Japanese Mood and Modality in Systemic Functional Linguistics

Theory and Application

Edited by Ken-Ichi Kadooka

John Benjamins Publishing Company

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Volume 26 of the Series of the Ryukoku University Research Institute for International Society and Culture.

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Amsterdam / Philadelphia

The paper used in this publication meets the minimum requirements of the American National Standard for Information Sciences – Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.

DOI 10.1075/z.234

Cataloging-in-Publication Data available from Library of Congress:
LCCN 2020048728 (PRINT) / 2020048729 (E-BOOK)

ISBN 978 90 272 0834 7 (HB)
ISBN 978 90 272 6023 9 (E-BOOK)

John Benjamins Publishing Company · https://benjamins.com

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CHAPTER 1

Introduction

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This book is an anthology of four papers that offers a cross-linguistic and interdisciplinary exploration of modality within systemic functional linguistics (SFL). Drawing upon the broad SFL notion of modality that refers to the intermediate degrees between the positive and negative poles, the individual papers probe into the modality systems in English and Japanese. The papers cover issues such as the conceptual nature of modality in both languages, the characterization of modulation in Japanese, the trans-grammatical aspects of modality in relation to mood and grammatical metaphor in both languages, and the modality uses and pragmatic impairment by individuals with a developmental disorder from a neurocognitive perspective.

Chapter 2 develops a descriptive framework of modulation in Japanese from the perspective of Systemic Functional Linguistics (SFL). Iimura's work sets out to explicate main contributions to the area of modality in traditional Japanese linguistics (Narrog 2009, 2014; Masuoka 2007), including typological studies (Palmer 2001). It emerges that despite the attention given by many scholars, there still remains some diversity regarding the definition of mood and modality, the interrelation between the two systems, and the range of forms to be included in each system. It is also confirmed that the findings in many studies outside SFL tend to be confined to the notional analysis of modality and modal expressions with little attention to text analysis.

Moving on to the SFL-based works on mood and modality in Japanese, Iimura draws on some insights from pioneering SFL works (Teruya 2004, 2007; Tatsuki 2004, 2008; Fukui 2013) to elaborate on the views on modality in language use that have a wider perspective than those in the hitherto proposed Japanese studies (Masuoka 2007, Nitta 2009, Sawada 2014), though different approaches have their insights complementing each other. Iimura also delineates the contributing features to the description of modality against the working criteria regarding the scope of the modal system involved, the extent to which the modal expressions are accounted for, and the theoretical principles on which the relevant approaches are based. It takes as its definition the view that modality is closely linked to the

https://doi.org/10.1075/z.234.int

speech-functional aspect of language, producing a wide variety of meaning types of intermediacy whose function is to contribute to the development of exchange in communication. The modulation system, in this sense, produces a range of meaning types of intermediacy in relation to the realization of proposal (whose function is to give or demand goods-&-services). Treating modality as it is means that the specification of modal meaning depends rather on the use of modal expression in the context of exchanging messages than on the isolated lexical meanings of expression.

Iimura's elaborative work, which is based upon the structural-functional approach (Butler 2003) where SFL approaches reside, proposes a modified framework of modulation in Japanese with more delicate systemic choices than Iimura (2016). Though it is confined to the system of modulation in Japanese, the proposed descriptive model demonstrates that a text-oriented approach can not only supplement traditional Japanese studies on modality, but also integrate the relevant notional accounts into an SFL model by expanding its scope for the inclusion of grammatical metaphor. Iimura also discusses the application of the lexicogrammar of English (Halliday (1970, 1985, 1994) and Halliday and Matthiessen (2004, 2014)) to the context of Japanese, and points out that SFL places modality in a much broader language system than those of other traditional studies, which represents its uniqueness and theoretical strengths for modelling language in text.

In Chapter 3, Kazuo Fukuda takes up SFL notion of grammatical metaphor and discusses its applicability to the study of Japanese grammar. The focus is mainly upon Mood metaphor and Modality metaphor. Fukuda, however, finds it necessary to take an extensive view of the whole sphere of grammatical metaphor in order to fully understand interpersonal metaphor. This is why ideational metaphor is considered first and interpersonal metaphor next.

Fukuda argues that the notion of congruency should be distinguished from the notion of 'typicality' or 'naturalness', for there are cases of naturalized metaphor and unnatural congruency in language.

Nominalization, one of the two types of ideational metaphor, is an indispensable linguistic resource for the development of our knowledge and science. Fukuda explains that nouns made with Chinese characters and the *Renyoo* nouns of Japanese origin play a crucial role in nominalization in Japanese.

Many more pages are allotted to Mood metaphor and Modality metaphor. For these kinds of metaphor, the communicative notions of 'softening' and 'strengthening' are introduced, in parallel with the SFL notions of implicit / explicit and subjective / objective, in order to understand the motives and resultative effects of some cases of Interpersonal metaphor.

For Mood metaphor, the Mood-shifting type is regarded as a primary metaphor. In addition to the softening type of Mood-shifting metaphor, other kinds of Mood metaphors are discussed, such as the strengthening meta-Mood self-reflexive

metaphor, rhetorical WH-questions, derived metaphor of Mood, and monologic metaphor.

For Modality metaphor, in addition to the explicit strengthening-type bi-clause metaphor and the semi-metaphor created by modal Adjunct in a single clause, meta-Modality self-reflexive metaphor is taken up as another strengthening type of Modality metaphor. On the other hand, Modality metaphor formed in the subjunctive past form of modal auxiliaries and a Modality complex are treated as a softening type Modality metaphor. Besides, a phenomenon named 'metaphorical crossover' between Mood and Modality is pointed out and explained.

Finally, Fukuda concludes that the notion of grammatical metaphor is viable for the study of Japanese grammar as well as English. According to him, the notion of grammatical metaphor seems to be unfamiliar to many researchers in the Japanese language in spite of its broader perspective on understanding multi-faceted features of various wordings with a similar meaning. Fukuda remarks that he wrote his chapter in the hope that scholars and students of Japanese grammar and researchers in different schools of linguistics will have an interest in Grammatical Metaphor, not to speak of SFL specialists.

The main purpose of Chapter 4, is to compare the modality systems of English and Japanese focusing on the subcategories of Modalization and Modulation. Since the definitions and the subcategorizations of modality are different from one researcher to another, the descriptions depend on the framework. The