけて興味をもつ。しかしそもそも、こういった隠れた登場人物を見つけるとなぜ嬉しいのか、なぜ楽しいのだろうか。本稿は、その理由を、画像分析の観点から明らかにしたい。

5. Kress and Leeuwen の枠組み

5.1 Representational Meaning（観念構成的意味）

分析に入る前に、Kress and Leeuwen (1996)の画像分析の枠組みをごくかいつまんで見てみる。Kress and Leeuwen は、画像も言語と同じように 3 種類の意味 (representational, interactional, compositional) をもつとしている。そのうち representational meaning は、言語でいう観念構成的意味 (ideational meaning)、すなわち、誰がいつどこで何をしているのか、という内容を表す。この意味を生み出すシステムは主に３つある：

- 過程型
  過程型 (Process Type) には、言語と同じように、Material / Verbal / Mental / Relational の区別がある。物質過程（Material Process）が描かれる場合、人物のポーズなどによって動きが表される。心理過程（Mental Process）の場合、人物の視線や表情などによって、何かを見たり感じたりしていることが表現される。発言過程（Verbal Process）の場合、発言内容を表す手段として、いわゆる「ふきだし」を用いるという選択がされる場合もある。関係過程（Relational Process）は、「動き」ではなく、事象の「ありよう」を描く。例えば、図鑑に載っている動植物の細密画や、電化製品の取扱書に載っている製品の各部名称の説明図などがこれにあたる。
- 他動性
  過程型の選択肢はさらに、他動的 (Transactional)か非他動的 (Non-transactional) かという選択をもつ。これは、動作が対象をもつかどうかの選択である。
- 状況要素
  状況要素 (Circumstance) は、絵の場合、描き込まれる背景や小道具によって表される。

5.2 Interactional Meaning（対人的意味）

次に Interactional Meaning を見てみる。これは、言語の対人的意味 (Interactional Meaning)と同じ領域で、人間関係の構築と維持に関わる意味である。この意味を生み出し、調整する画像の資源として、Kress and Leeuwen は以下のようなものを挙げている：

- 視線
  視線 (Gaze) は、描かれた人物が鑑賞者を見ている場合、鑑賞者に対し何らかの相互作用を求めていることを示す。例えば広告の人物がこちらを見ていたら、その製品を買って、ということを求めている。
- 距離

画像内の人物がクローズアップで描かれた場合、描かれた人物と鑑賞者の距離 (Distance) が近いことを表し、ロングショット、すなわち遠くから全身を描いた場合、描かれた人物と鑑賞者の距離は遠くなる。

- アングル
  アングル (Angle)、すなわち捉える角度については、俯角、すなわちこちらが向こうを見下ろす角度で描かれた画像は、鑑賞者が描かれた人物に対して影響力・コントロール力を持つことを意味する。水平の場合、鑑賞者と描かれた人物は対等であり、そこに仲間意識が生まれる。一方、仰角、すなわちこちらが向こうを仰ぎ見る角度で描かれた画像は、描かれた人物が鑑賞者に対して影響力・コントロール力を持つことを意味する。

5.3 Compositional Meaning（テクスト形成的意味）

次に、compositional meaning に移る。これは言語でいうテクスト形性的意味(Textual Meaning) に相当し、情報の組織だてに関わる意味である。

- 新旧情報
  画像の場合、新旧情報 (Given and New) は位置関係によって示され、画面左に置かれたものが旧情報、右に置かれたものが新情報であることを示す。これは文字テクストの進行方向と関係が深く、英語のような左から右に書く横書き言語の文化圏においては左が旧で右が新となる。日本語のように縦に右から左に書く場合は、逆になる。
- 理想と現実
  一般的に、画面の上の方に示された画像は理想的または抽象的イメージ (Ideal) を表し、下の方に置かれる画像は現実的または具体例なイメージ (Real) を持つ。
- 核と周縁
  画面の中心が核 (Center) となる重要情報を表し、遠ざかるほど周縁(Margin)的な、追加的・補足的情報になっていくという傾向がある。

6. 分析

6.1 Representational Meaning

ここから分析に入る。第 5 節で示した枠組みに沿って、*Goodnight Moon* の中で、白いネズミがどのような意味を持っているかを分析する。まず representational な意味に関しては、以下のことがわかる。

まず過程型を分析してみると、ネズミの行動はページによって違うことが分かる。具体的には、ネズミは以下の行動をしているように描かれている：

- 歩いている（Material Process）
- 反対向きに歩いている（Material Process）

・ 座っている（Material Process）
・ 物干しに登っている（Material Process）
・ 本棚の上から下を覗いている（Material/Mental Process）
・ 暖炉の火を眺めてる（Mental Process）
・ おかゆを覗いている（Mental Process＊食べてはいない）
・ 窓の外を見て思索にふけっている（Mental Process）

前半はずっと物質過程ばかりだが、「本棚の上から下を覗いている」の時点で変化する。覗き込む動作は物質的だが、何かを見下ろしている、という点では心理的でもある。その後はずっと心理過程が続き、暖炉の火を眺めたり、おかゆを覗いたり、窓の外をみて思索にふけったりする。ちなみにおかゆを覗いているシーンは、おかゆをつまみ食いしていたら物質過程だが、欲しそうに見ているだけなので心理過程とした。

　では、これらの過程型を選択したことで生まれた効果は何か。まず指摘すべきは、ネズミが、ページをめくるたびに違うことをしている点である。ということは、ページとページの間、読者が見ていない間にもこのネズミが動き続けていることを想像させ、ページをめくるたびに、勝手に動いているネズミを「たまたま」覗き見してしまった・発見してしまった感が生まれる。これが読者に、発見者としての喜びを感じさせる一因になっているといえる。また、物質過程から心理過程への変化により、ネズミはただの「動く物」から、「心や欲求をもったもの」へと変化する。そのことが、自分たちと同じ「心」をもった存在として、ネズミへの親近感を生んでいる。

　続いて、他動的 / 非他動的の区別でいうと、物質過程はすべて非他動的動作だった（動作に対象がなく、ネズミ自身が歩いたり座ったりする）が、心理過程は他動的なものが多かった。つまり、眺める対象や欲求する対象、たとえばおかゆが描かれていた。ただしこれはネズミと「もの」との関わりであり、生き物どうし、すなわち登場人物どうしは一度も関わりあう場面がない。

　このことが生み出す効果は何か。 まず、ネズミが心理的に何かを眺めたり欲したりしているのを読者が見ている、すなわち、読者以外のものに注意を向けているものに、読者が注意を向けている、という構図は、読者を一方的な観察者として位置づける。ネズミは読者の方を見ることは一度もない。また、登場人物どうしの関わりがないということは、登場人物どうしは互いの存在に注意を払っていないということである。すなわち読者だけがネズミの存在に気付いているという構図生み出し、読者に発見者・観察者としての優越感を感じさせているといえる。

　最後に状況要素で特筆すべき点としては、背景が非常に細かく描き込まれ、刻々と変化していくことが挙げられる。つまり、部屋の中には家具や多数の小物が存在し、それらがページによって移動する。また、月の傾きや部屋の明るさも少しずつ変わっていく。その結果、読者にとっては観察すべきものがたくさんある状況が生み出される。その中から特定のもの（＝繰り返し現

れる小さな白いネズミ）を見つけるのは難しく、この難しさが逆に、読者のやる気を引き出す効果を生んでいる。

6.2 Interactional Meaning

続いて、interactional meaning の分析に移る。まず視線に関しては、前節の他動性の部分でも指摘した通り、ネズミは決して読者の方を見ず、ほかの登場人物とも目を合わせない。その結果生まれる意味としては、ネズミは読者に何も要求していない。単に「存在している」という情報を一方的に提供している。そのことによって、「読者＝観察者、ネズミ＝観察対象」という構図を生み出している。

次に距離を見てみると、かなり引いたカメラで部屋全体が捉えられ、それぞれのものはごく小さく描かれている。その効果として、クローズアップが親近感を表すとしたら、当然その逆になる。つまり、特に誰にも・何にも感情移入しておらず、部屋の中のものはあくまで「観察対象」として中立的に提示される。

アングルを見ると、 やや斜め上から俯瞰的に部屋全体が捉えられている。このことが生み出す効果として、読者は「観察者」であり、部屋全体に対し「コントロール力」をもっていることが示される。

6.3 Compositional Meaning

最後に compositional meaning を分析してみる。新旧情報的には、画面左側に動かないもの（物干し・おもちゃの家・おばあさん）が描かれ、右側に、いろいろとポーズを変える主人公（ウサギの男の子）が描かれている。問題の白いネズミは、左へ右へと移動し、位置が定まらない。その構図が意味するのは、男の子は「変わらない部屋（すなわち旧情報）」に変化をもたらすもの（すなわち新情報）として構築されている。白いネズミは情報的に予測不能で､そのことがまさに､探すことの喜びを生み出すといえる｡すなわち、画面のどこに現れるか分からないからこそ、探し出してやろう、という気持ちを起こさせるのである。

理想と現実関係としては、この絵本の場合、上下の配置にはあまり意味がないと考えられる。敢えて言えば、比較的上の方に描かれたもの（風船・絵画の入った額・窓（夜空））が「理想」で、それ以外のものが「現実」と言えるかもしれない。最後の場面で、ネズミは窓枠によじ登ったシルエットとして描かれ、夜空と一体化する、または夜景を「見る」者になる。見る方が見られる方に対し影響力をもつという対人的意味と併せて考えると、最後に世界をコントロール下におくのはネズミ、すなわち白いネズミこそが影の主役である、とさえ言える。

最後に、核と周縁関係について述べる。カラーページには特に「中心」といえるものがない。つまり複数の家具・小物が雑然と散らかっている状景が描かれ、何が中心ということなく、全体が「周辺」「景色」を表している。一方、白黒ページははっきりと「中心」を表し、そのときどきで話題に上っ

ているものだけを描いて焦点化している。その結果、カラーページでは、中心を示さない雑多な景色の中から、お目当てのものを「発見」することが求められ、ここでも読者のやる気を引き出す構図が選ばれていた。

7. 分析のまとめ

ここまでの分析をまとめると、ネズミを見つけることが「喜び」を生む理由は以下のようになるだろう：

- 見つけにくい構図
  中心がなく、ものが細かく雑多に描き込まれた背景の中で、予測不可能な位置に現れるネズミを、自力で探し出すところに喜びが生まれる。
- 観察者という立場
  読者に対して特に何も要求しない・コントロール力ももたないネズミを、一方的に観察するという喜びが生まれる。
- 発見者という立場
  ほかの登場人物が気に留めていない、そして読者の存在に気付いていないネズミに、自分だけが気付いているという喜びが生まれる。
- ネズミに対する親近感
  単に動き回るだけでなく、何かを見つめたり、欲したりする「心」をもったネズミに対し、その心理を想像する喜びが生まれる。

このように言語学理論の枠組みを使って画像を分析することで、単に「ネズミが何回も出てきて面白いね」ではなく、なぜ面白いのか、何が効果的なのか、ということを明示的に示すことができると考える。このように、画像について言語を用いて説明できるのが、ビジュアル・リテラシーの要だといえる。

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Visibility, visualisation and grammar in mind: a functional perspective

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Abstract

This paper investigates how vision and grammar are interrelated to each other. A particular linguistic phenomenon examined here is the so-called null-subject language. A number of languages do not overtly express the grammatical subject, making a sharp contrast against languages such as English which always require the presence of a subject. It is argued here that visualisation of events in the mind helps interlocutors to supplement a referent for the grammatical subject in null-subject languages. A speaker knows what he/she refers to in speaking or writing, but hearers may not be able to trace a referent correctly. The null-subject language is, therefore, suited for speakers to express themselves. This point is discussed at length in terms of linguistic orientation (Durst-Andersen, 2011).

1. Linguistic orientation

When we hear a story, we internally visualise a scene. This may be apparent from our own experience, but it is also shown by an MRI brain scanning. This means that by verbally communicating, we are evoking an image in each other's mind. Whether we can have an identical image is highly questionable, and this is what has been discussed in cognitive linguistics as prototype or cognitive frame, i.e. the difference is influenced by each individual's personal experience in life (cf. Enfield, 2002; Taylor 2003; Croft and Cruse, 2004). Nevertheless, when we turn our attention to a functional aspect of grammar, visualisation of scenes may be an important feature although this has been overlooked in previous research. In his recent study, Durst-Andersen (2011) claims that we may be able to classify languages into three groups, e.g. reality, speaker and hearer, known as linguistic orientation. According to his approach, each language has arranged its grammar to fit one of three orientations. The characteristics described so far can be summarised in Table 1. This paper discusses how this classification can be studied in terms of visualisation of a scene in mind in communication.

Table 1: Characteristics associated with orientations

	Reality	Speaker	Hearer
Representatives	Russian, Chinese, etc.	Bulgarian, Japanese, etc.	English, Danish, etc.
Basic unit	Situation	Experience	Information
Speaker orientation	Third person	First person	Second person
Speaker function	Reporter	Commentator	Informer
Identification mark	Aspect prominence	Mood prominence	Tense prominence

Let us take Russian as an example. Reality orientation mainly deals with 'here and now' in conversation, which presumes that interlocutors are familiar with their visible surroundings. Thus, the grammar in this type distinguishes a physically visible and non-visible situation. The Russian examples in (1) illustrate the point in question. Both examples in (1) refer to possession, but (1a) with *imeti* 'have' is restricted to a case where abstract nouns are involved (i.e. non-visibility), whereas (1b) deals with possession with concrete nouns (i.e. visibility). Thus, possession is divided into two types according to whether a possessed object is physically visible to naked eyes or not. Similarly, the existential clause in Russian forces a change in the case marking in the negative clause, e.g. the affirmative clause in (2a) uses the nominative case for an NP, but once it is negated, the genitive case has to be used, as in (2b). This change also reflects on its grammar's sensitivity towards visibility, i.e. in a negative clause, it is not possible to visualise an object, since its existence is negated.

Russian

(1) a. *Ya* *imeju* *mnenie*
I have.PRS opinion.ACC
'I have an opinion.' (abstract noun)

b. *U* *menja* *jest'* *kniga*
with I.ACC.SG exist.PRS book.NOM
'I have a book.' (concrete noun)

Russian

(2) a. *Byla* *kniga*
was book.NOM
'There was a book.'

b. *Ne* *bylo* *knigi*
NEG was book.GEN
'There was not a book.'

Russian may be an extreme case of reality orientation, but similar grammatical behaviours based on visibility cannot be found in other orientations. In addition, the reality orientation does not distinguish a spoken and written register, since a spoken one is inherently concerned with 'here and now', whereas a written one can transfer messages beyond time and space (cf. Toyota, 2009). In another type, speaker orientation, a speaker visualises a situation in his/her mind, and the grammar does not have to overtly describe details of situation to others, i.e. grammar describes what is thought in a speaker's head. These languages may use a definite article or a demonstrative as a definite article, but the indefinite article is not present (cf. (5) from Bulgarian), i.e. the definiteness is used in order to remind a speaker, but not a hearer, of a referent. Furthermore, hearer orientation has to describe events in details so that hearers can visualise a situation expressed in utterances easily. Both definite and indefinite articles are used in order for hearers to signal contextual clues to sort out information. It is worth mentioning that hearer orientation may correspond to Hall's (1976) low-context, providing much contextual clues in the grammar.

2. Null-subject languages

An interesting case involving visibility in orientation is the so-called null-subject languages. A decisive characteristic of these languages is, as its terminology suggests, that the subject is omissible, but it is important to note that its referent is still visible in a speaker's mind. An example from Japanese can illustrate this type, as demonstrated in (3). In (3a), the subject is omitted, and it can refer to any pronouns, as the translation suggests, but it can be overtly stated, as in (3b). In addition, the expression of the subject can change when it is expressed with a pronoun, its word order may change, or the pronoun becomes a verbal affix. For instance, in (4) from Hakha Lai (Tibeto-Burman), the pronominal subject is used as a verbal affix. These types of language form a sharp structural contrast with those languages that obligatorily require the presence of the subject, whether it is a noun, a pronoun or a so-called dummy subject (i.e. form words such as *it* or *there* in English, without any referential contents).

Japanese

(3) a. *Soto-ni de-ta*
outside-to go-PST
'(I/you/he/she/it/we/they) went out.'

b. *Watashi-wa soto-ni de-ta*
I-TOP outside-to go-PST
'I went out.'

Hakha Lai (Tibeto-Burman, Myanmar, Dryer, 2013)

(4) *a-kal-tsaŋ*
3SG-go-PRF
'He has gone.'

Dryer (2013) analyses a sample of 711 languages in the world and classifies how the pronominal subject is expressed. The distribution is shown in Table 2. The most common structure has the pronoun as an affix on verbs, as in (4). This type makes up ca. 61% of all the data. The null-subject languages make up only 8.6% of the data, and this is not a common grammatical pattern cross-linguistically, but it forms an areal feature, occurring mainly in East and Southeast Asia and Australia. In previous understanding, the nature of null-subject languages was ascribed to a discourse factor, i.e. a subject referent is retrievable contextually and there is no need to express it overtly. However, judging from the typological distribution, whether the subject is overtly expressed or not may not be so simply a matter of discourse, as discussed here.

Table 2: Typological patterns of pronominal subject (Source: Dryer, 2013)

Patterns of expressing pronominal subject	Number of sample languages
Pronominal subjects are expressed by pronouns in subject position that are normally if not obligatorily present	82 (11.5%)
Pronominal subjects are expressed by affixes on verbs	437 (61.5%)
Pronominal subjects are expressed by clitics with variable host	32 (4.5%)
Pronominal subjects are expressed by subject pronouns that occur in a different syntactic position from full noun phrase subjects	67 (9.4%)
Pronominal subjects are expressed only by pronouns in subject position, but these pronouns are often left out	61 (8.6%)
More than one of the above types with none dominant	32 (4.5%)
Total	711 (100%)

This grammatical pattern is found in both reality and speaker orientation, but the system works differently: in reality orientation, interlocutors share a situation in front of them and references made concerning such a situation (i.e. here and now) is knowable or visible. When it comes to speaker orientation, referents are visible in a speaker's mind, but not necessarily so in a hearer's. Hearer orientation is excluded, since information necessary to decode a message should be grammatically provided to hearers as much as possible, and the identity of actor cannot be omitted except for some marked constructions such as the passive voice. Thus, for instance, Bulgarian is a null-subject language without an indefinite article, but uses a demonstrative as a definite article. Consider the examples in (5). In (5b), *-ta* is a clitic form of the demonstrative, functioning as a reminder of referents to speakers, not to hearers. And the use and importance of the definite article is also shown in its historical development. The common source for the definite article is demonstrative pronouns (Heine and Kuteva, 2002: 109-111), e.g. English *the* is derived from the Old English demonstrative *se* (s.v. OED *the* dem. a. (def. article) and pron.).

Bulgarian
(5) a. *kniga* 'a book'
b. *kniga-ta* 'the book'

3. Conclusion

Visibility or visualisation play an important role in grammatical organisation, and vision is not simply a cognitive input. It seems that visualisation in a hearer's mind (i.e. hearer orientation) is a distinct type of grammatical organisation, making a sharp distinction against reality as well as speaker orientation. This may explain grammatical peculiarities of some languages such as English (Toyota, 2012). Thus, it is expected that vision-related issues can be incorporated into grammar to understand functions of human languages better.

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Are there persuasive prosodies on evaluative stances in research article abstracts?

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Abstract

The study describes how persuasive prosodies are expressed through evaluative stances that subsume the engagement of expansive and contractive approaches, attitude of appreciation, judgement, and affect, and the graduation of force and focus on the moves across EFL learner and published abstracts in the field of applied linguistics. The Learner-Abstract-Corpus (LAC) was compiled from Taiwanese post-graduate students' responses to a timed research abstract writing assessment. The Published-Abstract-Corpus (PAC) was compiled from six international journals. The results indicated that evaluative stances were frequently found on the results, conclusion, and background moves, alongside appreciation-valuation and high force-quantity devices. On the method and purpose, monologue was often found, alongside high force-quantity or particular focus-specificity devices. The LAC findings indicate that the higher-proficiency learners often employed evaluative stances within and between clauses. The PAC findings revealed that the published writers are skillful at cohesively deploying evaluative devices for an intended value, and are more effective in terms of accumulating a persuasive effect throughout the abstract.

1. Introduction

In Systemic Functional Linguistics, prosody denotes interpersonal communications over clauses or a longer text for better persuasion (Martin, 1992). This persuasive prosody has been applied in the evaluative stance analysis (Martin and White, 2005; Hood, 2010). Evaluative stance denotes how writers engage readers and present graduation of evaluative arguments via rhetorical approaches (Chang and Schleppegrell, 2011; Martin and White, 2005). Specifically, in the introductions of research articles (RAs), EFL learner writers are often found to use less writer-reader engagement (Chang, 2012) and more explicit than implicit evaluative arguments (Xie, 2016). On the other hand, published writers have been found to use a wider variety of evaluative-stance devices in their RAs (Hood, 2010). The findings of the published writers' use of evaluative stance may serve as an exemplar framework that can guide EFL learner writers to compose evaluative stances in their RA introductions (Hood, 2010). Taking abstracts, which are a more condensed RA section, as an example, little is known about whether and how EFL learners use evaluative stance to project persuasive prosodies of the RA value in this more condensed section as compared to published writers. The use of evaluative stance may be conducive to the construction of persuasive prosodies.

The study investigates how persuasive prosodies were expressed through the evaluative stances on the moves across EFL learner and published abstracts in the field of applied linguistics. The evaluative stances subsumed three parts, namely engagement of expansive and contractive approaches, attitude of appreciation, judgement, and affect, and graduation of force and focus (Martin and White, 2005).

2. Method

2.1 Overview

The purpose of the study was twofold: to describe the evaluative stances of engagement, appreciation, and graduation expressed in the rhetorical moves in the research article abstracts of EFL learners and published writers, and to conjecture the extent to which persuasive prosodies were expressed in the abstracts. The research procedure included three phases, namely corpora compilation, prior move analysis, and evaluative-stance analysis of the two corpora, as detailed below.

2.2 Corpora

2.2.1 The LASC

The Learner Abstract sub-Corpora (the LASC). The LASC was compiled from Taiwanese EFL post-graduate students' (including master's and doctoral students') responses to a timed research abstract writing assessment (Lin et al., 2015). These responses were rated using two rating scales, namely the global rhetorical move and the local language pattern scales. Six abstracts were randomly selected from each of the three sub-corpora (i.e., the high-level, the intermediate-level, and the low-level), totaling 18 abstracts.

2.2.2 The PAC

The Published Abstract Corpus (the PAC). The PAC was compiled from three abstracts each from six prestigious international journals, namely RECALL, Computer Assisted Language Learning, Language Learning & Technology, the International Journal of Corpus Linguistics, the Journal of English for Academic Purposes, and Written Communication, totaling 18 abstracts. The major criterion for choosing these journals was the abstracts being on the topics of computer assisted language learning or English for academic purposes, which were related to the writing responses of the EFL learners under investigation. These 18 abstracts in the PAC were published from 2014 through 2016.

2.3 Move Analysis

Second, the move analysis mainly followed the coding scheme of rhetorical moves in research articles abstracts proposed by Swales and Feak (2009). The coding scheme included a few rhetorical moves, namely purpose (P), method (M), results (R) (obligatory moves denoting the study purposes, methodology, and results responding to the purposes); background (B) (optional, denoting background information or literature review), and conclusion (C) (optional, denoting partial or complete conclusion of the study). In addition, while analyzing the moves used across the two corpora in the study, a combined move code was created (purpose and method) to better describe the occurrences of rhetorical moves across the two corpora.

2.4 Taxonomies of Evaluative-Stance Analysis

The evaluative-stance analysis subsumed three parts, including engagement of the expansive and contractive approaches, attitude of affect (fewer occurrences in research articles), judgement, and appreciation, and graduation of focus and force (Martin & White, 2005; Hood, 2010). Figure 1 illustrates the Engagement System proposed by Martin and White (2005).

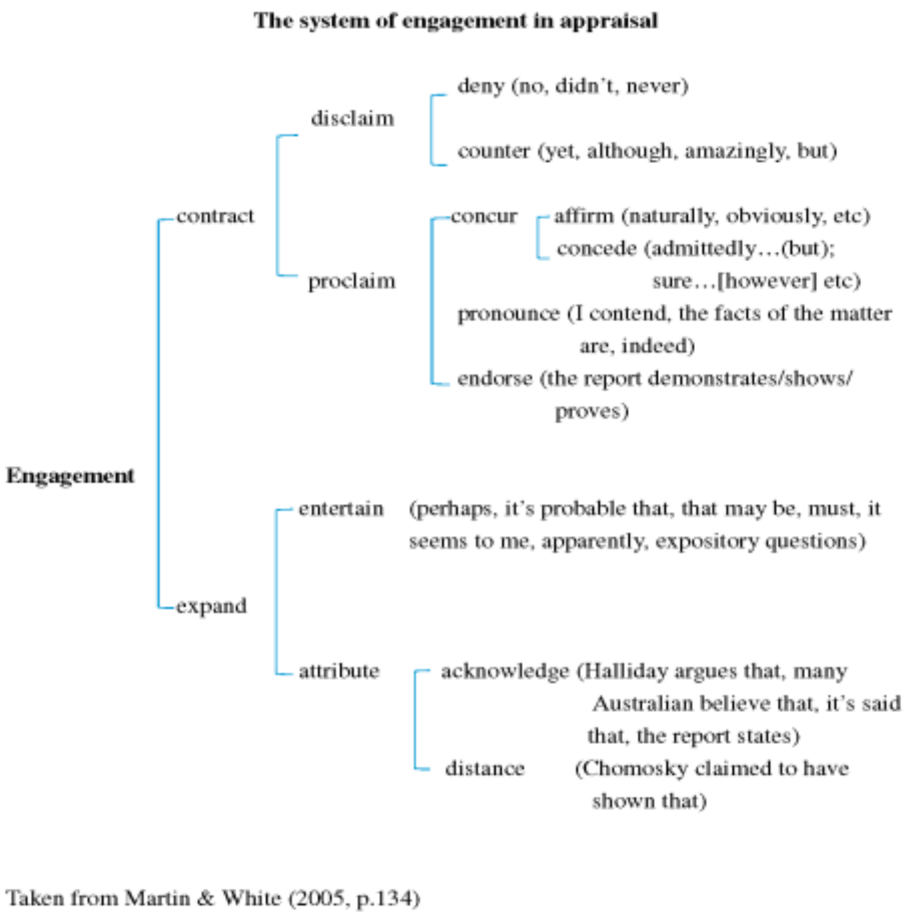
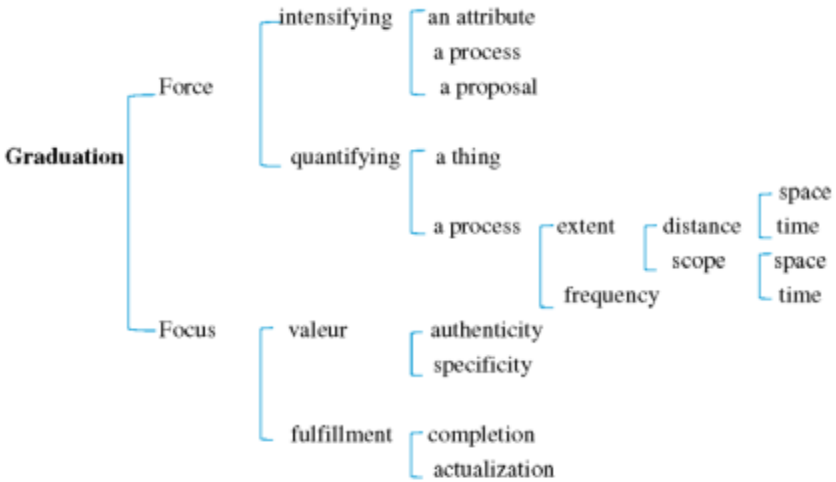


Figure 1. The Engagement System



Taken from Hood (2010, p.105)

Figure 2. The Graduation System

Unlike the engagement and graduation system, there is no clear system established for the analysis of attitude (Hood, 2010). The analysis, being exploratory in nature, thus mainly drew upon Hood's (2010) examples of RA introductions, and Loi et al.'s (2016) examples of appraisal options in English published RA conclusions. A small-scale system of attitude was generated from the devices found in the two corpora of the study, as detailed below.

Affect: emotion but excluding motivation (e.g., *surprisingly; fond of*)
Judgement: (1) capacity (e.g., *skill development, knowledge acquisition, high motivation, engagement*); (2) character and behavior other than capacity
Appreciation: (1) composition (e.g., *different, difference, opportunity*); (2) valuation (e.g., *helpful, useful, effective, important, difficulty, success, benefit, advantage, improvement, disadvantage, limitation*)

When examining rhetorical moves in the RA abstracts, the engagement system was applied as a macro-framework, the attitude as the secondary framework, and the graduation the final framework (more occurrences and being deemed more trivial than the former two devices).

2.5 The Analytical Procedure

Against the background of the rhetorical moves in research abstracts (Swales and Feak, 2009), the analytical procedure was mainly implemented by the discourse-semantic approach at two levels, the lexico-grammatical, and the co-text (Chang, 2012). On the rhetorical moves, each potential device was examined first at the lexico-grammatical pattern level via *Antconc* 3.4.4 of concordance inquiry. Then, the device was examined at the adjacent co-text level of clauses and inter-clauses.

The evaluative-stances were analyzed by two coders, an assistant professor and a research fellow in applied linguistics. A Kappa coefficient of 0.7 indicated that the inter-coder reliability was substantial (0.61-0.80 substantial; Landis and Koch, 1977).

3. Results and Discussion

3.1 Across the Two Corpora

The results indicated that evaluative stances were found to be more likely on the results, conclusion, and background moves (by frequency). On the results, the learner writers usually adopted the contractive approach to proclaim the endorsement of the study results, while the published writers often adopted the expansive approach to better accommodate diverse or opposing viewpoints. Also, both types of the writers quantified a thing or a process to describe the change in the participants after the study.

On the conclusion, the writers generally adopted the contractive approach to proclaiming the study value or contributions, while some writers chose the expansive approach to entertaining potential alternative views. On the background, both the published and learner writers sometimes adopted the expansive approach to establishing a research territory. Yet, when moving to the purpose move, the writers often adopted the contractive approach. However, if the statements on the background were relatively brief, both types of writers often adopted the contractive approach or even a monologue. Also, the writers commonly expressed high force of quantity or frequency in describing the participant or object of interest.

On the purpose, the published writers usually expressed monologue, while the learner adopted the expansive. The published writers sometimes specified the study scope by highlighting the diverse nature of the participants or objects in question. On the method, monologue was often expressed, suggesting methodology is commonly stated as a matter of fact. On the purpose, variation in using evaluative stances was found across the two corpora, with the LASC sometimes including engagement while the PAC often expressed a monologue.

3.2 The Findings of the LASC and the PAC

3.2.1 The Findings of the LASC

Particularly on the results, the learner writers often adopted a more contractive approach to proclaiming endorsement of the empirical results by the use of "*the study showed/shows*," and then they expressed a positive valuation of the participants/attributes of particular interest. The writers tended to directly describe the participants' change in behavior or attitude, making the description the judgement of capacity.

- //R// The result shows that during [over] the three years student's **desire of participation increases. [+j: capacity]**[contract: proclaim/endorse] *Besides*, **the benefits** of asynchronous discussion are *not limited* in English learning. *[+force: extent]* **[+appreciation: valuation]** *All* the students agree *[+force: extent: frequency]* that asynchronous discussion **helps to improve their proficiency** in both course and language learning. **[+appreciation: valuation]** [contract: proclaim/endorse] (I3)

- //R// The results show that students' **participation** on the mechanism **increased**. **[+j: capacity]** [contract: proclaim/endorse] *In addition [+force: extent],* the students hold **positive attitude** toward the mechanism **[+j: capacity]**. *Moreover [+force: extent],* from the self-evaluation, non-simultaneous discussion implemented in content-based course **did improve their learning.** **[+appreciation: valuation]** [monologue] (I5)

Besides the analysis of a single move, the analysis of a selected research abstract is presented below. This higher-proficiency learner writer appeared to adopt a more contractive approach to engagement over the moves, along with the use of positive appreciation and graduation markers. Particularly on the results move, the writer explicitly stated the less significant results by disclaiming, denying, or counter-arguments, following the more expansive approach to indicating the study implications.

//B//Asynchronous discussion has been considered **beneficial in assisting** content as well as language learning *in recent years [+force: quantifying a thing]* **[+appreciation: valuation]** [expand: entertain], and has been widely adapted in content-based classrooms [+force: scope]. However, **conclusive evidence** of its effects in language learning is **still scanty. [-appreciation: valuation]** [contractive: disclaim: counter] //P+M//The present study, based on the three-year classroom-based action research …, aimed to provide **concrete vision** of this technology. **[+appreciation: composition]** [expand: entertain] ... //R//Findings showed that **the participants were fond of** implementing asynchronous discussions in class **[+affect]**, and **considered it helpful in learning** content knowledge and **developing** critical thinking skills. **[+appreciation: valuation]** [contract: proclaim: endorse].Though the effects on language learning were **not obvious [-appreciation: valuation]**, *more than half of* the participant agreed that the **discussion improve their ability in expressing themselves**…*[+force: quantifying a thing]* **[+appreciation: valuation]** [contractive: disclaim: counter] However, the results did not show significance impact [contractive: disclaim: deny] //C//The results of the present study yield suggestions …and encourage language teachers to implement this technology into *not only* pedagogical practices *but* in-depth research. *[+force: extent]* [expand: attribute/acknowledge] (H2)

3.2.2 The Findings of the PAC

On the purpose and method, monologues were frequently found, suggesting a more straightforward description of how the study was conducted. An example is provided as follows:

- //P//This study examines the frequency and usage patterns of linking adverbials in Korean students' essay writing in comparison with native English writing. [monologue] //M//The learner corpus used in the present study is composed of *105 essays* that were produced by first-year university students in Korea.

[+force: quantifying a thing] [monologue] (CALL, 2016)

On the results, the expansive approach was often found, suggesting a norm of acknowledging the fact, and letting the evidence speak for itself in the study. Using this expansive approach, the published writers tend to deploy a series of attitude and graduation devices to directly promote the value of their study results.

Moreover, the expansive that-clause was often found to express positive evaluation of the participants or objects via a greater appreciation of a preferred feature, or judgement of good behavior/disposition, particularly by using the following clauses *"the results indicated; the findings suggest."*

- //R// On the whole our findings suggest that open practice may be an **effective vehicle for** professional development, **for enhancing** knowledge of technology in teaching and **for alleviating** some specific **motivational barriers** faced by language educators. **[+appreciation: valuation]** [expansive: entertain] (CALL, 2014)

On the conclusion, the expansive approach was sometimes used to consider alternative views on potential study contributions.

- //C//This study suggests that L1 and L2 students experience similar **benefits** offered by game-based strategy practice in an ITS. **[+appreciation: valuation]** *Further,* the link between game attitudes and overall daily perceptions of training may be *stronger* for L2 students than L1 students. [expansive: entertain] *[+force: scope; comparison]* [expansive: attribute/acknowledge] (LLT, 2014)

On the conclusion**,** monologue was sometimes used for a plain statement of the study implications, with stronger force on a preferred feature/phenomenon for an evoked positive attitude.

- //C//The study concludes with a discussion of how knowledge-making practices are crafted through *particular* **discourse conventions in order to establish one's insider status** within an academic community. *[+focus: specificity]* **[+appreciation: composition]** [monologue] (JEAP, 2016)

A complete abstract in the PAC demonstrated the multiple encodings of evaluative stances, as below.

- //P//This study reports on a corpus analysis of …, with the aim of exploring the *statistically significant* **difference in** ... *[+force: quantifying a process: frequency]* **[+appreciation: composition]** [monologue]
- //M//The key word method extended …, highlights *those linguistic domains* which deserve *particular* attention. *[+focus: specificity]* [monologue]
- //R// *Specifically [+ focus: specificity]*, it reveals the lexical and grammatical categories that occur *unusually frequently or unusually infrequently [+force:*

quantifying a process: frequency] in the English learners' discourse when compared with the language used by the native speakers of English in the sample. <u>[expansive: attribute/acknowledge].</u>

- //C//<u>The research findings delineate</u> **the pedagogical merit** of key domain analysis and thus <u>*help to* **inform**</u> English as a foreign language teachers and materials developers in the design of courses emphasising spoken interaction. **[+appreciation: valuation]** <u>[contractive: proclaim: pronounce].</u> (RECALL, 2015)

According to the research abstract above, on the purpose and method, monologues were often used to express a more straightforward description of the study and how it was conducted. On the results, the expansive approach was found to conform to the writing norms that let evidence speak for itself and leave room for readers' alternative perspectives. By this expansive approach, the published writers further deployed a series of attitudinal and graduation devices for a direct promotion of the value of the study results. For instance, in the expansive that-clause *"the results indicated that,"* the promoting approaches are mainly (1) stating no direct attitude but building up a stronger force of quantity/extent or a focal specificity/authenticity to the participants or objects of interest (example of RECALL 2015); (2) inscribing positive attitude towards the participants or objects via greater appreciation of a preferred feature, or judgement of good behavior/disposition (example of CALL 2014). On the conclusion, the expansive approach was often used to entertain alternative views on the potential study contribution. Monologue was sometimes used for a plain description of the study implications, with stronger force on a preferred feature/phenomenon, or with an appreciated composition of a feature in a less direct way, indicating an evoked positive attitude (example of JEAP 2016).

3.2.3. The Distinguished Features across the Two Corpora

In the LASC, the use of evaluative stances was found within and between clauses, yet was less inter-related over the whole abstract.

Regarding the results of the PAC, the published writers employed the contractive approach, the expansive approach, and monologue to take various stances to embrace alternative views, and expressed appreciation of valuation and composition, and the force of quantity, extent, and frequency in describing the participants or objects in question.

On the background move, the published writers were often found to assign positive appraisals of a research territory, and then sometimes to explicitly state the field's limited understanding of a particular research topic. The results generally correspond to Chang and Schleppegrell's (2011) findings on the introduction of research articles, and shed some light on the evaluation devices used in RA abstracts. On the background, the stances can be effectively conveyed, usually by two to three clauses. Subsequently, on the purpose move, the writers inscribed appreciation-valuation or stated appreciation-composition (less direct valuation) on the intended research topic, sometimes by a less direct contrast between the topic and the traditional practice.

On the purpose and method moves, the published writers often expressed monologues, alongside a few force devices to quantify the scope or frequency of the process. On the results move, the writers tended to adopt the expansive approach and a number of force-quantity devices, being rather consistent with Loi et al.'s (2016) findings and revealing some graduation and appreciation devices adopted specifically for the RA abstracts.

Particularly for the conclusion move, the published writers, addressing general English learning issues, tended to express appreciation-valuation to reveal a stark or fuzzy contrast between a targeted object or a participant group (the preferred) and the counterpart, corresponding to Hood's (2010) finding on the comparison-contrast pattern in the RA introductions in general. However, on the conclusion, when addressing the CALL studies that did not involve cross-group comparison, both the published and learner writers were less likely to highlight the contrast.
Table 1 reports on options for realizing rhetorical moves via the evaluation system in the published research abstracts in question.

Table 1: Options for Realizing Moves in the Published Research Article Abstracts

Move	**Steps (corpus-based)**	**Engagement option [linguistic devices]**	**Attitude option [linguistic devices]**	**Graduation option [linguistic devices]**
B (optional)	1. State the background and the importance of a research topic. 2. Indicate a gap/problem in the topic.	Expansive: entertaining *[the present perfect]* or Contractive: proclaim: pronounce *[the present perfect leading to]* Contractive: disclaim: counter *[yet, although, however, despite]* Contractive: disclaim: deny *[the present perfect+ negation]*	+Appreciation: valuation *[important, successful, major, primary, success, advantage, benefit, increase, enhance]* +Appreciation: composition *[solution, explicit instruction, difference, potential impact, experienced, provide opportunities]* -Appreciation: valuation *[difficult/difficulty, disadvantages, disadvantaged, not enough to help]* -Appreciation: composition *[challenging task, challenge, novice writer]*	+Force: quantifying a thing; quantifying a process: extent: frequency *[a number of, many, various, several; commonly, increasingly common, a growing number of, prevalent, prevalence, all]* +Force: quantifying a thing/scope *[four/different objects]*. -Force: quantifying a thing *[little, fewer, scant]*
P	State the study purposes	Monologue	+Appreciation: Valuation *[usefulness, explicit to learners; increase,]* +Appreciation: Composition *[effect…on; differences…]*	+Force: quantifying a thing/quantifying a process: scope *[two different/ distinct]*

M	State the context, participants/material, and procedure	Monologue		+Force: quantifying a thing; quantifying a process: scope *[four different types]*
R	1.Report on the evidence responding to research purposes (starting from the major results) 2.Report on unsupported/Unexpected results	Expansive: Attribute/ Acknowledge *[the results indicated/revealed]*	+Judgement: capacity *[skill development, knowledge acquisition, motivation boost]* -Judgement: capacity[*difficulty in English learning*] +Appreciation: valuation *[contribution, help, enhance, improve;]* +Appreciation: valuation *[A (the preferred) has more/stronger effect than B; A rather than B]* -Appreciation: valuation *[negative effect on]* -Appreciation: composition *[insufficient, little difference, challenge, the low likelihood of]*	+Force: quantifying a thing *[higher, better, more, stronger effect on]*. -Force: quantifying a thing *[insignificant, no significance, not predictive]*.
C (optional)	1.Highlight the significance/ importance of the findings 2.Implications/limitations of the findings	Expansive: Attribute [the findings suggest/may]	＋Appreciation: valuation *[effective, beneficial, relevant,informative, consistent, salient to L2 leaners,]* +Appreciation: valuation (a stark contrast in two things stating a preferred value) *[A rather than B (a preferred feature); better writers used …than weaker writers]* +j: capacity*[highly bi-literate, the need to v]* -Appreciation: valuation [*caution against, limitation*,]	+Force: quantifying a thing/a process: extent [/noticeable influence] +Force: intensifying a process [*very different*] +Focus: specificity [*specifically]*

Note	Hybrid moves were identified in the corpora: /B+P/, /P+M/. Their steps and evaluative devices also occurred on the hybrid move.	Identify engagement devices mainly on main and second clauses, serving as the macro- framework of evaluation. **Key devices: Main and subordinate clauses, including subject and the finite.**	+Appreciation: valuation [effective] **Key devices: The head or modifier of various phrases, including the noun phrase, the adjective, and the verb. Appreciation devices listed are mainly in general use;** those in the PAC. Affect devices with much lower frequency.	Graduation devices were not always counted, when overlapping with engagement. **Key devices: the head of modifier of the adverb phrase, the adjective, etc.** Graduation: fact-based, by frequency and relativeness, evoked or less direct appreciation.

4. Conclusion

In their RA abstracts, the published writers were found to skillfully encode various evaluative devices on the moves. They were more likely to express engagement in the results, conclusion, and background moves to open up dialogic space, which thus serves as a macro-framework of evaluation. For the detailed evaluation, the writers usually expressed direct appreciation-valuation in the conclusion, background, and results moves. However, the writers tended to express monologues in the method and purpose moves, but with some graduation devices for force-quantity and focus-specificity of the topic. In so doing, the published writers perhaps attempted to achieve an accumulated persuasive effect regarding the study value, mainly by gradually building up appreciation-valuation in the background, conclusion, and results moves, alongside force-quantity and focus-specificity in the method, results and purpose.

Lower-proficiency level EFL learner writers were found to use fewer or a narrower range of evaluative devices, often within one or two clauses across the moves in their RA abstracts. In terms of the pedagogical implications, it is recommended that EFL learners learn the function and importance of evaluative devices in RAs, so as use the devices of engagement, attitude, and graduation in their RA abstract writing. In so doing, EFL learners are more likely to convey more persuasive statements in their RA abstracts in an attempt to promote the study value. In this sense, EFL learners may compose RAs which conform more closely to the norms of their chosen fields, and thus will more easily become socialized into their research community (Swales and Feak, 2009).

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List of the Published Abstracts

1. Language Learning & Technology (2014), 18(2), 124-150: L2 Writing Practice: Game Enjoyment as a Key to Engagement
2. Computer Assisted Language Learning (2014), 27(2), 163-183: ‘Inspiration, ideas, encouragement’: teacher development and improved use of technology in language teaching through open educational practice
3. Computer Assisted Language Learning (2016), 29(6), 1090-1101: Linking adverbials in first-year Korean university EFL learners' writing: a corpus-informed analysis
4. RECALL (2015), 27(3), 304-320: Using key part-of-speech analysis to examine spoken discourse by Taiwanese EFL learners
5. Journal of English for Academic Purposes (2016), 23, 71-82: A corpus-based study of the AAAL conference handbook

Risks, ‘stupid risks’ and ‘smart risks’: Keeping hopes and fears manageable

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Abstract

Risk management is not as bound as it once was to particular projects or hazards, but has become more concerned with monitoring total states of things and then managing them for viability and resilience as much as for gain or prevention of loss. Essential points to grasp are that the future is open as well as uncertain, and that everything that looks like a risk is also a potential chance, as well as vice versa. Linguistically, this seems to be reflected in an increasing tendency to talk of ‘taking’ a risk (or a chance) in place of using fixed-attitude expressions like ‘running’, ‘accepting’, facing’ or ‘avoiding’ a risk. At a practical level, advertising, advice and warning texts are also taking more open approaches to readers’ choices for tending their situations and interests. In this presentation, I take a close textual view at how promotional and advisory online documents invite readers to review their future choices by guiding them into self-monitoring roles without too obviously telling them what to do or not to do.

1. Introduction

‘Risk’ is on its way to becoming a cross-language term with a standard meaning nowadays, so far as its use in risk management is concerned. Risk handling is no longer the contractual concern of which party is to ‘bear’ the risks of an undertaking, or the calculation of whether it is more prudent to ‘run’ or ‘avoid’ risks. Instead, the risk manager takes it as given that risks belong to action taking and that not doing anything is as much a risk as doing something. The practical skill of risk management, accordingly, is to know how to take risks ‘smartly’. Viewed this way, ‘taking a risk’ is also another face of ‘taking a chance’. If you try to attain something, there is a chance you will succeed and do yourself some good. But as with any kind of chance, there is also a risk that you will not succeed, or that success will do you less good than you thought. In the uncertainties of action planning, new plus and minus outcomes develop unpredictably out of every decision, but the important mid-term aim is to grow or gain overall, and if certain older verb-object ‘risk’ collocations like ‘run a risk’ or ‘bear a risk’ seem to be in relative decline now this may be because they fail to offer a matching ‘chance’ collocation (?‘run a chance’ / ?‘bear a chance’) which might have offered a way round to a communicating alternative success story again.

When looking at collocation patterns in word corpora, it is tempting to think of collocation links as permanent properties of a word. But if items are traced over decades of use in a historical corpus such as COHA, the Corpus of Historical American English (COHA), it can be seen that collocations shift over time along with everything else. Also, collocations do not hold equally between vocabulary items in every context, but more so in particular speech genres, or field registers, or use situations. What items occur together in a particular scene of engagement will depend on the context of situation for that engagement and on the purposes moving it.

Pairs of purpose terms that currently co-occur in complementary ways and require balancing include:

Table 1: Pairs of purposes that often require balancing in evaluative or deliberative discourse:

POSITIVE	Favours Partygoing Spend now	Vs	Obligations Hangovers Lack later	NEGATIVE
NEGATIVE	Costs Risks Precautions	Vs	Benefits Returns Protection	POSITIVE
POSITIVE Ⅰ	Security Work All-round skill	Vs	Freedom Home Expertise	POSITIVE Ⅱ

These motives of purpose often begin from more basic positive and negative affect reactions that are then socialised into appreciations or conduct judgements (Martin and White, 2005: 45). In addition to straight positive versus negative, it is also common to find conflicts between rival positive motives, as when freedoms are limited for reasons of security. Negative versus negative is rarer, but can occur in situations of ‘choosing the lesser evil’. Naturally, the categories in a table like this can also overlap. But labels like ‘favours and obligations’ help to add cohesion and durability as long as speakers remain receptive to them.

I leave these general reflections now, in order to look more closely at the middlemost row in the display – the balance between risks and returns. In particular I propose to look at balances of risk and return in two texts offering guidance on decisions about hazardous outdoor activities. In terms of socio-semiotic activity (Halliday and Matthiessen, 2014: 39-40), one of the texts has a ‘recommending’ function of ‘advising’ and ‘promoting’ and the other an ‘enabling’ function of ‘instructing’ and ‘regulating’. They are both also hybrid, however, since they concern activities in which the returns from an engagement are not sharply separable from the risk. Thus, climbing a mountain in winter offers risks that double as thrills, for example.

As a first illustration of a hybrid risk and return activity, backed up with some appraisal analysis, I cite an old anecdote (Fuller, 1840 [1662]: 419) about the first arrival of the courtier Walter Raleigh at the court of Queen Elizabeth □, probably in 1583. According to Fuller, Raleigh left verses of love / ambition below the Queen’s apartments: “Fain would I climb, yet fear I to fall”. According to Martin and White’s appraisal categories, "Fain would I climb" shows a value of 'inclination' for the returns balanced against a value of 'disinclination' ("Yet fear I to fall") for the risks (Martin and White, 2005: 51). Raleigh seems to have balanced his motives right, since he was not immediately arrested. Instead, the Queen is said to have replied "If thy heart fails thee, climb not at all." Here, "fails thee" seems to be a negative 'capacity' judgement (Martin and White 2005: 54-54) and "Climb not at all" a 'rejection' of Raleigh's implied 'offer' to climb (Halliday and Matthiessen, 2014: 137). The rejection is not explicit, however, but can be turned round to suggest: "If thy heart's set on it, why fear a wall?" Whether this reply counts as an 'enabling regulation' ('Don't fall!') or a 'recommending promotion' ('Be bold!') is hard to see, but fertile opaqueness is precisely the point of Fuller's anecdote.

My presentation below begins from evidence of recent changes in use of 'risk' as a verb and a noun, in particular an increase in the use of 'take a risk' and a decline in the use of 'run a risk' (section 2). I then take this as a way into discussing the recent popularity of addressing readers in guidance texts as risk managers. In this conferred role, the reader is positioned to be ready to accept risks in some settings while avoiding them in others (section 3). Both of the texts examined place the reader in just this kind of risk managing role and then clarify the options on offer, in the first case by urging a frank policy of acceptance for risks that are not plainly unacceptable ("stupid risks"), and in the second case by an appeal to a more complex strategy ("smart risk") on two planes: a primary plane of acceptance as before, but controlled this time by a precautionary second plane of avoidance. After a run-through of examples in each of the texts focusing on excerpts rich in uses of words based on the element *risk*, I end with statistical tabulations of the *risk* uses (section 4). A startling result is that the proportion of vocabulary items based on *risk* comes to 5.1% of all typographical words for the first text, and 5.2% for the second, which seems strangely high, in two unrelated texts, for a noun that is not even all that common in ordinary general use. In my conclusion I attempt to account for this unexpected find, while also making comments from a longer span viewpoint on four or five other points.

2. Ways in which the word *risk* is used

2.1 How *risk* is used as a verb

Taking the Raleigh anecdote as a context for preliminary made-up examples, *risk* as a verb is common with undertakings [1], misfortunes [2], and potential losses [3]:

[1] Are you willing (/ afraid) to risk this climb?
[2] Are you willing (/afraid) to risk this fall?
[3] Are you willing (/afraid) to risk your life?
(COD, 1995: **risk,** ***v. tr.***, but with different examples)

In the texts we shall be looking at, however, *risk* as a verb hardly figures. In fact, in the risk management field generally there is a notable preference for *risk* as a noun.

2.2 How *risk* is used as a noun

Risk as a noun again occurs with undertakings [1] and misfortunes [2], but less often (and mainly in preposition phrases of the sort *at the risk of*) with potential losses. A more common noun use is with sources of hazard [3], with the *risk* noun often functioning as a predicate:

[1] Will you accept (/Can you avoid) the risk of climbing?
[2] Will you accept (/Can you avoid) the risk of falling?
[3] Favour (/Disfavour) can be a risk at court.
(COD, 1995: **risk, *n.***, but with different examples)

As *risk* appears nearly always as a noun in the present text study, I will add a few more remarks about patterns of noun use, although they are subjectively made and not backed up by full statistics. My main interest here is in a construction usage in which *risk* functions as the object of a positioning or attitude-setting verb. The attitudinal verbs ‘accept’ and ‘avoid’ in examples [1] and [2] above are typical, and could further be combined into a complementary pair, with ‘accept’ standing for a positive attitude to risk and ‘avoid’ for a negative one. Using *risk* as a verb, this kind of value polarity could only be shown implicitly through the choices of objects (‘risk this climb’, ‘/ fall’). A desire for more explicitness could thus be one reason why people in risk management prefer *risk* as a noun.

There are a dozen or so verbs that are more or less regularly used to place risks (as objects) in attitudinal or positional relationships with people (mostly as subjects). But the most common two are *run* and *take*:

If you rush, you run the risk of crashing your car.

I’ll take the risk of being scolded.
(*Genius English-Japanese Dictionary*, 5^{th} Edition, **risk**)

Fine differences of usage between ‘risk running’ and ‘risk taking’ can be found statistically, for example, by seeing which comes more often with a definite article or so on. But the difference I wish to focus on now is less subtle and can be seen by substituting for the noun *risk* itself. After *take*, but not after *run*, *risk* can often be replaced without much loss of meaning by *chance*:

If you rush, you *run the *chance* of crashing your car.

I’ll take the *chance* of being scolded.

The implication seems to be that when you *take a risk*, you also take a chance, but when you *run a risk*, you face threats in a more incidental way apart from pursuing your primary goal. This also seems to suggest that *taking a risk* (like *taking a chance*) is generally voluntary, which is not always true for *running a risk*.

Historically, statistics from the Corpus of Historical American English (COHA, Oct., 2016) show that the word string < RUN ART RISK> (ART = article) has been widely used since the 19^{th} century, with a peak in the 1870s and 1880s. In contrast, < TAKE ART RISK > was only half as frequent through most of the 20^{th} century but then went through a growth spurt, overtaking < RUN ART RISK > in the 1990s. This shift to ‘risk taking’ may reflect the rising influence of risk management, seeing that it is also apparent in other languages. In Japanese, for example, *risuku o toru* (‘take a risk’) is used very similarly in calculated risk taking, even though there are some people who insist it can only properly mean ‘take away hazards’. Older verb-object collocations like *risuku o okosu* (‘raise a risk’, ‘cause a risk’) may still work in other contexts, but for strategic business or career planning and so on, the mainstream usage is now:

> **リスクを取った (“risuku o totta”)** 人にしか大金はめぐってこない。
> The big money only comes round to people who **have taken risks**.
> http://kanemochi.kyokasho.biz/archives/4278

If this account of recent usage is right, the shift from ‘risk running’ or ‘risk raising’ to ‘risk taking’ has to do with a spreading social outlook that a strategic decision is not a matter of order or stability at threat, but a branching point leading to two (or more) open outcomes. The next step you take for redirecting your world is a free choice opening into a new state of things that may be further adjustable, but not reversible. The outcome of the choice is contingent on all other moves made by all other people. And this is an outlook steadily gaining ground in one field of social activity after another (Luhmann, 1991; Sofsky, 2005; Aven, 2014).

3. Risk acceptance and risk avoidance

Individuals taking open-outcome decisions are guided by rolling accounts of value and purpose backed more stably by acquired attitudes. One way in which attitudes affect decision taking is through the differential extents to which people will respond positively to some types of choices and negatively to others. With regard to risk taking, especially when doubled with chance taking, a positive attitude to act can be called ‘risk-willingness’, leading towards risk acceptance, while a negative attitude can be called ‘risk-averseness’, leading on, or back round, to risk avoidance. Unlike attitudes (willingness and averseness), these risk behaviours (acceptance and avoidance) are statistically observable (Kahneman, 2011: 278).

On the whole, people with a coordinated range of risk taking skills do better in life than those who accept (or avoid) risks every time. To return to the Walter Raleigh story, a skilled climber is one who accepts the risk of climbing while simultaneously avoiding the risk of falling as a complementary precaution. This is still only half of the success strategy, however, because in addition he needs also to have planned his ascent route, equipment, escape options, alibis, and so on. This combining of opposite impulses through the interplay of ‘two systems’ one seeking and the other safeguarding (Kahneman, 2011: 20-24) is characteristic of risk management, and tracking it, for example, through relative frequencies of positive and negative *risk* vocabulary could be a useful way of describing a non-technical social risk management text such as an advice sheet for the safe exercise of a strenuous activity.

4. Two risk taking advice texts

4.1 Opening remarks on Text 1 and Text 2

I now turn to the risk taking advice texts on which this presentation was based. They are both designed to argue for a primarily positive attitude to risk-taking, but there are differences between them with respect to risk-avoiding safeguards. The texts were both accessed online. The access details, in the summer of 2016, were:

> **Text 1**
> Taylor, Jim, 2015. 'Take Risks for Athletic Success'. Accessed 13 Aug. 2016.
>
> **Text 2**
> Provincial Injury Prevention Program, Alberta Health Services, 2015. 'Smart Risk Approach to Preventing Injury'. Accessed 13 Aug. 2016.

Both texts have a number of important characteristics in common which I shall take note of first, before moving on to separate descriptions of their main differences:

Characteristics shared by both texts

1. Both texts are written for specific persuasive purposes. Text 1 is a promotion article for a sports psychology course. Text 2 is part of a public accident prevention campaign.
2. They both draw strongly on schematic guidance formulas. Text 1 draws on the author's Prime Performance System:
   Attitudes → Obstacles → Training → Mental Muscles → Tools
   Text 2 draws on the Smart Risk injury prevention programme:
   Buckle up → Look First → Wear the Gear → Get Trained → Stay Sober
3. They follow similar risk management frameworks. Risk taking comes with upsides and downsides. Risk takers have to attend sometimes to the one, sometimes to the other, revising their prospects accordingly (cf. Kahneman and Tversky, 1979).

4.2 Remarks on Text 1: 'Take Risks for Athletic Success'

As it is promotional, written in support of the author's training programme, Text 1 shows a strong bias to risk-willingness, bringing in risk-averseness only in a token way as a corrective against the wildest excesses of bad choice, called 'stupid risks':

> …. when I talk about taking risks, I don't mean taking stupid risks such as texting while driving, jumping off the roof of your house, or taking drugs. That's not risk taking, that's being stupid. Instead, risk taking means pushing your limits, getting out of your comfort zone, and confronting failure, so that, when the risk pays off, you will experience success as you pursue your athletic goals.
> (Taylor, 2015: Section1)

The need for fuller treatment is dispensed with by restricting the examples of 'stupid risks' to actions remote from sports training. Presumably 'taking drugs' cannot refer to muscle-building drugs since taking those would be wrong but not self-evidently stupid. Routine training hazards such as injuries are also passed over. The earnest discussion is focused on failure of will:

> By avoiding total failure, you don't have to admit you're just not good enough, which protects your self-identity, self-esteem and goals.
> (Taylor, 2015: Section 2)

> It's a simple choice .... would you rather take risks and succeed or play it safe and fail?
> (Taylor, 2015: Section 3)

It is not necessarily a fault that the coverage of 'risk' is so narrow. As an advertisement, Text 1 foregrounds the most distinctive feature (training of will) in the author's training course. But the disconnection between the 'stupid risks' and the positive persuasions in the text is real, as can be shown by taking 'drugs' in the sports sense and rewriting the end as: It's a simple choice .... would you rather take **drugs** and succeed or play it safe and fail? This is bad ethics but not bad for success, suggesting that the discussion has not been developed yet as far as it can reach.

Use of vocabulary based on the element *risk* can be summarised in this text as follows:

Table 2: Statistics for uses of vocabulary based on the element *risk* in Text 1

Text length in words		854
Occurrences of the element *risk*		49
Frequency of occurrence	(49 / 854:)	5.1%
Occurrences of the element *risk*		49
As an independent noun		38
As a noun base (as in *risk taking*)		7
As a verb		2
risk as a noun after the verbs:		28
take 25, *define* 1, *be* 1, *embrace* 1		
risk as a noun before the verbs:		7
be 3, *pay off* 2, *become* 1, *come* 1		
risk as a noun base before:		9
taking 7, *taker* 2		
risk as a noun after the preposition, etc.:		3
of 2, *given* 1		
risk as a verb, without further elaboration	(1 pair:)	2
'To *Risk* or not to *Risk*' (as a section heading)		

Comments on the Text 1 statistics

〔1〕 36 / 49 of the incidences of *risk* in this text (73.4%) come with forms of *take*. Well known corpus collocations with *run*, *avoid*, *accept*, *face* etc. do not occur.

〔2〕 The frequency of occurrence for *risk* words is 5.1%, close to the frequency found for the definite article (*the*) in general corpora. But *risk* is a content word, ranking in place 3,189 for lemma frequency in the COCA corpus (COCA). For it to score so high here suggests that Text 1 is based on a formula from the author's Prime Performance Program.

4.2 Remarks on Text 2: 'Smart Risk Approach to Preventing Injury'

Text 2 inclines to risk-averseness, while affirming risk-willingness in principle as a part of growing up. The point of the attached adjective 'smart' is to highlight the objective of training young people in self-monitoring skills as they grow away from parental control. For children, the key to security in outdoor activities is adult supervision, but for teenagers the focus changes to risk training, familiarity with equipment, and awareness of limitations:

> …. It is important that parent and other adults know the risks and manage them for children. …. Teens make decisions involving risk-taking, however, being able to assess the risks and their consequences develops as they get older. To prevent dangerous risk-taking and injuries, teens must learn how to recognize risk, manage risk, and make safe and healthy choices.
>
> (Provincial Injury Prevention Program, 2015: Section1)

The high frequency of *risk* words is the same as in Text 1 – six occurrences, or eight if 'them' ('manage them') and 'their' ('their consequences') are added. But a difference is that 'risk(s)' follows verbs of either [1] recognition ('know', etc.) or [2] managing ('manage').

The same characteristics, in lower concentrations, run through the strategy outline making up the second section of text. Here it is up to the end of the first strategy point:

> **Smart risk** is about "can do" rather than "don't do". There are six smart risk choices or strategies Albertans can use to reduce their risk of injury while continuing to enjoy life.
>
> **Look first**
>
> Look first means think ahead. Understand the risks of an activity and make a plan to manage them: before you cross the street, before you ski down a hill, before you clirnb a ladder.
>
> (Provincial Injury Prevention Program, 2015: Section2)

There are four instances of *risk*, plus 'them' ('manage them'). The reliance on pronouns arises from a concern to set up pairs of <recognition → managing> verbs with *risks* as the object of both. Since the pronoun usually replaces the second *risk* word, the combination 'manage them' is characteristic. A further special feature is the adjective-noun combination 'smart risk', the name of the risk management plan being followed in this public guidance text. Although it is an institutional name predating this campaign, it is curious that it provides an exact counter-pole to 'stupid risks' used in Text 1.

As before, the occurrences of the element *risk* in Text 2 can be set out in a table:

Table 3: Statistics for uses of vocabulary based on the element *risk* in Text 2

Text length in words		689
Occurrences (or replacements) of the element *risk*:		36
Frequency of occurrence	(36 / 689:)	5.2%
Occurrences (or replacements) of *risk*		36
As an independent noun		19
As a noun base (as in *smart risk* or *risk taking*)		12
Replaced by a pronoun (e.g., *them*)		5
(Not counting the organization name *SMARTRISK*: 2)		
risk as a noun (or replaced) after the verbs:		16
recognize 4, *reduce* 3, *manage* 2, *take* 2		
assess 1, *have* 1, *know* 1, *understand* 1,		
recognize and manage 1		
risk as a noun before the verbs:		3
be 2, *go away* 1		
risk as a noun base:		12
after *smart* 8, before *taking* 4		
risk replaced by the pronouns:		5
them (after *manage*) 4, *their* (before *consequences*) 1		

Comments on the Text 2 statistics

〔1〕 Dividing 'recognize and manage them' into two halves, words based on *risk* come 7½ times each as nouns (or replacements) after verbs of recognition and managing. Together, this accounts for 41.7% (15/36) of *risk* instances. As in Text 1, the familiar corpus collocations with *run*, *avoid*, *accept*, *face* etc. do not figure.

〔2〕 The frequency of occurrence for words based on *risk* (5.2%, in a 689 word text) is virtually the same as for Table 1 if pronouns are counted in, or slightly lower (4.7%) if they are left out. The reason for the high frequency lies again in the formulaic construction. Alberta Province has an archive of materials produced on the *SMARTRISK* formula and it is not rare for passages to be reused. The mention of 'six smart risk choices or strategies' in the Section 2 excerpt is a telltale error arising from the fact that the complete formula is for six strategy points although only five are used for this particular flyer.

5. Conclusions

〔1〕 No claim is being made here that any specific grammar or genre of risk taking exists in English. If it does exist, it is too special to be worth the effort of isolating.

〔2〕 However, current talk of risk taking, and certainly risk management, does generally involve a balancing of willingness and averseness as complementary motives behind evaluating and decision making. This can clearly be seen in persuading and advice giving interactions (subsumed under 'recommending' in Halliday and Matthiessen, 2014: 36; 40), and, interestingly enough, the preparatory discussion for this broad area of 'speech function' elaboration there does make glancing allusions to 'meanings at risk' and 'wordings at risk' (Halliday and Matthiessen, 2014: 34). As also in situations of politeness, doubt, displayed confidence or so on, there is a tendency for words to become formulaic, opaque and oblique in risky areas.

〔3〕In the past, I have paid some attention to 'sureness', similarly understood as a balancing of sureness and doubt. Sureness is the acceptance of a belief in a single liberating outcome ('out of doubt'), and doubt the incapacity for such a belief ('short of sure'). The interdependencies of sureness and doubt and, in the present case, risk willingness and risk averseness, can be understood as specifically situated modality relations, similar to the better recognised relations of necessity and possibility, obligation and permissibility, that underlie epistemic and deontic grammar systems.

〔4〕 It was only in 1951, with a model of obligation and permissibility relations on analogy with necessity and possibility (von Wright, 1951), that modality made a recognised entry as a category of grammar. It would be outlandish now, in English, not to distinguish between epistemic varieties (modalisations) and deontic ones (modulations) at the least. I believe that in future finer modal distinctions will be needed in special discourse areas and may even need to be selected ad hoc, perhaps from menus of standard modality kits, for specific fields and purposes of application. This is already the case in applied risk management, where nobody thinks of balancing the potentials and hazards of a health care management plan, for example, on the same criteria as used for the pros and cons of opening a factory. In the more homely context of public guidance websites considered above, there are also clearly strong needs to fit messages of opportunity, risk and hazard awareness both to the current administrative context being covered and to the existing values and expectations of community common sense.

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大学生向け科学分野の教科書（英語）の語彙文法的研究
Lexicogrammatical Analysis of Academic Science Textbooks

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Abstract

The present paper focuses on an aspect of lexicogrammatical and logical syndrome in academic science textbooks. For this task, it uses the theoretical framework of Systemic Functional Linguistics. Since academic science textbooks deal with registers that many of the first year students are not familiar with, it seems reasonable to assume that students have difficulty in reading them. To meet the demand of science majors, understanding and describing the syndrome is necessary.

This paper explores the register of academic science textbooks from the following perspectives: a) nominalized (incongruent) and congruent expression; b) complexity of nominal groups and sentences; c) logical ambiguity and semantic leaps caused by grammatical metaphor; d) definitions and taxonomy of terms; and e) cohesion. By analyzing Physics, Biology and Chemistry textbooks, it attempts to show 1) how the lexicogrammatical and logical features of science textbooks are similar to/ different from those of general science illustrated in Halliday and Martin (1993); and 2) how these features are similar or different between the three disciplines (Physics, Biology and Chemistry).

The goals of this study are to facilitate students' learning shift toward academics and to help students construct their knowledge of science.

1. はじめに

本稿では、選択体系機能言語学(Systemic Functional Linguistics)の理論枠組みを利用して(Halliday, 1994)、大学の科学分野の基礎授業で使われている教科書（英語）の語彙文法的特徴、論理展開の特徴について議論する。物理学、生物学、化学といった科学分野の教科書の英語は学生が大学入学以前にほとんど接してこなかった言語使用域(register)であるため、科学分野の教科書の読解は、学生にとって大きな負担となることが多い。その一方で、専門教育課程との連携から、特定の学問領域に沿った初年次英語教育が求められつつある。理工系、医療系の分野の基礎として、これら理系 3 科目の研究と教育

の充実は欠かせない。例えば、本学歯学部の 1 年次では物理学、生物学、化学の基礎が必修科目として定められ、一部では英語が用いられている。

いわゆる科学英語の一般的特徴、あるいは具体的な理数系科目の特徴については、例えば、Halliday and Martin (1993)や、Martin and Rose (1998)で議論されている。その中で、Halliday and Martin (1993)の Chapters 3-5 では、文法的比喩を中心に科学英語の特徴群を指摘している。しかしながら、指摘されている特徴群は、大学生向けの科学分野の教科書に必ずしも当てはまるとは限らない。例えば、科学英語では一般に、現象が名詞化されるため、名詞群の構造は複雑になり、いわゆる文の構造は単純になるとされている(Halliday and Martin, 1993: 67)が、化学の教科書では、名詞化の比率が低いため名詞群の構造はあまり複雑ではない一方、節複合の多用により文構造は複雑になっていることが多い。そこで、本稿では、下記の項目について、英語で書かれた大学生向けの物理学、生物学、化学の教科書（各 2 冊ずつ）を分析し、大学生向けの科学分野の教科書の特徴群を提示する。

a) 節ごとの名詞化表現の数と、名詞化表現から「一致した(congruent)」表現への再現可能性
b) 名詞群の複雑さと、いわゆる文の複雑さ
c) 文法的比喩の利用（論理関係の、名詞群や動詞群による具現）によって生じうる、現象どうしの関係の曖昧さと論理展開の飛躍
d) 専門用語の定義のしかたとタクソノミーの記述法
e) 結束性のありよう

科学英語の一般的特徴との異同点／共通点や分野による異同点／共通点を明らかにすることで、この研究を学習者、とりわけ大学初年次の学生の学習支援の一助としたい。

2. 分析テクスト

上記目的のため、分析テクストは、英語で書かれた教科書として大学初年次の授業で一般的に使用されている以下の教科書（各分野 2 冊、計 6 冊）とする。

【物理学】

Hecht, E. (2011) *Schaum's Outline of College Physics* (11th ed.). New York: McGraw-Hill Education.

Young, H.D. and R.A. Freedman (2016) *University Physics with Modern Physics* (14th ed.). London: Pearson.

【生物学】

Sadava, D., D.M. Hillis, H.C. Heller and M.R. Berenbaum (2014) *Life: The Science of Biology* (10th ed.) W.H. Freeman & Company.

Mader, S.S. and M. Windelspecht (2014) *Inquiry into Life* (14th ed.). New York: McGraw-Hill Education.

【化学】
Clayden, J., N. Greeves and S. Warren (2012) *Organic Chemistry* (2nd ed.). London: Oxford University Press.

McMurry, J.E., C.A. Hoeger, V.E. Peterson and D.S. Ballantine (2014) *Fundamentals of General, Organic, and Biological Chemistry* (7th ed.). London: Pearson.

3. 教科書の語彙文法的分析

本節では、第 1 節で提示した a) ～e)の項目について、分野ごとに教科書の語彙文法的分析をする。まずは、分野ごとの特徴が出ている箇所を抜粋し、分析例を示した後に、分野ごとの語彙文法的特徴をまとめる。

3.1 物理学の教科書

物理学の教科書は、Halliday and Martin (1993)が提示している「科学テクスト」の特徴をよく表している。節あたりの名詞化表現の数は 1.2 以上と、他の 2 科目に比べると非常に多い（生物学は 0.2 未満、化学は 0.4 程度）。また、結束性については、繰り返し(repetition)が主に利用されている。

以下に示すテクスト（Text 1）は、「音」の導入部分の一部である。

Text 1

The most general definition of **sound** is a longitudinal wave in a medium. Our main concern is with sound waves in air, but sound can travel through any gas, liquid, or solid. You may be all too familiar with the propagation of sound through a solid if your neighbor's stereo speakers are right next to your wall.

The simplest sound waves are sinusoidal waves, which have definite frequency, amplitude, and wavelength. The human ear is sensitive to waves in the frequency range from about 20 to 20,000 Hz, called the **audible range**, but we also use the term "sound" for similar waves with frequencies above (**ultrasonic**) and below (**infrasonic**) the range of human hearing.

(*University Physics with Modern Physics*, p. 529)

（太字は原文ママ）

第 1 文の The most general definition of **sound** is a longitudinal wave in a medium. は、専門的語彙の定義に専門的語彙が利用される、典型的な「科学テクスト」の定義のしかた(Halliday and Martin, 1993)である。この関係過程節（内包的・同定的）の同定者である a longitudinal wave in a medium は、一般的な語彙ではなく専門的な語彙であるため、理解するにはさらなる説明を要する。longitudinal wave は、別項目で以下のように説明されている。

If we give the piston a single back-and-forth motion, displacement and pressure fluctuations travel down the length of the medium. This time the motions of the particles of the medium are back and forth along the same direction that the wave travels. We call this **a longitudinal wave**.

(*University Physics with Modern Physics*, p. 493)
（太字は原文ママ、下線は著者による）

さらに、この説明自体、displacement と pressure という専門的な語彙を利用して書かれているため、それぞれの語彙に次のような解説が必要になる。

displacement: a change in the position of an object
pressure: the force per unit area that the fluid exerts on an immersed object is called the pressure on the fluid.

また、この定義にはいくつかの名詞化表現（下線部）が含まれる。これらの名詞化表現は、例えば次のように解き開く(unpack)ことができる。

displacement and pressure fluctuations: displacement and pressure change frequently
a single back-and-forth motion: (the piston) moves back and forth once
the motions of the particles of the medium: the particles of the medium move

以上、Text 1 の第 1 文は、節構造としては単純な関係過程節であるが、専門的な用語を説明するために別の複数の専門用語の理解が必要である点で複雑である。

第 3 文は、比較的平易な文構造であるが、そこには情報量の多い名詞化表現 the propagation of sound through a solid が含まれる。この名詞化表現は、例えば sound travels through a solid のように解き開くことができる。

第 2 パラグラフでは、「音」の下位分類が導入される。まず第 1 文の前半（内包的・属性的関係過程節）では、最も単純な音波として正弦波(sinusoidal wave)が導入され、後半の節で正弦波と構成要素(definite frequency, amplitude, and wavelength)との全体部分関係が関係過程節（所有的・属性的）によって示される。次いで第 2 文では、音が人間の耳に聞こえる音域(the audible range)が関係過程節（内包的・同定的）によって導入され、さらにそれよりも高い周波数(ultrasonic)と低い周波数(infrasonic)が同格(apposition)によって導入される。「音」の全体文関係の説明が中心となる第 2 パラグラフでは節、名詞群ともに比較的単純な構造をしていることがわかる。

次に示す Text 2 では、「音の大きさ」が導入される。

Text 2

Loudness is a measure of the human perception of sound. Although a sound wave of high intensity is perceived as louder than a wave of lower intensity, the relation is far from linear. The sensation of sound is roughly proportional to the logarithm of the sound intensity. But the exact relation between loudness and intensity is complicated and not the same for all individuals.

(*Schaum's Outline of College Physics*, p. 257)
（太字は原文ママ）

第 1 文では、「音の強さ」(loudness)が名詞化表現によって定義されている。この場合、背景知識なしでは「音の強さ」とは、人間が音を知覚する「大きさ」の尺度なのか「高さ」の尺度なのか、あるいは「長さ」の尺度なのか曖昧さが残る。この曖昧さは第 2 文で間接的に解消されるが、ここでは intensity が loudness の言い換えであること理解することが求められる。さらに、第 2 文の後半では、前半の節が the relation に圧縮されているとこを理解することが求められる。

第 3 文の冒頭 the sensation of sound は、例えば how you feel sound のように解き開くことができるが、それ以降の名詞化表現 the logarithm of the sound intensity は専門的知識がなければ解き開くことが困難である。

次の Text 3 は、「接触力」(contact force)の定義と下位分類がなされている箇所である。

Text 3

When a force involves direct contact between two bodies, such as a push or pull that you exert on an object with your hand, we call it a **contact force**. Figures 4.2a, 4.2b, and 4.2c show three common types of contact forces. The **normal force** (Fig. 4.2a) is exerted on an object by any surface with which it is in contact. The adjective normal means that the force always acts perpendicular to the surface of contact, no matter what the angle of that surface. By contrast, the **friction force** (Fig. 4.2b) exerted on an object by a surface acts parallel to the surface, in the direction that opposes sliding. The pulling force exerted by a stretched rope or cord on an object to which it's attached is called a **tension force** (Fig. 4.2c). When you tug on your dog's leash, the force that pulls on her collar is a tension force.

(*University Physics with Modern Physics*, p. 126)
（太字は原文ママ）

接触力と、その下位分類ひとつである引張力(tension force)は、関係過程節（内包的・同定的）によって定義され、引張力以外の 2 つの力である垂直抗力(normal force)と摩擦力(friction force)は物質過程節によって定義されている。この種の下位分類には、Text 1 で確認できたように、典型的には関係過程節（所有的・属性的）が利用されるのだが、Text 3 では、図の参照を指示する内容の関係過程節（内包的・同定的）が利用されている。この指示からもわかるように、これら 3 つの力については、図を参照した方が理解しやすい（マルチモーダル研究は、本稿の内容から逸脱するため、図の掲載は割愛する[1]。）。

ここまで述べてきた、物理学の教科書の語彙文法的特徴をまとめると次のようになる。

a) 節ごとの名詞化表現の数は他の 2 科目と比べると非常に多く、名詞化表現を「一致した」表現に解き開くには、専門的知識が必要な場合が多い。
b) 名詞群の構造は複雑である一方、節や節複合は平易である。また、埋め込み節は利用されない傾向にある。
c) 文法的比喩の利用によって生じる、現象どうしの関係の曖昧さを解決するには背景知識が必要である。
d) 専門用語の定義に別な専門用語が利用されることがある。全体部分関係は関係過程節（所有的）によって記述される。
e) 結束性については、繰り返しが主に利用されている。

3.2 生物学の教科書

次いで、生物学の教科書を分析する。生物学の教科書における節あたりの名詞化表現は 0.2 未満で、3 科目中最も少ない。また、物理学の教科書とは異なり、名詞化表現のみを利用した定義は見られない。したがって、文法的比喩によって生じうる現象どうし関係の曖昧さや議論の飛躍も（少なくとも分析テクストには）見られない。結束性については、主に繰り返しが利用されている。

以下に示す Text 4 は、原核細胞(prokaryotic cell)とその構成部位を導入した部分である。

Text 4

Figure 3.3 illustrates the main features of prokaryotic cell anatomy. The **cell wall**, located outside of the plasma membrane, contains *peptidoglycan*, a complex molecule that is unique to bacteria and composed of chains of disaccharides joined together by peptide chains. The cell wall acts as <u>a form of protection for bacteria</u>. Some classes of antibiotics interfere with <u>the synthesis of the peptidoglycans</u>. In some bacteria, the cell wall is further surrounded by a gelatinous sheath called a **capsule**. Some bacteria have long, thin appendages called **flagella** (sing., **flagellum**), which are composed of subunits of the protein flagellin. The flagella rotate like propellers, allowing the bacterium to move rapidly in a fluid medium. Some bacteria also have **fimbriae**, which are short appendages that help them attach to an appropriate surface. The capsule and fimbriae often increase the ability of pathogenic bacteria to cause disease.

Prokaryotes have a single chromosome (loop of DNA and associated proteins) located within a region of the cytoplasm called the **nucleoid**. The nucleoid is not surrounded by a membrane. Many prokaryotes also have small accessory rings of DNA called **plasmids** that can be passed from one cell to another. The cytoplasm has thousands of ribosomes for the synthesis of proteins. The ribosomes of prokaryotic organisms are smaller and structurally different from those of eukaryotic cells, which makes ribosomes a good target for antibacterial drugs. In addition, the photosynthetic cyanobacteria have light-sensitive pigments, usually within a series of internal membranes called **thylakoids**.

(*Inquiry into Life*, pp. 45-46)
（太字、イタリックは原文ママ、下線は筆者による）

原核細胞の部位は、主として次の 3 つの方法で導入・説明される。すなわち、1) 同格、2) 関係過程節、3) 埋め込み節である。例えば、第 2 文ではこれらがすべて使われている。まず、冒頭では、埋め込み節である located outside of the plasma membrane によって The cell wall の細胞内での相対的な位置が示される。続いて、contains を過程中核部とする関係過程節（所有的・属性的）によって、細胞壁にはペプチドグリカン(peptidoglycan)が含まれていることが示される。さらに、新出用語である peptidoglycan は埋め込み節を含む同格 a complex molecule that is unique to bacteria and composed of chains of disaccharides joined together by peptide chains によって説明される。同じようにして、原核細胞の部位の導入には内包的関係過程節が、原核細胞と部位の全体部分関係には所有的関係過程節が利用されている。

生物学の教科書にも名詞化表現は利用されるが、前述のとおり使用率は低く、背景知識なしでも容易に解き開くことができる。例えば、第 1 パラグラフ第 3 文と第 4 文に利用されている名詞化表現（下線部）は、次のように解き開くことができる。

a form of protection for bacteria: (the cell wall) protects bacteria.

the synthesis of the peptidoglycans: the peptidoglycans are synthesized.

また、引用部冒頭で Figure 3.3（本稿では掲載しない）が参照されているとおり、原核細胞の形や部位の位置関係などの視覚情報の十分な理解には、図の利用が必要である。

Text 5 は、光合成(photosynthesis)が導入される箇所である。

Text 5

The energy released by catabolic pathways in almost all organisms (with the exception of those living near deep sea vents) ultimately comes from the sun. **Photosynthesis** (literally, "synthesis from light") is an anabolic process by which the energy of sunlight is captured and used to convert carbon dioxide (CO_2) into more complex carbon-containing compounds. Plants, algae, and cyanobacteria live in aerobic environments and carry out oxygenic photosynthesis: the conversion of CO_2 and water (H_2O) into carbohydrates (which we will represent as a six-carbon sugar, $C_6H_{12}O_6$) and oxygen gas (O_2) (**Figure 10.1**).

$$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2 \quad (10.1)$$

Some kinds of bacteria live in anaerobic environments and carry out anoxygenic photosynthesis, in which energy from the sun is used to convert CO_2 to more complex molecules without the production of O_2.

(*Life: The Science of Biology* p. 186)
（太字は原文ママ、下線は著者による）

第 1 パラグラフ第 2 文では、光合成を定義するために、埋め込み節が利用されている。この文を分析すると次のようになる。

Photosynthesis (literally, "synthesis from light") is an anabolic process [[[1 by which the energy of sunlight is captured | 2 and used [[to convert carbon dioxide (CO_2) into more complex carbon-containing compounds]]]]].

一見すると、物理学の教科書と同じように専門的語彙(photosynthesis)が専門的語彙(anabolic process)によって定義さているように見える。しかしながら、関係過程節の属性である anabolic process が 2 つの埋め込み節によって説明されている点で物理学の教科書の説明のしかたとは異なる。また、後修飾部(qualifier)を除いた名詞群の構造が複雑でない点も、物理学の教科書との違いとして挙げられる。

第 2 パラグラフでも同じように、埋め込み節が利用されている。ここでは、次に示すように、酸素発生型光合成(anoxygenic photosynthesis)の定義に埋め込み節が利用されている。

… anoxygenic photosynthesis, [[in which energy from the sun is used to convert CO_2 to more complex molecules without the production of O_2]].

また、このテクストで利用されている名詞化表現（下線部）は、例えば次のように、背景知識なしでも容易に解き開くことができる。

<u>the conversion of CO_2 and water (H_2O) into carbohydrates (…) and oxygen gas (O_2)</u>: CO_2 and water (H_2O) are converted into carbonhydrates and oxygen gas (O_2).

以上の議論をまとめると、次のようになる。

a) 節ごとの名詞化表現の数は 0.2 未満と他の 2 科目と比べると非常に少なく、名詞化表現を「一致した」表現へ解き開くのに、多くの場合は専門的知識を必要としない。
b) 名詞群は、埋め込み節による後修飾部によって複雑になっている（節複合のしかたは平易である）。

c) 文法的比喩の利用によって生じうる、現象どうしの関係の曖昧さや論理展開の飛躍は見られない。
d) 専門的語彙は主に内包的関係過程節と埋め込み節によって導入され、全体部分関係が所有的関係過程節によって説明される。
e) 結束性については、繰り返しが主に利用されている。

3.3 化学の教科書

最後に、化学の教科書の語彙文法的特徴を見る。化学の教科書における節あたりの名詞化表現は 0.4 程度である。他の 2 科目と同じように、結束性については、繰り返しが主に利用されている。

以下に示す Text 6 では、共有結合(covalent bond)の説明がなされている。引用部の最後に示した Covalent bond と Molecule の定義は、実際は、右余白部に別項目で書かれたものである。

Text 6

How do we describe the bonding in carbon dioxide, water, polyethylene, and the many millions of nonionic compounds that make up our bodies and much of the world around us? Simply put, the bonds in such compounds are formed by <u>the *sharing* of electrons between atoms</u> (in contrast to ionic bonds, which involve <u>the complete transfer of electrons from one atom to another</u>). The bond formed when atoms share electrons is called a **covalent bond**, and the group of atoms held together by covalent bonds is called a **molecule**. A single molecule of water, for example, contains 2 hydrogen atoms and 1 oxygen atom covalently bonded to one another. We might visualize a water molecule using a space-filling model as shown here:

（図は省略）

Recall that according to the *octet rule*, main group elements tend to undergo reactions that leave them with completed outer subshells with 8 valence electrons (or 2 for hydrogen), so that they have a noble gas electron configuration. Although metals and reactive nonmetals can achieve an electron octet by gaining or losing an appropriate number of electrons to form ions, the nonmetals can also achieve an electron octet by sharing an appropriate number of electrons in covalent bonds.

Covalent bond A bond formed by sharing electrons between atoms.
Molecule A group of atoms held together by covalent bonds.

(*Fundamentals of General, Organic, and Biological Chemistry*, p.105)
（太字は原文ママ、下線は著者による）

化学の教科書にも、名詞化表現が利用されているが、いずれも背景知識なしでも容易に解き開くことができる。例えば、次の 2 つの名詞化表現（下線部）は、このように解き開くことができる。

the *sharing* of electrons between atoms: atoms share electrons

the complete transfer of electrons from one atom to another: electrons transfer from one atom to another completely

また、文法的比喩の使用による論理の飛躍は（少なくとも分析した範囲においては）見られない。
　新出の用語の定義には、次に示すように、関係過程節（内包的・同定的）が利用されている（波線部が過程中核部）。

The bond [[**α** formed **xβ** when atoms share electrons]] is called a **covalent bond**, and the group of atoms [[held together by covalent bonds]] is called a **molecule**.

　他の 2 つの科目では、ほとんど見ることのない特徴は、複雑な節複合による説明である。Text 5 の第 2 パラグラフに見られる 2 つの文は、Halliday and Matthiessen (2004)にしたがって、次のように分析できる。

第 1 文

α	Recall
' β1	that according to the octet rule, main group elements tend to undergo reactions [[that leave them with completed outer subshells with 8 valence electrons (or 2 for hydrogen)]],
' β+2	so that they have a noble gas electron configuration.

第 2 文

x βα	Although metals and reactive nonmetals can achieve an electron octet
x β x β1	by gaining
x β x β+2	or losing an appropriate number of electrons to form ions,
αα	the nonmetals can also achieve an electron octet
α x β	by sharing an appropriate number of electrons in covalent bonds.

　次の Text 7 は、共役付加反応(conjugate addition)について説明した箇所である。Text 7 の第 2 パラグラフでは、α、β−不飽和カルボニル化合物(α,β-unsaturated carbonyl compounds)の説明に関係過程節（内包的・同定的）が使われている。

Text 7

Conjugate additions occur only when the C=C double bond is immediately adjacent to the C=O group. They don't occur to C=C bonds that aren't conjugated (see the box on p. 501 for an illustration of this).

Compounds with double bonds adjacent to a C=O group are known as α,β-unsaturated carbonyl compounds. Many α,β-unsaturated carbonyl compounds have trivial names, and some are shown here. Some classes of α,β-unsaturated carbonyl compounds also have names such as 'enone', made up of 'ene' (for the double bond) +'one' (for ketone).

(*Organic Chemistry*, p.499)

第 2 パラグラフ第 2 文で示されているように、α、β−不飽和カルボニル化合物には複数の種類があり、それぞれ慣用名が付いている。ただし、これらは本文中に示されることはなく、図（本稿では掲載しない）で示されるだけである。

以上の議論をまとめると、次のようになる。

a) 節ごとの名詞化表現の数は 0.4 程度であり、名詞化表現を「一致した」表現へ解き開くのに専門的知識は必要でない場合が多い。
b) 名詞群の構造は複雑ではない一方で、複雑な節複合によって文が構成されている。
c) 文法的比喩の利用によって生じうる、現象どうしの関係の曖昧さや論理展開の飛躍は見られない。
d) 専門用語は主に内包的・同定的関係過程によって導入される。
e) 結束性については、繰り返しが主に利用されている。

4. まとめと今後の展望

第 3 節で議論した、物理学、生物学、化学の教科書の語彙文法的特徴をまとめると表 1 のようになる。

表 1：理系基礎科目の語彙文法的特徴群

<table>
<tr><td colspan="2"></td><td>物理学</td><td>生物学</td><td>化学</td></tr>
<tr><td colspan="2">a) 節ごとの名詞化表現の数と、名詞化表現から「一致した」表現への再現可能性</td><td>1.2 程度；専門的知識を必要とする</td><td>0.2 未満；容易に再現可能</td><td>0.4 程度；容易に再現可能</td></tr>
<tr><td>b) 名詞群の複雑さと、いわゆる文の複雑さ</td><td>名詞群：
節複合：</td><td>名詞化表現によって複雑
平易</td><td>埋め込み節によって複雑
平易</td><td>平易
複雑</td></tr>
<tr><td colspan="2">c) 文法的比喩の利用によって生じうる、現象どうしの関係の曖昧さと論理展開の飛躍</td><td>典型的</td><td>非典型的</td><td>非典型的</td></tr>
</table>

<table>
<tr><td rowspan="3">d) 専門用語の定義のしかたとタクソノミーの記述法</td><td>定義のしかた</td><td>関係過程節</td><td>埋め込み節を含む関係過程節</td><td>関係過程節</td></tr>
<tr><td>専門用語を使った定義</td><td>ある</td><td>ある</td><td>ある</td></tr>
<tr><td>専門用語の分類</td><td>上位下位関係
全体部分関係
（所有的関係過程節）
マルチモダリティーの利用</td><td>全体部分関係
（所有的関係過程節）
マルチモダリティーの利用</td><td>本稿では確認できず</td></tr>
<tr><td colspan="2">e) 結束性</td><td colspan="3">同じ語の繰り返し</td></tr>
</table>

いわゆる科学英語は、広範にわたる言語使用域なので、活動領域、役割関係、伝達様式に応じた語彙文法の整理が必要である。本稿では、大学生向けの教科書の語彙文法（の一部）を分野ごとに整理した。その結果、分野ごとに複雑さ（難しさ）の質が異なることがわかった。

物理の教科書では、名詞化を中心とした文法的比喩の理解に注意が必要な一方で、いわゆる文の複雑さは大きく問題とならない。生物学の教科書では、文法的比喩への注意よりも、埋め込み節の理解が問題となる。化学の教科書では、複雑な節複合の理解が必要とされる。また、言語以外の伝達様式が、知識の構築に重要な役割を果たしていることも確認できた（マルチモーダル研究の必要性）。

より包括的な教科書研究に向けて、名詞化表現を含めた名詞群の詳細な分析、主題-題述構造の分析などの語彙文法的分析に加えて、図やグラフなどを含めたマルチモーダル研究を進めることが今後の課題である。

註

1 大学生向け教科書のマルチモーダル研究については、例えば Washitake (2015)を参照。

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電話会話における中国人日本語学習者のコミュニケーション方略と母語話者による評価の関係

Relationship between Chinese Japanese learners' communication strategies in telephone conversation and the native speakers' evaluation

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Abstract

In this study, we examine how Chinese Japanese learners share information in contact situation of telephone conversation, and how Japanese native speakers evaluate the learners' speech. We also investigate relationship between the learners' communication strategies and the native speaker' evaluation. Moreover, we discuss what kinds of communication strategies the Japanese learners are expected to employ in telephone conversation.

We conducted two types of experiments to collect data. In the first experiment, the 14 pairs of Chinese and Japanese speakers are required to talk about the movie watched just before the conversation, over the phone in Japanese (Ming, Ito, Wang, 2016). In the second experiment, 10 Japanese speakers listened to the initial 14 conversations and answered questionnaires about the learners' speech, based on Watanabe (2003).

The result of the correlation analysis between the learners' linguistic behaviors and the natives' evaluation scores (Watanabe 2003) suggests that the more frequently

the learner expresses their opinion and impression, the more they are considered to have interlocution competence and to be approachable. Our findings will help to shed light on the effectiveness of communication strategies in contact situations.

1. はじめに

母語話者と非母語話者が会話する場面は接触場面と呼ばれるが、母語話者同士の会話と比較して、自分が伝えたいことを的確に伝えられなかったり、相手の話を正確に聞き取れなかったりなど様々な問題が発生しやすい。これらの問題が生じた場合、母語話者と非母語話者のそれぞれが、ほかの語彙や表現で言い換えたり、相手に理解の確認や援助を求めたりすることで協力して会話を遂行しようとする。

また、対面での会話と比べて、会話相手の表情や身振りが見えない状況で会話を進めていかなければならない電話会話は、非母語話者にとっては非常に負担のかかるものであり、上級者になっても電話で話すことは難しいと感じる学習者も多いことが報告されている（岡本・吉野, 1997）。しかしながら、電話会話で何をどのように伝えることが望ましいのかを調査した研究はあまり多くない。

そこで、本研究では、日本語学習者に対して電話ではどのようなコミュニケーション方略を取ることが望ましいのかを示すことを目的として、中国人日本語学習者が日本語母語話者との電話会話においてどのように情報をやり取りしているのか、またそのやりとりを聞いた母語話者はどのような印象を持つのかを調査し、両者の関係について検討した。

2. 方法

2.1. データ収集

分析データの取得にあたっては、2 つの実験を行った。1 つ目の会話実験は、明・伊藤・王（2016）と同じもので、初対面同士の日本語母語話者と中国人日本語学習者を 2 人 1 組として 16 組、計 32 人に実験に参加してもらった。学習者は、全員 20 代の女性で、大学で日本語を専攻しており、日本語能力検定 1 級（N1）の合格者であった。この実験では、実験参加者にそれぞれ別室に入ってもらい、無声短編アニメ映画（12 分程度）の前半部分を母語話者に、後半部分を学習者に見せた。映画を見終わった後、電話で映画の内容についての会話を 10 分ほど行ってもらい、その様子を録画・録音した。

2 つ目は、質問紙を用いた第三者評価実験で、会話に参加していない日本語母語話者 10 名（男子学生 6 名、女子学生 4 名）に参加してもらった。1 つ目の実験で得られた 16 組の会話データのうち、録音状態が悪かった 1 組と会話時間が短かった 1 組を除き 14 組分について、会話後半で、時間を引き延ばすために、映画内容から外れる会話をしている箇所を削除したものを聞かせた。1 つの会話音声を聞くごとに、渡部（2003）で提案されている評価尺度を用いて、評価の対象（文法能力や談話能力など）について 18 項目、全体

的評価（パーソナリティなど）について 21 項目を 7 段階で評定させた。

2.2. データ抽出と分類

分析対象とした指標は、会話データについては、明・伊藤・王（2016）と同様、柳田（2015）を参考に発話単位を区切り、発話機能を分類した。詳細は、資料表 6 を参照されたい。

次に、発話機能別に各頻度を数え、会話時間で標準化し、1 分あたりの相対頻度を求めた。会話時間は、冒頭のあいさつ、自己紹介の部分を除き、映画に関する話題が始まった個所から、最後の発話が終わる部分までとし、動画・音声アノテーションソフト ELAN を用いて抽出した。明・伊藤・王（2016）では、学習者が主に自分の見た映画の内容を母語話者に説明する情報やり場面と、主に母語話者が見た内容を説明してもらっている情報とり場面に分けて集計したが、今回はその区別はしなかった。

評価データについては、渡部（2003）を参考に母語話者の印象評価の共通因子を抽出するために、各評定結果を 1 点から 7 点までに得点化した。その得点を元に因子分析を行い、共通因子毎に評価得点の平均値を算出し、下位尺度得点とした。

3. 結果と考察

3.1 コミュニケーション方略の特徴

学習者 14 名の発話機能の 1 分あたりの相対頻度を表 1 にまとめた。

表 1: コミュニケーション方略の特徴（学習者 14 名）

学習者ID	会話時間(秒)	情報要求	情報提供	共有表明	意味交渉				情報の合成・加工
					母語話者のための理解促進	母語話者に対する理解確認	学習者のための援助要求	学習者自身の理解促進	
C02	590.900	0.102	3.452	0.914	0.910	0.310	0	0.610	1.625
C03	631.940	0.190	4.652	2.089	0.950	0.480	0	0.100	0.475
C04	408.980	0	5.868	7.042	1.610	0.150	0.150	0.290	0.147
C05	572.880	0.105	1.780	0.943	0.630	0.310	0.110	0	0.628
C06	417.380	0.144	1.294	0.576	0.860	0.290	0.290	0.290	0.288
C07	566.180	0.106	2.437	2.543	2.230	0.320	0.110	0.210	0.742
C08	541.720	0.111	2.215	0.443	1.440	0.890	0.440	0	0.665
C09	538.260	0.446	2.675	4.347	1.000	0.110	0	0	2.675
C10	334.820	0.358	1.971	0.716	0.360	0	0.180	0.540	1.075
C11	295.905	0	1.014	1.825	0.610	0	0	0.000	0
C12	371.320	0.323	3.878	6.786	0.160	0.490	0	0.160	0.970
C13	448.900	0	2.139	3.208	0.940	0	0.400	0.270	0.134
C14	555.880	0.108	4.102	5.613	0	0.110	0.110	0	1.619
C16	440.580	0.272	3.132	3.268	0.680	0.950	0.270	0.270	0.409
平均	479.689	0.162	2.901	2.880	0.885	0.314	0.146	0.195	0.818

表 1 より、C02 は、他の学習者と比べて、学習者自身の理解促進のための発話が多かった。C04 は情報提供、共有表明が多かった。C07 は母語話者のための理解促進のための発話が多かった。C08 は学習者のための援助要求のための発話が多かった。C09 は情報要求、情報の加工・合成が多かった。C16 は母語話者に対する理解確認のための発話が多かった。

3.2 印象評価の特徴

まず、評価尺度の構成を調べるために、渡部（2013）の評価の対象 19 項目と全体的評価 21 項目それぞれに因子分析を行った。因子の抽出には最尤法・プロマックス回転を用いた。因子負荷量がどの因子に対しても絶対値で 0.40 未満の項目と、他の因子と当該因子との負荷の差が 1.0 未満の項目が見られたため、それらを削除し、残った項目について因子分析から項目削除までの一連の作業を繰り返した。その結果、評価の対象については 6 項目が削除され、最終的に 13 項目が残り、3 因子が抽出された（資料表 7)。この結果について、それぞれの因子を構成する項目の内容に基づき因子名を決定し、第一因子を＜対話力＞、第二因子を＜正確さ＞、第三因子を＜豊富さ＞とした。全体的評価については 1 項目が削除され、渡部（2013）とほぼ同じ

構成が得られたため、それに倣って第一因子を＜運用能力＞、第二因子を＜親しみやすさ＞、第三因子を＜積極性＞とした（資料**表 8**）。

次に、下位尺度別に、学習者 14 名それぞれに対する評価者 10 名の評価得点の平均を表 2 にまとめた。

表 2: 印象評価の特徴（評価者 10 名分の平均）

	評価の対象			全体的評価			平均
	対話力	正確さ	豊富さ	運用能力	親しみやすさ	積極性	
C02	5.60	5.00	3.75	4.37	5.56	4.32	4.77
C03	5.73	4.27	5.40	4.07	5.04	5.15	4.94
C04	4.61	4.20	3.95	3.48	4.96	3.00	4.03
C05	5.61	3.87	3.90	4.05	5.70	5.40	4.76
C06	4.86	3.83	3.75	2.97	4.58	3.80	3.97
C07	5.07	4.50	3.75	3.78	5.36	4.53	4.50
C08	5.65	5.37	4.30	5.35	5.48	5.75	5.32
C09	5.38	4.30	4.05	4.25	5.32	4.58	4.65
C10	4.95	5.10	4.70	4.79	5.58	4.70	4.97
C11	4.55	4.63	3.80	4.79	4.96	4.40	4.52
C12	5.60	5.70	5.15	6.10	5.66	5.90	5.69
C13	4.29	4.30	3.45	4.27	5.18	3.28	4.13
C14	5.63	4.60	4.50	4.98	5.44	5.83	5.16
C16	5.28	4.50	4.30	4.97	5.42	5.45	4.99
平均	5.20	4.58	4.20	4.44	5.30	4.72	

表 2 より、14 人中 C12 が 6 尺度の平均値で一番評価が高く、特に、正確さ、運用能力、積極性の点で秀でている。一番低かったのは C06 で、特に、正確さ、運用能力、親しみやすさの得点が小さかった。

さらに、評価の対象と全体的評価にどのような関係があるのかを明らかにするために、それぞれの下位尺度得点を用いてスピアマンの順位相関分析を行った。

表 3: 評価の対象と全体的評価との相関（Spearman's ρ）

		評価の対象		
		対話力	正確さ	豊富さ
全体的評価	運用能力	0.323	0.859**	0.524
	親しみやすさ	0.503	0.548*	0.329
	積極性	0.714**	0.487	0.738**

*. 相関係数は 5% 水準で有意 (両側)
**. 相関係数は 1% 水準で有意 (両側)

表 3 より、評価の対象の対話力と全体的評価の積極性、評価の対象の正確さと全体的評価の運用能力、評価の対象の豊富さと全体的評価の積極性の間に強い正の相関がみられ、評価の対象の正確さと全体的評価の親しみやすさの間に中程度の正の相関がみられた。

以上のことから、評価の対象に対する評価と全体的評価はそれぞれに関わっている部分とそうでない部分があり、学習者が抱えている問題に応じてどの部分に注意を払えばよいかが異なると考えられる。例えば、様々な語彙を駆使して話すことは会話に積極的に参加していると感じられる点において好印象につながるが、十分に使い方を理解していない語彙をむやみやたらと使って正確さに乏しいと思われると日本語の運用能力や親しみやすさの点でマイナスとなる危険をはらんでいるため、十分な注意が必要であろう。

3.3 コミュニケーション方略と印象評価の相関

学習者のコミュニケーション方略と母語話者の印象との関連を明らかにするために、発話機能の相対頻度と印象評価の下位尺度得点を用いてスピアマンの順位相関分析を行った。

表 4: 発話機能と評価の対象との相関（Spearman's ρ）

	情報要求	情報提供	共有表明	母語話者のための理解促進	母語話者に対する理解確認	学習者のための援助要求	学習者自身の理解促進	情報の合成・加工
対話力	0.360	0.415	-0.125	-0.059	0.576*	-0.258	-0.407	0.556*
正確さ	0.212	0.062	-0.077	-0.328	0.102	-0.101	-0.025	0.412
豊富さ	0.653*	0.473	0.217	-0.347	0.311	-0.199	-0.231	0.327

*. 相関係数は 5% 水準で有意 (両側)

表 4 より、対話力に関しては、情報の合成・加工の発話頻度と母語話者に対する理解確認の発話頻度との間に中程度の正の相関、豊富さに関しては、情報要求に中程度の正の相関が見られた。正確さに関しては、特定の発話機能との相関は見られなかった。

表 5: 発話機能と全体的評価との相関（Spearman's ρ）

	情報要求	情報提供	共有表明	母語話者のための理解促進	母語話者に対する理解確認	学習者のための援助要求	学習者自身の理解促進	情報の合成・加工
運用能力	0.302	0.121	0.068	-0.534*	0.166	0.016	-0.241	0.314
親しみやすさ	0.285	0.011	-0.121	-0.424	0.280	-0.128	-0.092	0.604*
積極性	0.554*	0.200	0.081	-0.473	0.510	-0.110	-0.510	0.437

*. 相関係数は 5% 水準で有意 (両側)

表 5 より、運用能力に関しては、母語話者に対する理解促進の発話頻度との間に中程度の負の相関、親しみやすさに関しては、情報の合成・加工に中程度の正の相関、積極性に関しては、情報要求に中程度の正の相関がみられた。

相関分析の結果を解釈すると、以下の 4 点にまとめられる。

1. 相手から情報を引き出そうと質問すると、日本語の知識が豊富で、会話に対して積極的であるという印象を与えやすい
2. 話のあらすじ以外に自分の意見や感想を多く述べると、対話力が高く、親しみやすいという印象を与えやすい
3. 自分の発話を修正すると、日本語の運用能力が低いという印象を与えやすい
4. 相手が自分の話を理解しているかどうか確認したり、反応を見たりしながら話を進めると、対話力が高いという印象を与えやすい

5. おわりに

本研究では、学習者の電話会話におけるコミュニケーション方略の使い方と会話に参加していない母語話者の印象評価データを通して、学習者に対する電話コミュニケーションの支援について考察してきたが、今回は未着手の会話参加者（母語話者、学習者とも）のフォローアップインタビューの内容を加味することで、どのようなコミュニケーション方略が会話相手へ好印象を与えることにつながるのか、話し手自身の意識どおりに伝わっているのかを検討することが今後の課題である。

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資料

表 6: 本研究で分類に使用した発話機能の分類（柳田 2015）

上位発話カテゴリー	中位発話カテゴリー	下位発話カテゴリー	定義
情報要求			母語話者が持っている情報を引き出すための発話
情報提供			学習者が持っている情報を母語話者に与える発話
共有表明		相づち	相手に聞いていることを伝える，分かったということを伝える，話の進行を助ける発話
		理解表明	相づち詞以外の言語形式を伴って，相手の発話を理解したことを積極的に表す発話
意味交渉	学習者自身の理解促進	確認チェック	話し手の発話を聞き手が正しく理解しているかどうか，聞き手自身が話し手に確認する発話
		明確化要求	聞き手が話し手の発話を理解できない時やよく聞こえない時に，相手に発話を明確にするように要求する発話
	母語話者のための理解促進	自己発話の修正	自分の発話を、相手の理解を促進するために，別の言葉に言い換えたり，要約したり，説明したりする発話
		承認	相手の推測や問いかけに肯定的返答を与える発話
		否認	相手の推測や問いかけに否定的返答を与える発話
	母語話者に対する理解確認	理解チェック	相手が自分の話を理解しているかどうか，確認する発話
		反応要求	自分の発話に対する相手の反応を要求する発話
	学習者のための援助要求	発話遂行困難表明	適切な語や表現が見つからない時に、相手に援助を求める発話
情報の加工・合成	意見・評価		共有された情報に対して自己の情報を論理的・情緒的に関連づける発話

表 7: 評価の対象に関する因子分析の結果（最尤法、プロマックス回転）

No.	評価項目	I	II	III
I 対話力				
4	自分から会話を盛り上げている	0.761	-0.096	-0.019
7	タイミングよく相手に話しかけている	0.712	0.110	-0.043
10	声の大きさや出し方が感じがいい	0.705	-0.138	-0.022
1	相手の質問を理解している	0.664	0.253	-0.110
9	自分の話を相手に理解してもらおうとしている	0.618	-0.065	0.086
2	なかなか日本語が出てこない時に，うまく対処している	0.552	-0.059	0.061
5	自分の気持ちを上手く表現している	0.522	-0.088	0.322
8	応答が的確である	0.485	0.301	0.050
II 正確さ				
12	言葉や表現の間違いが少ない	-0.080	0.912	-0.034
11	文法の間違いが少ない	-0.084	0.862	-0.032
6	文の抑揚（アクセント・イントネーション）は，自然である	0.070	0.656	0.108
III 豊富さ				
3	たくさんの言葉や表現を知っている	-0.064	0.104	0.994
13	話の中にあなたが感心するような言葉や表現があった	0.144	-0.097	0.476

表 8: 全体的対象に関する因子分析の結果（最尤法、プロマックス回転）

No.	評価項目	I	II	III
I 運用能力				
8	外国人らしいー日本人らしい	1.017	-0.150	-0.156
9	違和感があるー違和感がない	0.927	0.060	-0.229
2	流暢でないー流暢である	0.911	-0.155	0.056
4	不自然ー自然	0.871	0.056	-0.084
1	下手ー上手	0.856	-0.054	-0.004
6	不慣れなー慣れた	0.817	-0.051	0.130
3	未熟ー成熟	0.796	-0.005	0.066
7	わかりにくいーわかりやすい	0.690	0.136	0.071
5	正確でないー正確	0.646	0.093	0.049
10	知的でないー知的	0.528	0.210	0.052
13	疲れるー楽	0.507	0.312	0.114
II 親しみやすさ				
16	失礼なー丁寧な	-0.084	0.809	-0.101
14	なれなれしいー親しみがある	-0.044	0.800	-0.125
11	癪に障るー感じがいい	0.070	0.798	-0.037
12	話してみたくないー話してみたい	0.266	0.593	0.115
15	非協力的ー協力的	-0.090	0.504	0.365
III 積極性				
17	内気ー内気でない	-0.181	-0.155	1.011
18	消極的ー積極的	-0.173	0.215	0.827
19	緊張しているーリラックスしている	0.277	-0.141	0.670
20	自信がないー自信がある	0.362	-0.094	0.662

To What Extent Does Visual/Verbal Textual Integration Support L2 Learners' Listening Comprehension in Multimodal Texts?

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Abstract

This paper challenges the established methodology in second language (L2) listening comprehension pedagogy that if students are presented with a spoken text accompanied by visuals, the visualization of the texts will support the students' comprehension. It reports on Systemic Functional Linguistics (SFL) research that argues that the extent to which the visual mode will support comprehension of the linguistic mode will depend on the degree of multimodal text integration between the two modes.

In order to demonstrate this, this study conducted a multimodal analysis of a video resource to investigate to what extent the video supports listening comprehension. The SFL analysis shows that the video lacks textual integration between the visual mode and the verbal mode at key points in the text. It suggests that greater visual/verbal textual integration is essential if multimodal texts such as videos are to be used for listening comprehension activities. Moreover, the research findings indicate that teachers should conduct a SFL-based multimodal analysis of the underlying multimodal textual integration in the L2 materials before assigning a classroom task that incorporates such materials to evaluate the potential effects of these resources on activities students are expected to perform.

1. Introduction

Bhatia (2006: 281) has suggested that for many teachers working in the classroom the main function of visual information is to "fill the deficiency gap left by the verbal component". However, this "compensatory hypothesis" view of how visual information functions in the language classroom is being challenged by multimodal researchers and practitioners who argue that all the making meaning modes, not only words and images but also sound, music, etc., that come together to create one overall comprehensible multimodal text are closely connected in complex ways (Carey, Bezemer and O' Halloran, 2016). Moreover, this underlying multimodal complexity may affect how multimodal texts are interpreted. Indeed, texts that may appear to be relatively simple can contain hidden complexities which may make them difficult to understand. One of the roles of multimodal research is to decode the underlying complexities of semiotic relationships that constitute the multimodal texts in ways that are meaningful and relevant to classroom teachers (Unsworth, 2008).

One area of multimodal theory that is particularly relevant for language teachers is the degree of multimodal integration between the making meaning modes that constitute the texts. Texts that are closely integrated, for example the image and words repeat the same message, are considered to support linguistic comprehension; whereas texts that not directly integrated, for example the image and words do not repeat the same message but augment each other in some way, may not have a positive effect on comprehension. Liu (2004) suggests that the extent to which a multimodal resource supports listening comprehension depends on the degree of integration between the modes, students' proficiency level, and overall task difficulty.

The goal of this research is to conduct a SFG-based multimodal analysis of a video-based listening comprehension task to measure to what extent the multimodal textual integration in the task meets the teaching objective of supporting listening comprehension. This is an important area of research because, while the digital revolution is making multimodal texts such as video commonplace in the classroom, as pointed out above, classroom teachers may not be fully aware of the multimodal complexities contained within the text.

This study focused on listening comprehension because, given the aforementioned potential complexity of multimodal texts, it is possible to hypothesize that the video may not compensate the listening comprehension task. Rather, the video may complicate the task and have an adverse effect on listening comprehension. The listening comprehension activity used in this study is a gap-fill task obtained from the World Link Video textbook (Stempleski, 2012), wherein students are asked to listen to a dialogue between two participants: Claudia and Sun-hee. In the dialogue, the participants are watching a baseball game and discussing what types of sports they like, how often they do sports, and why they do sports. Images from the video and examples of the language items are shown in Appendix.

Part 2 of this paper will explain the theoretical model used in the analysis, part 3 will demonstrate the analysis, and part 4 will illustrate how the findings of the analysis can be applied to theories of L2 listening comprehension. Part 5 will discuss the questions raised at the presentation, the limitations to the research, and suggestions for further research.

2. Systemic Functional Linguistic Principles Used in the Analysis of the Video Text

2.1 Phases and Shots

The first stage of the multimodal analysis was to use the principles of SFL to transcribe the multimodal text. This type of analysis is important because it often reveals elements that are hidden by the writer to create a cohesive whole (Unsworth, 2008). This paper used Baldry and Talbot (2005) system to analyze the texts because, as will be demonstrated in the paper, this system is useful for analyzing video texts in the language classroom in a practical and meaningful way.

According to Baldry and Talbot (2005: 49), the purpose of a multimodal analysis of a video text is to deconstruct the text into blocks of meaning and define how these blocks of meaning relate to the overall meta-functional organization of the text. The basic making meaning unit of the film text is the 'phase'. A phase can be defined as "…. an intermediate level of analysis which is characterized by a relative semiotic homogeneity of selections and combinations of selections from the semiotic resource system that are used to realize a particular textual phase." (Baldy and Talbot, 2005: 49).

In other words, the meaning making units within the phase are all of a similar theme or function. These meaning making units within the phase are called 'shots'. Therefore, each phase is made up of shots which have a similar theme or function. Moreover, there is an identifiable transition point from one phase to the next, from one block of making meaning unit with a similar theme or function to the next block of making meaning unit with a similar theme or function.

This system is useful for language teachers because it can easily be related to established pedagogical approaches used in teaching writing. The building block of textual composition in writing can be seen as the paragraph and sentence, while the building blocks of video composition can be seen as the phase and shot. Moreover, in the written text, there are clear transitional signposts from one discourse move to the next, visual moves such as the indent or full-stop, as well as linguistic moves such as conjunctive adverbs. Similarly, in video texts, there are often transitional moves from one phase to the next, such as fast cuts, fades, or changes to the soundtrack.

However, although it is useful, from a language teachers point of view, to think of the building blocks of video text as being similar to the written text, there is a major difference between the video texts and written texts. In written texts, the static nature of the written text allows the reader to navigate the text at their own pace. However, in video texts there is a wave-like structure where the video flows at a pace dictated by the director. This wave-like structure can complicate the understanding of the video text.

For the purpose of this discussion, which focuses on L2 listening comprehension, the video phases were categorized into three different types: context phases which set the scene, dialogue phases that feature the participants talking, and event phases that show main changes in action. Examples of the type of shots that constitute dialogue phases and events phases are shown in Appendix, and will be discussed in more detail in section 3.

2.2 Compositional, Representational, and Interactive Functions

The multimodal analysis used Kress and Van Leeuwen's (2006) model for analyzing image-based texts to examine each phase of the multimodal text. The paper focuses on the three main meta-functions identified by Kress and Van Leeuwen, which can be related to Halliday's 'trinocular' (Halliday and Matthiessen, 2004: 31) perspective on language; that is, the compositional function (related to the textual function); the representational function (related to the experiential function); and the interactive function (related to the interpersonal function).

For the compositional function, this paper focused on the components of salience and framing, which refer to the prominence given to one image element over another and are achieved through size, frame lines, contrast, the placement of images at the center or margins of the frame, etc. For the representational function, which analyzes how the participants, processes, and circumstances are portrayed in the image, this paper focused on narrative images and concept images. Narrative images show an action or an event and can be recognized by "vector," a line that connects two or more participants in an image. Concept images, in contrast, represent ideas and information and there is no vector that joins participants and process in action, rather the participants and process are represented in a fixed state. For the interactive meta function, this paper focused on the definitions of images as either offer images or demand images. In offer images, the viewer is placed, through different types of shots, at a distance from the image. In demand images, the viewer is placed almost face to face with the image text through a close-up shot.

The concept of distance is very important in the interactive function as it can be used as a making meaning resource in the text (Kress and Van Leeuwen, 2006: 130-135). For example, in choosing a very close-up demand image, where the viewer is face to face with the participants in the image, in contrast to a long shot where the viewer is placed at a distance from the participant in the image, the creators of the text have increased the value of the elements in the image. In the close-up image, the viewer is expected to focus on the face of the speaker, and the viewer is expected to be more mentally and emotionally engaged with the sender of the information than in the long shot. This is particularly relevant to video texts which can easily employ many different types of shots. For example, a video offers a wide variety of shots of different degrees of closeness, from maximally close (less than head and shoulders) to maximally distant (the human figure occupies less than half the height of the image).

2.3 Visual/Verbal Textual Integration

Two types of multimodal text relations are relevant to the present study. Firstly, concurrence where the visual text and verbal text repeat the same message. Secondly, complementation where the visual and verbal texts interact to convey messages that, while closely related, augment each other rather than repeat the same information. Of course, texts combine these multimodal text relations simultaneously to create complex messages (Unsworth, 2008: 388). One useful way of approaching multimodal text relations is to think of them as moving along an incline, with complementation at one extreme of the incline and concurrence at the other. At certain positions in the text, the text relations will be very close to concurrence, in other positions in the text, the text relations will be closer to complementation. For example, in instructions for setting up furniture, there is often a visual image to reinforce the written instruction. For some parts, instructions of the image may reiterate the words in the text, which would be relationships of concurrence; at other parts of the instruction, the visual image may not directly repeat the details in the written text, and hence the text moves towards complementation.

3. Multimodal Analysis of the Video

3.1 Phase and Shots in the Video Text

The video is made up of 5 phases. The opening phase, the context phase, is composed of one shot that shows the baseball field, game, and players. There are two main dialogue phases. The first dialogue phase, shots 2-8, shows the main participants discussing sports (see Appendix, Figures 1 and 2), and the second dialogue phase, shots 13-15, shows the baseball player inviting Claudia and Sun-hee to join the baseball game. There two main event phases, shots 9-12 and 16-17, that show the dialogue being interrupted by series of events that will affect the discussion (see Appendix, Figure 3).

3.2 Multimodal Analysis of the Dialogue Phases

The main function of the video is the dialogue between Claudia and Sun-hee, and the language items occur in the two dialogue phases. In terms of image composition, the salience and framing show the speakers locked into a discussion, emphasizing the facial expressions and body movements of the two speakers. In terms of representational content, the shots in this phase can be defined as narrative images, the narrative event being the discussion and vector being the body and facial movements of the two participants.

In terms of the interactive content, the image offers information to the viewer, with the camera placed at a distance from the viewer; however, the degree of distance does change throughout the phases. The camera (shown in Appendix, Figure 1) is placed at a medium long shot from the viewer for language items 1, 2, 5, 6, and 7. For other language items, the camera pans to different types of shots. Figure 2 (Appendix) shows an example for items 4, 8, and 9. where the camera pans to a semi-close up that provides a closer shot of the face and mouth than the shot displayed in Figure 1. Overall, through a series of medium long shots or semi-close-ups, the students are given a clear view of the speaker's body movements and faces throughout the dialogue phases.

In terms of multimodal text relations between the verbal text and visual text with narrative/offer images showing the discussion between the participants, while the topic of the dialogue is sporting activities in daily life, the text is made up of complementary multimodal text relations. The visual images do not directly reiterate the subject matter of the discussion between Claudia and Sun-hee.

3.3 Multimodal Analysis of the Context and Event Phases

In the context and events phases, viewers are clearly shown the situation where the dialogue is taking place and the key events that punctuate the dialogue. The context shot is composed of a long shot, which frames the baseball game for the viewers. The camera then pans to the first dialogue phase, creating both a clear transition from the opening context phase to the dialogue phase and also a clear visual context for the discussion.

In terms of the representational and interactive content of the event phases, they are made up of narrative/offer shots that blend together the series of events that surround the discussion. For example, when the baseball is accidentally hit out of the game towards the bench where Sun-hee and Claudia are sitting, and the baseball player invites Sun-hee and Claudia to join in the baseball game while retrieving the baseball, students can see and hear the ball being shot out of the field, and they can see and hear the baseball player inviting Sun-hee and Claudia to join the game. Moreover, the visuals illustrate nuances of the dialogue for students. The video contains a visual, slapstick joke: Claudia, who claims she is good at sports, clumsily falls of the bench. The event shots clearly show not just the visual joke itself, but also the expression of surprise on Sun-hee's face (see Figure 3, Appendix). Thus, in terms of the cline of multimodal text relations, comparing the event phase with the dialogue phase, in the event phase, the degree of integration between the visual mode and the verbal mode move along the line closer to relationships of concurrence than in the dialogue phase.

4. The Potential Effects of the Multimodal Text on the Listening Comprehension Task

4.1 Multimodal Support for BUL Listening Comprehension

The video has the potential to support the students' comprehension skills, because in the context and event phases, the viewers can clearly see images of the situation, (the baseball game), the key participants, (the speakers), and the main event, (Claudia and Sun-hee sitting on a bench discussing the baseball game). This is supported by research which suggests a visual representation of words should have a positive effect on comprehension (Gyselinck and Tardieu, 1999). Moreover, Mayer (1997) suggests that creating connections between the verbal text, visual material, and learners own knowledge allows an integration of different mental systems that can support listening comprehension. The video text will clearly support this process.

Furthermore, the video should support the listening comprehension process because it clearly illustrates the top-down-listening (TDL) information in the text. In TDL, learners establish an overall conceptual framework of what a speaker is saying through piecing together sound cues with non-linguistic information, such as awareness of the context and of the situation. This allows learners to achieve general understanding, and begin to form a hypothesis about what a speaker is saying. Once students have established a general understanding of what is happening in the text, they should then perform bottom-up-listening (BUL) tasks. BUL tasks involve processing discrete language items according to sounds such as phonemes, blends, word segmentation, and phrases, to make sense of a speaker's dialogue (Vandergirft and Goh, 2012).

The video, through the context, dialogue, and event phases, clearly shows the TDL information allowing students to quickly and easily create a mental picture of what is happening. Moreover, it should relieve students of the initial cognitive load of imagining the discourse while allowing them to focus directly on the actual linguistic information. Overall, this may reduce the difficulty of the task.

Moreover, students in the video group, through the use of medium long shots and semi-close-ups, are given additional multimodal listening support from lip movements, facial expressions, hand gestures, and tone of voice. Multimodal information of this kind should support comprehension when combined with speech (Clark, 1996; Goldin–Meadow, 2003). Furthermore, the wide variety of shots used in the dialogue phase should help learners perceive the sound as well as hear it. Research suggests that the visual information that the mouth displays when speaking, that is, the extent to which the lips open or close around the sound, and the length of the opening of the lips related to the sound, helps to make dialogues more salient for viewers (Wang and Behne, 2008). Finally, Ginther (2002) suggests that the visual nature of the speakers' faces that accompany verbal can support comprehension because learners can clearly see where one speech turn begins and another ends, which allows them to split the dialogue up into comprehensible units.

4.2 Multimodal Text Relations, Task Difficulty and Their Effect on Listening Comprehension

The multimodal text relations in the video, and the type of the listening comprehension task the students are asked to perform suggest that the video may not have such a positive effect on listening comprehension that the research outlined in 4.1 suggests. The listening comprehension task is a BUL gap-fill activity and research suggests that BUL listening tasks are more difficult than classroom teachers assume. Therefore, in order to complete the task effectively, teachers need to give students time and space to focus on the acoustic signal (Field, 2003; Siegel and Siegel, 2015).

Moreover, Field (2010) points out that a negative feature of gap-fill listening comprehension tasks is that such activities do not account for a student's overall proficiency. Students who possess good general English skills can often complete blank-fill items based on existing knowledge rather than on new listening information. For example, students who have the proficiency to understand the overall exchange, in addition to good reading and writing skills, gain support from the linguistic context within which the language items are set. In contrast, students who do not have this proficiency need direct practice focusing on the acoustic signal to complete the task.

In the BUL listening task (shown in Figures 1 and 2, Appendix), the majority of language items occur in dialogue phases which show shots of Sun-hee and Claudia talking. As explained in 3.2, these shots are composed of narrative/offer images made up of complementary multimodal text relations. The students performing the task are elementary students at the CEFR A1 level, and at this level, research suggests, that multimodal relations of concurrence, rather than relations of complementation, can support comprehension (Liu, 2004).

Furthermore, research shows that task difficulty is an important factor to consider when evaluating the effects listening comprehension tasks can have on learners (Brunfaut and Reveesz, 2015), and at this level, the task may be difficult for students. The gap-fill items that accompany the task practice new language items that are taught in the unit, and students are asked to put those language items in unfamiliar semantic contexts that may be challenging for the students. Therefore, overall, the visual/verbal text relations for these items do not provide additional support for language comprehension. Also, the visual text does not compensate the verbal text because students of this proficiency level should, according to BUL theory, focus on the acoustic signal alone to decipher the language items.

Moreover, research suggests that one of the features of multimodal comprehension activities is that the additional multimodal information may have a negative impact on comprehension. Students can lose focus on the task or make the wrong assumptions about a task because the additional multimodal information can hinder comprehension (Liu, 2004). This is relevant to BUL tasks because, from a multimodal perspective, students are being asked to perform a complex task. They must view, read, write, and listen to complete the BUL task and there is a possibility that students will find it difficult to focus on deciphering the acoustic signal. Moreover, the wave-like structure of the video, identified in 2.1, makes it very difficult for students to control the flow of information. Thus, it is possible to hypothesize that students may perform better at the BUL task if they are exposed to less multimodal information than the video presents. Classroom-based studies should be done to investigate this possibility.

5. Discussion: Strengths and Limitations of the Research

A strength of the research that was brought out in the discussion at the conference was that the model of multi-modal textual integration, as outlined by Unsworth (2008) and Liu (2004) and reported on in the paper, could make a positive contribution to listening comprehension classroom pedagogy in the use of multimodal materials in the classroom. The model could make teachers aware of the dangers in assuming that multimodal materials will have a positive effect on listening comprehension and help teachers and students to analyze the actual effects the materials will have on comprehension. This would be a good area for future classroom-based research studies.

However, it was suggested that the model failed to take into account the benefits of video materials on student's motivation to engage in and complete listening comprehension tasks. Comparing listening comprehension tasks using video with a listening comprehension task using only a CD, the video allows learners to engage more directly in the context and interact more positively with the participants than with the CD. Therefore, the effects of video on learner motivation and task difficulty needs to be included in the model of multimodal textual integration.

Another strength of the research suggested by the audience was that it supports multi-disciplinary research that has identified one of the weaknesses in the current language teaching pedagogy. Namely, it fails to take into account all the modes that can contribute to language comprehension in a text. Thus, the attempt to include the effect of such factors as changing facial expressions, lip movements, and body-movements on comprehension was seen as a positive feature of the study. However, it was suggested that the model used in the research was extremely limited and future research needs to focus on creating more comprehensive models.

A final strength of the research that was identified by the audience was the focus on BUL and the suggestion that while the video can clearly support TDL information, more research needs to be done into how the video can be used to support BUL tasks. One suggestion was to use the teacher as a key component in the use of video in the listening comprehension process. The teacher can easily manipulate the listening comprehension process to create effective BUL classroom activities. For example, teachers can re-play key phases and shots using the subtitle tracks to create motivational follow-up activities, such as roleplay or dictation exercises that focus directly on the language items the students have difficulty with. Further, it was suggested that future research could address how to create new multimodal, video-based materials that could directly incorporate motivational follow-up activities for the classroom.

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Appendix

World Link 1 Video Course Workbook (Stempleski, 2012) © Cengage Publishing

Language Items

1. I’m pretty athletic you know.
2. How often do you play?
5. Well, right now I play about twice a month.
6. Roberto plays tennis all the time.
7. Maybe you should play tennis with him.
10. Oh, well in that case we’d love to.

Figure 1 –Example of Medium Long Dialogue Shots

Language Items

4. Once in a while

8. Is he really competitive?

9. I’m not all that competitive.

Figure 2 –Example of Semi-Close Up Dialogue Shots

Figure 3 –Example of Event Shots

和歌の英語訳：６種類の源氏物語の英語訳の比較分析
English Translation of Waka Poems: Comparative Analysis of Six Waka Poems from *The Tale of Genji*

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Abstract

Translating verbal arts, especially poetry, highly demands on translators' creativity because of such factors as phonological harmony, and lexicogrammatical construction. From the phonemic perspective, Jacobson also had a pessimistic view of the possibility of translating poetry (Haiti and Mason 1990: 13). However, poems may play crucial roles even in prose narratives, as found in Japanese classical novels such as *The Tale of Genji*, a story with the themes of grace and courtly love, which was written by Lady Murasaki in the 11th century. This study aims to analyze how *waka* (i.e. "Japanese poem") have been translated into English in six different versions of this Japanese classic over the past 130 years. The analysis reveals two strategies in translating *waka*, i.e., the target-language-oriented and the source-language-oriented. The former is realized through quatrains and triplets with alliteration and rhyme, while the latter tries to reconstruct the 5-7-5-7-7 syllabic pattern, the standard phonological construction of Japanese *waka* poems. This study also illuminates the aesthetical conversion of poem sounds applying a "Translation Harmony Index" (Sasaki 2016) to conclude that Tyler's translation should be highly evaluated among the six translations.

1. はじめに

翻訳は起点言語(SL)から目標言語(TL)について、表層的な言語表現の相当語句に置き換えるものではなく、その背景にある目に見えない文化についても変換することであり（鳥飼、2013: 3）、社会的なプロセスである(Hatim and Mason, 1990: 3)。Halliday (2001)はCatford(1965)のequivalenceという概念を援用し、さらにHasan (1996)のsemantic valueと重ね合わせてtranslation equivalenceという概念を提言しながら、翻訳とは様々なランクでの「価値(value)」の変換だと述べている。翻訳は翻訳の中でも、SLとTLにおいての社会文化的な依存性が低く、意味的価値に大きな違いがない自然科学分野とは異なり、言語芸術のように文化的な価値観に大きく依存するものの翻訳は困難であり、中でも韻文はその難しさの極にあると思われ、Jacobsonは韻文の翻訳に悲観的な懸念を示している（Hatim and Mason 1990: 13）。しかし、

Matthiessen (2014: 272)の“translation as the **recreation of meaning in context through choice** — choice in the interpretation of the original text and choice in the creation of the translated text.”との見解を適用すれば、韻文の翻訳は翻訳者の語彙文法上の再創造したものと考えることができ、翻訳作品のみならず、原作に対しても新しい解釈や審美的な価値観を生み出すことになろう。そこで、本論では源氏物語の桐壺の最初に出てくる和歌１首に限定して、その６種類の英語訳の比較分析を行い、和歌の意味や美がどのように英訳されているのかを記述することで翻訳者の解釈や工夫について考察する。

2. 源氏物語の英語訳

源氏物語の英語訳は19世紀に日本人の末松謙澄(Suematsu, 1882)が行って以来、Waley(1933), Seidensticker(1976), McCullough(1994), Tyler(2006)に加えて、Washburn(2015)による第６の英語訳が出版された。これほどまでに英語訳が出版されている背景には近年の日本文化への関心と日本文学を専門とする欧米研究者の増加が挙げられるだろう。

源氏物語の英語訳研究については緑川(2010)が包括的な記述を示しており、翻訳の社会的文化的な観点からの知見はSFL研究者との見解と合致する部分が多い。またSFLを適応した分析には佐々木(1991)があり、観念構成的メタ機能の観点からSuematsu, Waley, Seidenstickerの３種類について分析している。またSasaki(1995)はその３種類について節関係との関係を論じている。さらにSasaki(2010)ではSuematsuからTylerまでの５種類について３つのメタ機能から考察を加えているが、和歌は扱われていない。

Sasaki (2016)はSuematsuからTylerまでの５種類の桐壺の章から和歌だけを抽出し、メタ機能と音韻的な分析と考察を加えており、translation harmony indexという概念を用いることによって、オリジナルの日本語的な音調的な美しさがどのように英語に反映することができるかを示している。

3. 分析の枠組み

本研究では理論的枠組みは Halliday (1994)を基礎とする語彙文法、メタ機能の観点に加えて、Halliday and Greaves (2008)を参考とする。また、音韻については韻文の翻訳における音的特徴の翻訳を示すために Sasaki (2016)の提案する Translation Harmony Index によって分析する。語彙的な範疇や語彙文法の選択肢の中から各翻訳者がどのような選択を行っているかを記述しながら、過程型の比喩的な使用や文法的比喩についても論じていく。さらに修辞構造についても考察する。

4. データ

データは源氏物語の６種類の英語訳の中から桐壺の章に現れる最初の和歌である「限りとて　わかるる道の　悲しきに　いかまほしきは　命なりけり」の英語訳である。それぞれの英語訳は下記の通りである。

Suematsu 訳

Since my departure for this dark journey,
Makes you so sad and lonely,
Fain would I stay though weak and weary,
And live for your sake only!

Waley 訳

Though that desired *at last* be come, because I go alone how gladly would I live

Seidensticker 訳

I leave you, to go the road we all must go.
The road I should choose, if only I could, is the other.

McCullough 訳

kagiritote	Grieved beyond measure
wakaruru michi no	to say farewell and set fourth
kanashiki ni	on this last journey,
ikamahosiki wa	gladly would I choose instead
inochi narikeri	the road of the living.

Tyler 訳

Now the end has come, and I am filled with sorrow that our ways must part:
The path I would rather take is the one that leads to live

Washburn 訳

Now in deepest sorrow as I contemplate
Our diverging roads, this fork where we must part
How I long to walk the path of the living

5. 分析と考察

5.1 表記

表記では、英語の詩形式に合わせたものと、そうでないものに分けることができる。Suematsu 訳では四行詩(quatrain)の形式をとり、A-B-A-B の脚韻を踏んでおり、Washburn 訳では三行詩(triplet)の形式をとって、頭韻を踏んでいる。一方、McCullough 訳では本人が"This book … is intended for students in survey couses…"(McCullough, 1994: ix) と述べているように教科書という性質から 5-7-5-7-7 の区分がわかるように日本語のローマ字表記との対応表示となっている。また Waley, Seidensticker, Tyler は２部構成となっている。

5.2 音韻

5.2.1 音調ユニット

音調ユニット(tone unit)は音のまとまりであり情報単位を具現するものである(Halliday and Greaves, 2008:41)。各英語訳を米国人の同僚に音読してもらい、その音声ファイルを図１のように分析し、表１のようにまとめた。

図 1: Suematsu 訳の tone unit

表 1: 音調ユニットの数

	Suematsu	Waley	Seidensticker	McCullough	Tyler	Washburn
行 1/部 1	2	1	3	1	3	2
行 2/部 2	1	3	3	1	2	2
行 3	2			1		2
行 4	2			1		
行 5				1		

表 1 によれば行数が多くなるほど各行・部の音調ユニット数は減る。その極端な姿が McCullough 訳であり、各行が一つの音調ユニットとして、一つのまとまった情報単位を示している。これはオリジナルの和歌の情報単位と連動するようにしたためと考えられる。

5.2.2 脚

脚(foot)は一つ以上の音節からなるリズム単位であり、強弱の音節の組み合わせによって構成される(Brown and Miller, 2013: 174)。脚で着目すべきは Suematsu 訳で、4-3-4-3 の普通律(common metre)を踏んでいる。Suematsu がこうして英詩の典型的な形式に則っているのは 19 世紀の英語読者が和歌の形式を知らないため、最初の英訳として受け入れられやすいようにしたのだろうと考えられる。

Suematsu 訳と脚（強音節は大文字、脚の切れ目は｜で表記）

SINCE my de-| PARture for | this DARK | JOUR-ney,
MAKES you so | SAD and | LONE-ly,
FAIN would I | STAY though | WEAK and | WEA-ry,
And LIVE | for your SAKE | ON-ly!

5.2.3 音節

音節について注目すべきは McCullough と Tyler が 5-7-5-7-7 の和歌の形式を英語で再現しようと試みていることである。McCullough は正確には 5-7-5-7-6 となっているが、Tyler は音調ユニットの中でそれを再現しようとしている。

McCullough 訳と音節　　　　　　　　音節合計

Grieved be-yond meas-ure	5
to say fare-well and set fourth	7
on this last jour-ney,	5
glad-ly would I choose in-stead	7
the road of the liv-ing.	6

Tyler 訳と音節（音調ユニットは//、合計音節数を音調ユニットの下に表記）

Now the end has come, //and I am filled with sor-row // that our ways must part://
5　　7　　5
The path I would rath-er take // is the one that leads to live
7　　7

また Washburn 訳ではそれぞれの行が 11 音節という同数の音節で構成されている。

Washburn 訳

Now in deep-est sor-row as I con-tem-plate	11
Our di-verg-ing roads, this fork where we must part	11
How I long to walk the path of the liv-ing	11

5.2.4 韻

詩の美しさの一つは頭韻や脚韻にみられる母音や子音の調和であるが、その翻訳における変換は極めて難しい作業であり、そのために Jacobson は韻文の翻訳は不可能であると述べている（Hatim and Mason 1990: 13）。しかし、直接的な翻訳は無理ではあっても、その美しさの変換を再現する方法があるのではないか。そこで Sasaki(2016)は和歌とその英訳について子音と母音についてどのような調和があるかを Translation Harmony Index（以下、THI と表記）という指数として表示し、それを翻訳された詩にも適用することによって、オリジナルの音韻的調和の美しさが相対的にどのように再現されているかを示そうとしている。THI では、和歌の各モーラの子音と語内の母音について、同じ音が二つある場合に一つのペアとしてカウントし、１点とする。そして英訳については語頭の子音と母音についてカウントし、それぞれペアごとに点を与える。和歌の点数で翻訳の合計点を割り、そのパーセント表示したものを、その指数とする。なお、ペアが３つのように奇数の場合は 0.5 点で換算する。和歌と Washburn 訳についてそれぞれ以下のように示す（子音のペアは下線、母音のペアは斜体で表記）。

和歌の harmony points

k*a* g*i* r*i* t*o* t*e*
w*a* k*a* r*u* r*u* m*i* ch*i* n*o*
k*a* n*a* sh*i* k*i* n*i*
i k*a* m*a* h*o* sh*i* k*i* w*a*
i n*o* ch*i* n*a* r*i* k*e* r*i*

子音：[k] 3.5 [t] 1 [r] 2.5 [w] 1 [m] 1 [n] 2 [tʃ] 1 [ʃ] 1
母音：[*a*] 4.5 [*i*] 7 [*u*] 1 [*e*] 1 [*o*] 2
合計 28.5

Washburn 訳の harmony points

N*o*w *i*n deepest s*o*rr*o*w as I c*o*ntemplate
*Ou*r diverg*i*ng r*oa*ds, th*i*s f*o*rk where we must part
H*o*w I l*o*ng to w*al*k the path of the l*i*v*i*ng

子音：[w] 1.5 [p] 1 [l] 1 [d] 1 [θ] 1.5
母音：[ɔ]2.5 [i] 2.5 [aʊ] 1.5 [oʊ] 1
合計 13.5

６種類のそれぞれの英訳についての THI を表 2 に示す。この中では Tyler 訳と Washburn 訳の多さが際立っている。同じ子音と母音ではないものの、それぞれが音の共鳴を英語の音によって再現しようとする試みがこの THI の数値によって示されていると言えるのではないだろうか

表 2: Translation Harmony Index

	Harmony points	Translation Harmony Index
和歌	28.5	100%
Suematsu 訳	5.5	19.3%
Waley 訳	5	17.5%
Seidensticker 訳	7.5	26.3%
McCullough 訳	4.5	15.8%
Tyler 訳	11	38.6%
Washburn 訳	13	45.6%

5.3 語彙文法

5.3.1 語数と音節

それぞれの英語訳の語数とその構成がどのようになっているのかを音節を基準として分類したものが表 3 である。これによるとそれぞれの英語訳の中では 1 音節語が主になっているが、特に Seidensticker 訳と Tyler 訳においてその割合が高いことがわかる。McCullough と Tyler は 5-7-5-7-7 の音節を再現しようとしているが、McCullough は 2 音節語を Tyler よりも多い割合で再現しようとし、Tyler は 1 音節語を主としてしている。おそらく Tyler は語数を

より多く使える自由度を保てるように 1 音節語を McCullough よりも多く使っていると考えられる。

表 3: 語数と音節

	1 音節語	2 音節語	3 音節語	合計語数
Suematsu	22(82%)	5(18%)	0	27
Waley	13(81%)	3(19%)	0	16
Seidensticker	22(96%)	1(4%)	0	23
McCullough	16(70%)	7(30%)	0	23
Tyler	27(93%)	2(7%)	0	29
Washburn	21(81%)	3(12%)	2(7%)	26

5.3.2 節複合

６種類の英訳では２～４の節によって構成されている。節複合における複雑性を示す指標として Sasaki(2016)は Clause Complex Index を提案している。これは従属結合にあるものに２点、並列結合にあるものに１点を換算して、その合計点数を節の数で割ったものである。この指標が多いものほど節関係が複雑にあることを示すことができる。表 4 では各英訳の節の数と節複合の論理関係、そして Clause Complex Index (CCI)を示す。

表 4:節数と論理関係

	節数	節複合と論理関係	Clause Complex Index
Suematsu 訳	4	x1β^1α^1γ^+2	1.25
Waley 訳	3	xβ^αxβ^αα	1.33
Seidensticker 訳	4	1^=2 α^xβ	0.75
McCullough 訳	4	xβα^βxβ1^ββ+2^α	1.25
Tyler 訳	4	1^+2^=3^=4	0.75
Washburn 訳	2	xβ^α	1

表 4 からは Suematsu 訳、Waley 訳、McCullough 訳が複雑な節複合であり、Sendensticker 訳、Tyler 訳、Washburn 訳が簡潔な節構成であることが示されている。Washburn は節の数が最も少ないことを考えると、この中で最も簡潔な節構成であり、McCullough 訳は Waley 訳よりも CCI の値が小さいが、節数が一つ多いことを考えると最も複雑な構成と解釈することができよう。

5.3.3 メタ機能

メタ機能には観念構成的メタ機能、対人関係的メタ機能、テクスト形成的メタ機能があるが、本論では観念構成的メタ機能についてのみ取り上げ、過程型の選択と和歌の中の命題の具現について分析する。過程型については表 5 の通りとなっている。Waley 訳は物質過程だけを使い、Suematsu 訳、Seidensticker 訳、Tyler 訳では物質過程と関係過程の２種類だが、McCullough

訳では関係過程を使う代わりに心理過程と発言過程を使用し、Washburn 訳は物質過程と心理過程の二つとなっている。

表 5: 過程型

	物質過程	関係過程	心理過程	発言過程	合計
Suematsu	2	2	0	0	4
Waley	3	0	0	0	3
Seidensticker	3	1	0	0	4
McCullough	2	0	1	1	4
Tyler	2	2	0	0	4
Washburn	1	0	1	0	2

5.3.4 命題と過程の比喩的用法

過程型の使い方については和歌の命題をどのように具現化しているか、またそれと連動して過程型がどのように比喩的に使われているかが焦点となる。この和歌の意味は「命には限りがあるとはわかっているけれど、こうして別れていく道の悲しさにつけても、いきたいのは死への旅路ではなく、この命をいきたい」というものであり、「いかまほしき」が「行きたい」と「生きたい」の同音異義語となっている。そこでこの和歌の命題とそれが具現される過程型は下記のようなものになるであろう。

命題 1：命には限りがある（とわかっている）
（投射）関係過程 ^ （心理過程：認識）
命題 2：分かれ道に来ていることが悲しい
（投射）物質過程 ^ 心理過程：感情
命題 3：死への旅立ちをしたくない（行きたくない）
（投射）物質過程 ^ 心理過程：感情
命題 4：生きたい
心理過程：感情

それでは各命題の部分は 6 種類の英語訳でどのように表現されているのだろうか。各命題について具現されているものに√をつけて、示してものが表 6 である。この表によると命題を二つ具現している Suematsu 訳と Seidensticker 訳、Washburn 訳と三つ具現している Waley 訳、McCullough 訳、Tyler 訳の２グループに分けられるが、具現化している命題は異なり、同一なのは Suematsu 訳と Washburn 訳だけである。

表 6: 命題とその具現

	命題 1	命題 2	命題 3	命題 4
Suematsu		√		√
Waley	√		√	√
Seidensticker			√	√
McCullough		√	√	√
Tyler	√	√		√
Washburn		√		√

命題 1 について表現しているのは Waley 訳の *Though that desired at last be come* と、Tyler 訳の *Now the end has come* であるが、両者ともに物質過程を使っている。

命題 2 は Suematsu 訳が *my departure for this dark journey makes makes you so sad and lonely* という関係過程を使い、しかも悲しむ対象が「私」ではなく「あなた」となっており、視点の変換が見られる。Waley 訳と Seidensticker 訳には命題 2 に相当する箇所はない。McCullough 訳では *Grieved beyond measure to say farewell* という心理過程と発言過程を使い、「別れを述べるという」表現から分かれ道にいることをやはり比喩的に示している。Tyler 訳では *and I am filled with sorrow that our ways must part* と、関係過程と物質過程を組み合わせており、関係過程を使って心理状態を比喩的に示しているが、物質過程が含まれているために、比喩的な表現の強さを感じさせるものではない。Washburn 訳では *Now in deepest sorrow as I contemplate our diverting road, this fork where we must part* となっており、「悲しい」という心理過程を *deepest sorrow* として、名詞化という文法的比喩が使われている。Washburn 訳では一種の情報の圧縮が見られ、過程型の比喩的用法を使っている他の訳者たちに比べると審美的な印象は少なく、客観的なイメージを想起させると考えられる。

命題 3 は Waley 訳の *because I go alone*、Seidensticker 訳の *I leave you, to go the road we all must go*、McCullough 訳の *and set forth on this last journey* が見られる。これはら全て物質過程で表現されており、比喩的な用法は見られない。

命題 4 は全ての英語訳に見られる。Suematsu 訳と Waley 訳では *live* という物質過程をつかっているが、その感情は *would* という定性に託している。McCullough 訳では同じく物質過程を使っているが、*choose* という動詞で、「道の選択」を意味しており、いささか比喩的であり、かつ、和歌の文言を前面に出したものと言えるだろう。Seidensticker 訳と Tyler 訳では生への道を *choose, take* で表しているが、*the road* と *the path* を修飾する埋め込み節なっており、過程そのものとしては関係過程となっており、過程型の比喩的な用法と言えるだろう。さらに Washburn 訳では *walk the path of the living* と、生を伝える部分を名詞化で示している。Washburn は命題 2 においても名詞化を用いており、他の訳者に比べて文法的比喩を多く用いることで簡潔な表現をし、その相違を顕在化していると考えられる。

命題 4 については Suematsu 訳、Waley 訳の *live* という、いわば congruent「一致した」表現に近いものから、さらに Seidensticker 訳や Tyler 訳への関係過程を使った、過程型の比喩的で表現、さらにそれを文法的比喩としての名詞化を使った Washburn 訳という流れが見られる。一致した表現から、文法的比喩という流れは系統発生的にも個体発生的にも見られるものであり、比喩的な表現を使うことで抽象度が上がり、さらに情報を追加できるという利点がある。このような意味の発展のプロセスを総称して「意味生成(semogenesis)」(Matthiessen, 1995:48)というが、この抽象化が和歌の英語訳にも時系列に沿って見られるというのは、大変興味深く、これが他の和歌についても見られるのか、あるいはこの一首についてだけの事象なのかは、今後、他の和歌について分析をしなければならない。もし、この流れが他の和歌に見られるとすると、この抽象化が審美的な効果を狙うためのものか、あるいは音調的操作の自由度をあげるためのものか、文体的な考察と議論への糸口になるものであろう。

5.3.5 修辞構造

修辞構造は意味の中心となる核(nuclear)と修飾部となる衛星(satellite)によって構成されている(Matthiessen, 1995:55)。各英語訳の修辞構造を図 2 から図 7 で示す。実線で囲まれた部分が核であり、破線で囲まれた部分が衛星である。

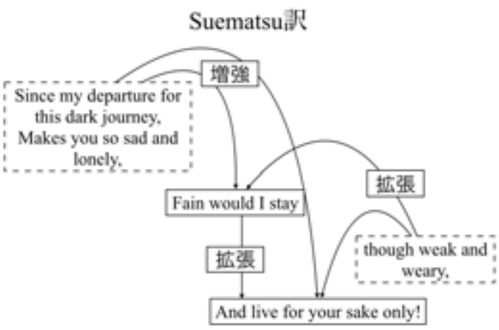

図 2: Suematsu 訳の修辞構造

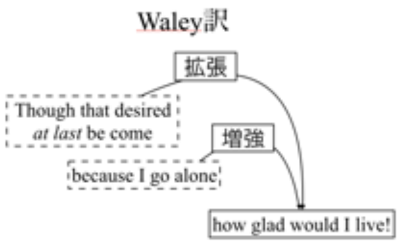

図 3: Waley 訳の修辞構造

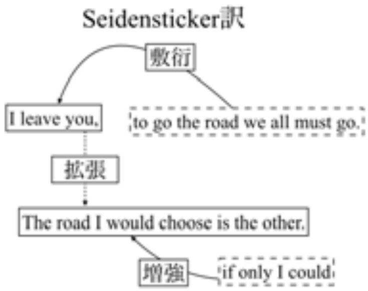

図 4: Seidensticker 訳の修辞構造

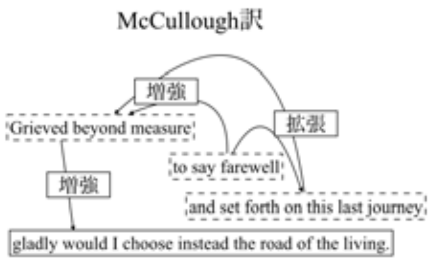

図 5: McCullough 訳の修辞構造

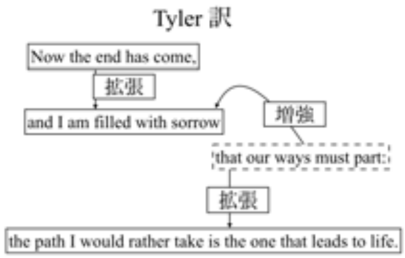

図 6: Tyler 訳の修辞構造

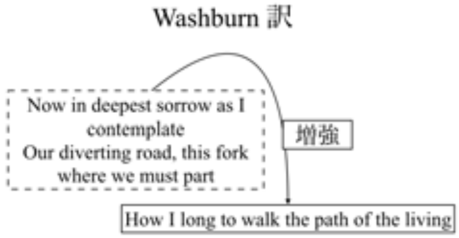

図 7: Washburn 訳の修辞構造

この英訳の中で興味深いのは McCullough 訳の衛星の多さと、それとは対照的な Tyler の核の多さであろう。つまり McCullough 訳は修飾を重ねて、一つの核でそれを受けて核となる部分の意味を前面に出しているのに対して、Tyler は独立した核を多くして、それぞれの命題に焦点を当てているように感じられる。また Washburn 訳は一つだけの核・衛星構造を取り、修辞構造の意味でも簡素化が見られる。名詞化と相俟って、Washburn 訳は他の訳よりも審美的な価値が弱いと感じさせる要因になっていると言える。

6. 結論

これまでの分析をまとめてみると表 7（音韻）と表 8（語彙文法）にまとめることができる。

表 7: 音韻分析のまとめ

	行	音調ユニット	脚	音節	韻(THI)	1 音節語
Suematsu	quatrain	2-1-2-2	common metre	-	19.3%	22(82%)
Waley	2 部	1-3	-	-	17.5%	13(81%)
Seidensticker	2	3-3	-	-	26.3%	22(96%)
McCullough	5	1-1-1-1-1	-	5-7-5-7-6	15.8%	16(70%)
Tyler	2	3-2	-	5-7-5-7-7	38.6%	27(93%)
Washburn	triplet	2-2-2	-	11-11-11	45.6%	21(81%)

表 8: 語彙文法分析のまとめ

	節	CCI	過程形				命題	文法的比喩		修辞構造
			物質	関係	心理	発言		名詞	語彙	
Suematsu	4	1.25	2	2	0	0	2	0	0	
Waley	3	1.33	3	0	0	0	3	0	0	
Seidensticker	4	0.75	3	1	0	0	2	0	0	
McCullough	4	1.25	2	0	1	1	3	0	0	衛星志向
Tyler	4	0.75	2	2	0	0	3	0	0	核志向
Washburn	2	1	1	0	1	0	2	1	1	簡素

音韻の面から見てみると Suematsu 訳は英詩の規則性に則っており、言わば目標言語(TL)志向ということができる。これは最初の翻訳であり、まずは日本文学作品を英語圏の読者に知らしめるという社会文化的な要因が作用して

いると思われる。一方、McCullough 訳と Tyler 訳では日本語の 5-7-5-7-7 の再現を試みているということから、起点言語(SL)志向ということができる。これも 1990 年代から 2000 年代にかけて、経済だけではなく、ポップカルチャーをきっかけにした日本文化への注目があり、それが日本文化への新しい着目点となって、日本の和歌の音調の再現につながったと思われる。また俳句が Haiku として英語圏の言語文化に入り込み始めているということもその一因と考えられるであろう。最新の Washburn 訳は McCullough 訳や Tyler 訳に見られる音調を踏襲せず、triplet という英詩の形をとっており、一見すると目標言語志向への回帰を思わせるが、全ての音節を統一するという手法は Washburn が先行する翻訳者たちと一線を画す、一種の創造性を発揮しているのだと解釈することができる。また Tyler 訳と Washburn 訳は Translation Harmony Index が他の訳に比較して高く、特に音の響きの再現を試みているということも着目すべきである。

語彙文法の面では、節構成における Suematsu 訳、Waley 訳、McCullough 訳の複雑性と Sendensticker 訳、Tyler 訳、Washburn 訳の明快さという対比が挙げられる。これは修辞構造とも関連し、Suematsu 訳、Waley 訳、Seidensticker 訳、Washburn 訳では核と衛星の数に顕著な違いがないが、McCullough 訳、Tyler 訳ではこれを使い分けて、意味のかかり方や命題の具現に翻訳者ごとのの解釈が垣間見える。また節構成と修辞構造の組み合わせは、審美的な価値をもたらす要因となる。特に Washburn 訳では二ヶ所の名詞化による文法的比喩が見られ、さらに修辞構造も簡素なものである。したがって、これらの情報の圧縮と抽象化、修辞構造の簡略化が Washburn 訳にどれほどの審美的価値観をもたらしているか、疑問を抱かざるを得ない。

Tyler 訳は和歌の音調の再現、命題の具現化、修辞構造における核の主軸化による意味の明瞭化が見られる。さらに THI の値の高さを勘案すれば、この和歌の英訳としてもっとも価値の高いものと判断できるのではないだろうか。

本研究では対象となる和歌が一首であるため、予備調査的な意味合いが強い。今後対象とする和歌の数を増やし、本研究で考察された観点にどれほどの妥当性があるかを検証していく必要があるだろう。最後に和歌の英訳のシステムネットワークを示す。どのような方略があるかは、このネットワークによって明示されだろう。

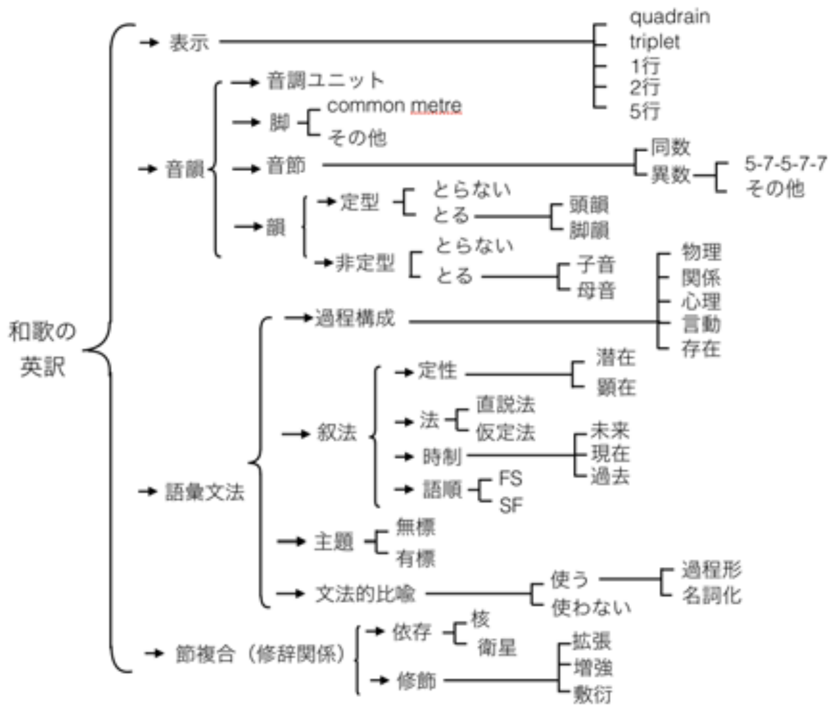

図 **8**：和歌の英訳システムネットワーク

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謝辞

音韻の分析にあたり、愛知学院大学教養部の西谷茉莉子専任講師より様々なアドバイスをいただいた。この場を借りて、厚く御礼申し上げる。

第 24 回日本機能言語学会秋期大会プログラム

会期：2016 年 10 月 8 日（土）～ 10 月 9 日（日）
会場：立命館大学（びわこ・くさつキャンパス）

10 月 8 日（土）

12:45 –13:20　受付
13:20 – 13:35　開会の辞
第 1 室（C606 号室）　日本機能言語学会会長 **龍城正明（同志社大学）**

13:40 – 14:20　研究発表 1
第 1 室（C606 号室）　司会: 佐藤勝之（武庫川女子大学）
早川 知江（名古屋芸術大学）[発表言語: 日本語]
「絵本の中の「いたずら」： SFL の枠組みで効果を語る」
第 2 室（C604 号室）　司会: 角岡賢一（龍谷大学）
稲子あゆみ（シドニー工科大学）[発表言語: 英語]
'Solidarity work of POLITENESS choice in Japanese: a dual stratal account in a physicist' tweets after 3/11 nuclear accident'

14:25 – 15:05　研究発表 2
第 1 室（C606 号室）　司会: 南里敬三（大分大学）
豊田純一（大阪市立大学）[発表言語: 英語]
'Visibility, visualisation and grammar in mind: a functional perspective'
第 2 室（C604 号室）　司会: 鷲嶽正道（愛知学院大学）
越智綾子（フェリス女学院大学）[発表言語: 英語]
'The interpersonal profile of weather forecast in Japanese and English'

15:05 – 15:20　休憩
15:20 – 16:00　研究発表 3
第 1 室（C606 号室）　司会: 佐々木真（愛知学院大学）
Sonya Chik（香港理工大学）[発表言語: 英語]
'Thematic choices and shifts -a contrastive analysis in Japanese and English written discourse'

16:05 – 16:45　研究発表 4
第 1 室（C606 号室）　司会: 福田一雄（新潟大学名誉教授）
南里敬三（大分大学）[発表言語: 日本語]
「テクスト進化論：絵・言語テクスト分析からの提言」

16:45 – 16:55　休憩
16:55 – 17:30　総会　第 1 室（C606 号室）　司会: 飯村龍一（玉川大学）
18:30 – 20:30　懇親会　「一根六菜」（参加費 5,000 円）

10 月 9 日（日）

9:30 – 10:00　受付

10:00 – 10:40　研究発表 1

第 1 室（C606 号室）　司会: Virginia Peng（立命館大学）

Ming-chia Lin (National Academy for Educational Research) [発表言語: 英語]

'Are there persuasive prosodies on evaluative stances in the research abstracts?'

第 2 室（C604 号室）　司会: 伊藤紀子（同志社大学）

David Dykes（四日市大学）[発表言語: 英語]

'Risks, 'Stupid Risks', and 'Smart Risks' Keeping Hopes and Fears Manageable'

10:45 – 11:25　研究発表 2

第 1 室（C606 号室）　司会: 佐藤勝之（武庫川女子大学）

鷲嶽 正道（愛知学院大学）[発表言語: 日本語]

「大学生向け科学分野の教科書（英語）の語彙文法的研究」

第 2 室（C604 号室）　司会: David Dykes（四日市大学）

Peichin Chang (National Taiwan Normal University) [発表言語: 英語]

'Lexical chains and metacognition in writing: An exploratory study'

11:25 – 11:40　休憩

11:40 – 12:20　研究発表 3

第 1 室（C606 号室）　司会: 南里敬三（大分大学）

伊藤紀子（同志社大学）明春霞（湖南大学大学院生）鈴木紀子（帝塚山大学）

阪田真己子（同志社大学）[発表言語: 日本語]

「電話会話における中国人日本語学習者のコミュニケーション方略と母語話者による評価の関係」

第 2 室（C604 号室）　司会: David Dykes（四日市大学）

Peter McDonald（桜美林大学）[発表言語: 英語]

'To What Extent Does Visual/Verbal Textual Integration Support L2 Learners' Listening Comprehension in Multimodal Texts?'

12:20 – 13:30　昼食

13:30 – 14:10　研究発表 4

第 1 室（C606 号室）　司会: 照屋一博（香港理工大学）

佐々木真（愛知学院大学）[発表言語: 日本語]

「和歌の英語訳：６種類の源氏物語の英語訳の比較分析」

14:10 – 14:25　休憩

14:25 – 15:35　**特別講演**

第 1 室（C606 号室）　司会: 龍城正明（同志社大学）

特別講演者：**Dr. Fred C. C. Peng (Specially Appointed Researcher, Department of Neurosurgery, Neurological Institute Taipei Veterans General Hospital, Taiwan)** [発表言語: 英語]

'What Is Language and Where Is It Located?'

15:35 – 15:45　閉会の辞

第 1 室（C606 号室）　日本機能言語学会副会長 **Virginia Peng（立命館大学）**

The Program of JASFL 2016

Dates: October 8 (Sat) and 9 (Sun) 2016
Venue: Ritsumeikan University, Biwako-Kusatsu Campus (BKC)

October 8 (Saturday)

12:45 –13:20 Registration
13:20 – 13:35 Opening Remarks
Room 1（C606） President of JASFL **Masa-aki Tatsuki (Doshisha University)**

13:40 – 14:20 Paper Session 1
Room 1（C606） Chair: Katsuyuki Sato (Mukogawa Women's University)
Chie Hayakawa（Nagoya University of Arts）[To be presented in Japanese]
'"Tricks" in Picturebooks: Analyzing and Explaining Their Effects in the Framework of SFL'

Room 2（C604） Chair: Kenichi Kadooka (Ryukoku University)
Ayumi Inako (University of Technology, Sydney) [To be presented in English]
'Solidarity work of POLITENESS choice in Japanese: a dual stratal account in a physicist' tweets after 3/11 nuclear accident'

14:25 – 15:05 Paper Session 2
Room 1（C606） Chair: Keizo Nanri（Oita University）
Junichi Toyota (Osaka City University) [To be presented in English]
'Visibility, visualisation and grammar in mind: a functional perspective'

Room 2（C604） Chair: Masamichi Washitake (Aichi Gakuin University)
Ayako Ochi (Ferris University) [To be presented in English]
'The interpersonal profile of weather forecast in Japanese and English'

15:05 – 15:20 Coffee Break
15:20 – 16:00 Paper Session 3
Room 1（C606） Chair: Makoto Sasaki (Aichi Gakuin University)
Sonya Chik（The Hong Kong Polytechnic University）[To be presented in English]
'Thematic choices and shifts -a contrastive analysis in Japanese and English written discourse'

16:05 – 16:45 Paper Session 4
Room 1（C606） Chair: Kazuo Fukuda (Emeritus Professor of Niigata University)
Keizo Nanri（Oita University）[To be presented in Japanese]
'A Text Evolution Theory: From a Viewpoint of an Analysis of Pictorial-Linguistic Texts'

16:45 – 16:55 Coffee Break
16:55 – 17:30 AGM Room 1（C606） Chair: Ryuichi Iimura (Tamagawa University)
18:30 – 20:30 Reception 「一根六菜（IKKON-ROKUSAI

October 9 (Sunday)

9:30 – 10:00 Registration

10:00 – 10:40 Paper Session 1

Room 1（C606） Chair: Virginia Peng (Ritsumeikan University)

Ming-chia Lin (National Academy for Educational Research) [To be presented in English]
'Are there persuasive prosodies on evaluative stances in the research abstracts?'

Room 2（C604） Chair: Noriko Ito (Doshisha University)

David Dykes (Yokkaichi University) [To be presented in English]
'Risks, 'Stupid Risks', and 'Smart Risks' Keeping Hopes and Fears Manageable'

10:45 – 11:25 Paper Session 2

Room 1（C606） Chair: Katsuyuki Sato (Mukogawa Women's University)

Masamichi Washitake (Aichi Gakuin University) [To be presented in Japanese]
'Lexicogrammatical Analysis of Academic Science Textbooks'

Room 2（C604） Chair: David Dykes (Yokkaichi University)

Peichin Chang (National Taiwan Normal University) [To be presented in English]
'Lexical chains and metacognition in writing: An exploratory study'

11:25 – 11:40 Coffee Break

11:40 – 12:20 Paper Session 3

Room 1（C606） Chair: Keizo Nanri（Oita University）

Noriko Ito (Doshisha University), Chunxia Ming (Hunan University), Noriko Suzuki (Tezukayama University), Mamiko Sakata (Doshisha University) [To be presented in Japanese]
'Relationship between Chinese Japanese learners' communication strategies in telephone conversation and their native speakers' evaluation'

Room 2（C604） Chair: David Dykes (Yokkaichi University)

Peter McDonald（J. F. Obirin University） [To be presented in English]
'To What Extent Does Visual/Verbal Textual Integration Support L2 Learners' Listening Comprehension in Multimodal Texts?'

12:20 – 13:30 Lunch

13:30 – 14:10 Paper Session 4

Room 1（C606） Chair: Kazuhiro Teruya（The Hong Kong Polytechnic University）

Makoto Sasaki (Aichi Gakuin University) [To be presented in Japanese]
'English Translation of Waka Poems: Comparative Analysis of Six Waka Poems from *The Tale of Genji'*

14:10 – 14:25 Coffee Break

14:25 – 15:35 **Plenary**

Room 1（C606） Chair: **Masa-aki Tatsuki (Doshisha University)**

Guest Speaker: **Dr. Fred C. C. Peng**
(Specially Appointed Researcher, Department of Neurosurgery, Neurological Institute Taipei Veterans General Hospital, Taiwan) [To be presented in English]
'What Is Language and Where Is It Located?'

15:35 – 15:45 Closing Remarks

Room 1（C606） Vice President of JASFL **Virginia Peng (Ritsumeikan University)**

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Volume 1 Number 1 Autumn 1998

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Vol. 4 April 2007

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Vol. 9 October 2015

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Vol. 10 October 2016

論文

機能言語学研究

JAPANESE JOURNAL OF
SYSTEMIC FUNCTIONAL LINGUISTICS
Vol. 9 June 2017

論文

『機能言語学研究』および*Proceedings of JASFL*
作成と投稿のための規約

作成と投稿のための規約

1. 使用言語
日本語または英語

2. 原稿の種類
（１）研究論文　（２）書評・紹介　（３）研究ノート

3. 独創性
投稿原稿は以下の条件を満たす場合にのみ出版の対象として考慮する。
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(4) 著作権は各著者に属する。ただし再版の権利は日本機能言語学会に属する。

4. 投稿資格
投稿は会員にかぎる。ただし共著の場合は筆頭著者が会員であればよい。

5. 審査方法
審査の際はすべての原稿は無記名とし、３名の審査員が審査する。

6. 書式と構成

6.1 書式設定とファイル形式
用紙をB5とし、余白は上下左右各25ミリをとる。使用するワープロソフトは問わないが、ファイルはMicrosoft Word互換のファイル(docまたはdocxファイル)として保存、投稿する。

6.2 フォント設定と行間
日本語で書く場合のフォントはＭＳ明朝（11ポイント）、英語で書く場合はTimes New Roman（11ポイント）の文字サイズを用いることとし、シングルスペースの行間とする。

6.3 語数
『機能言語学研究』：日本語の場合 22000 文字以内、英語の場合 7000 語以内とする。
Proceedings of JASFL: B5 14 ページ以内とする。

6.4 要旨
執筆する言語にかかわらず、論文要旨を必ず英語で100字〜200語にまとめ、冒頭に記載する。

6.5 タイトル
日本語で執筆する場合には英語のタイトルを必ず記載する。タイトルの表記法は下記を参考にする。

例：　　日本におけるSFL理論の英語教育への応用
On Application of SFL to English Education in Japan

6.6 セクション構成と段落
日本語で執筆する場合、 セクションおよび段落の最初は字下げをする。ただし、英語で執筆する場合、セクションの最初は字下げ（インデント）せず、２段落目からインデントする。セクションのタイトルは左寄せとする。またセクションの番号は「１」から始めることとする（「０」は使用しない）。

7. 参照方法
参照したすべての文献（著書、モノグラフ、論文他）は本文中の適切な場所で明示すること。その方法は以下を参照すること。

7.1 直接引用
原文をそのまま引用する場合は必ず「 」内に入れる。引用文が４行を超えるときは本文の中に挿入せず、全文をインデントして本文から一行空けて切り離す。

7.2 著者への参照方法
a. 著者名が本文に記されている場合は、その直後に出版年とページのみを ( )に入れて示す。例「Halliday (1994：17) が述べているように…」
b. 特定の個所ではなく、より一般的に参照する場合は、著者名の直後に出版年のみを ( ) に入れて示す。例「Hasan (1993) は次のように述べている。すなわち…」
c. 著者名が本文中に記述されない場合は、著者名も ( ) に入れ、（著者、コンマ、年）の順で記載する。例 (Martin, 1992)。」
d. 著者が２名の場合は二人の姓を入れる。例 (Birrell and Cole, 1987)
e. 著者が３名以上の場合は筆頭著者名のみを出し、ほかは「他」として全著者名は出さない。(Smith et al., 1986)
f. 同じ著者の同じ年の出版物を２冊以上参考文献として使う場合は、それぞれの著作の出版年に‘a’, ‘b’ 等の文字を付記して区別する。例 (Martin, 1985a)
g. 同一個所に複数の参考文献を付ける場合には、すべての文献を１つの ( ) 内に入れ、各文献をセミコロンで区切る。例 (Maguire, 1984; Rowe, 1987; Thompson, 1988)

7.3　略語

同一文献に２回目以降言及する場合にも最初の場合と同様にして、‘*ibid*.’, ‘*op.cit*.’, ‘*loc.cit.*’ 等の略語は用いない。

8.　参考文献

参考文献は本文で引用・参照したもの、および原稿の準備段階で使用した文献すべてをリストに載せること。著者の姓のアルファベット順、同一著者ならば出版年の順に並べる。

8.1　書籍

１つの文献の記述は、著者名、(　) に入れて出版年、著作名、出版地、出版社、必要ならばページの順序に出す。　記載方法は下記の例に倣うこと。

a.　単著の例：

寺村秀夫（1984）『日本語のシンタクスと意味』第2巻 東京：くろしお出版

Halliday, M. A. K. (1994) *An Introduction to Functional Grammar 2nd edition*. London: Arnold.

b.　共著の例：

益岡隆志、田窪行則 (1992)　『基礎日本語文法』東京：くろしお出版

Martin, J. R. and Rose, D. (2004) *Working with discourse: meaning beyond the clause*. London: Continuum.

c.　単一編纂者図書の例：

龍城正明（編）（2006）『ことばは生きている』東京：くろしお出版

Christie, F. (ed.) (1999) *Pedagogy and the Shaping of Consciousness: Linguistic and Social Process*. London: Cassell.

d.　複数編纂者図書の例：

仁田義雄、益岡隆志（編）（1989）『日本語のモダリティ』東京：くろしお出版

Hasan, R. and Williams, G. (eds) (1996) *Literacy in Society*. London: Longman.

8.2　雑誌の論文

論文名は「　」内に入れ、雑誌名は『　』内に入れ、巻、号、ページを記載する。英語の場合は雑誌名をイタリックにし、巻、号、ページを記載する。ただし英語の場合、タイトルはそのまま表記する。また編纂図書の一セクションを形成している場合は‘　’で囲むこととする。

例：

安井稔(2007)「文法的メタファー事始め」，『機能言語学研究』4：1−20

龍城正明 (2008)「「は」と「が」そのメタ機能からの再考」, *Proceedings of JASFL*, 4: 115-149

Halliday, M.A.K. (1966) Notes on transitivity and theme in English, Part1, *Journal of Linguistics*, 3.1: 37-81.

Matthiessen, C.M.I.M. (2004) 'Descriptive motifs and generalizations'. In A. Caffarel, J.R. Martin and C.M.I.M. Matthiessen (eds), *Language Typology: a Functional Perspective* 537-674. Amsterdam & Philadelphia: John Benjamins Publishing Company.

9. 註

註はできるだけ避ける。どうしても必要な場合は簡潔にし、本文の最後、参考文献の前に置く。

10. 図、表、地図、グラフ

これらはすべて本文中該当箇所に挿入する。コンピューターでスキャンしたり、写真撮影したりする際不鮮明にならないよう、文字、数字、線等は太く、はっきりと書いておくこと。

11. 校正

著者は編集者から送付された編集済みファイルの校正（初稿のみ）をする。

12. 原稿提出

原稿電子ファイルで、添付ファイルとして提出すること。フォーマットはMS-Word互換ファイル (.doc, .docx)とする

13. 原稿送付先

jasfleditor@gmail.com

Notes for contributors to *Japanese Journal of Systemic Functional Linguistics* and *Proceedings of JASFL*

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Manuscripts may be submitted in English or Japanese.

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(1) Standard Articles (2) Review Articles and Book Review (3) Research Notes

3. Originality
Manuscripts are considered for publication only on the understanding that they are not simultaneously under consideration elsewhere, and that they are the original work of the author(s). Any previous form of publication and current consideration in other languages are not accepted. If the manuscript has been deemed as the same content published before in other books and journals, the validity of selection is eliminated and the article is excluded from the journal. Copyright is retained by the individual authors, but JASFL is authorized to reprint.

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All pages can be created with any word processor under a condition that the file is saved as Microsoft WORD format (.doc, .docx) on B5-sized paper, with margins of 25 mm or 1 inch on every side.

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Manuscripts are typed in Times New Roman (11 point) with single spacing.

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Proceedings of JASFL:
Manuscripts are not allowed to go beyond 14 pages in the B5 format.

6.4 Abstract
An English abstract of 100-200 words is included in the beginning of the text.

6.5 Title
English title is required when a manuscript is written in Japanese.

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Indentation is required from the second paragraph of a section. The first section number starts with “1”, NOT “0”.

7. Format for References in the Text

All references to or quotations from books, monographs, articles, and other sources should be identified clearly at an appropriate point in the main text, as follows:

7.1 Direct quotation

All direct quotations should be enclosed in single quotations. If they extend more than four lines, they should be separated from the body and properly indented.

7.2 Reference to an author and more than one authors

a. When the author's name is in the text, only the year of publication and the page should be enclosed within the parentheses, e.g. ‘As Halliday (1994: 17) has observed …’

b. When the reference is in a more general sense, the year of publication alone can be given, e.g. ‘Hasan (1993) argues that …’

c. When the author's name is not in the text, both the author's name and year of publication should be within the parentheses and separated by a comma, e.g. (Matthiessen, 1992)

d. When the reference has dual authorship, the two names should be given, e.g. (Birrell and Cole, 1987)

e. When the reference has three or more authors, the first author's name should be given and the rest should be written as ‘et al.’, e.g. (Smith et al., 1986)

f. If there is more than one reference to the same author and year, they should be distinguished by use of the letters ‘a’, ‘b’, etc. next to the year of publication, e.g. (Martin, 1985a).

g. If there is a series of references, all of them should be enclosed within a single pair of parentheses, separated by semicolons, e.g. (Maguire, 1984; Rowe, 1987; Thompson, 1988).

7.3 Abbreviation

If the same source is referred to or quoted from subsequently, the citations should be written as the first citation. Other forms such as ‘*ibid.*’, ‘*op.cit.*’, or ‘*loc.cit.*’ should not be used.

8. Reference List

The Reference List should include all entries cited in the text, or any other items used to prepare the manuscript, and be arranged alphabetically by the author's surname with the year of publication. This list should be given in a separate, headed, reference section. Please follow the examples given:

8.1 Books

a. A single-authored book

Halliday, M. A. K. (1994) *An Introduction to Functional Grammar 2nd edition*. London: Arnold.

b. A multiple-authored book

Martin, J. R. and Rose, D. (2004) *Working with discourse: meaning beyond the clause*. London: Continuum.

c. A single-edited book

Christie, F. (ed.) (1999) *Pedagogy and the Shaping of Consciousness: Linguistic and Social Process*. London: Cassell.

d. A multiple-edited book

Hasan, R. and Williams, G. (eds) (1996) *Literacy in Society*. London: Longman.

8.2 Articles in journals and edited books

Halliday, M. A. K. (1966) Notes on transitivity and theme in English, Part1, *Journal of Linguistics*, 3.1: 37-81.

Matthiessen, C.M.I.M. (2004) 'Descriptive motifs and generalizations'. In A. Caffarel, J.R. Martin and C.M.I.M. Matthiessen (eds), *Language Typology: a Functional Perspective* 537-674. Amsterdam & Philadelphia: John Benjamins Publishing Company.

9. Notes
Notes should be avoided. If they are necessary, they must be brief and should appear at the end of the text and before the Reference.

10. Figures, tables, maps, and diagrams
These items must be inserted in an appropriate position within the article, and should carry short descriptive titles. They must be precisely and boldly drawn to ensure scanning or photographic reproduction.

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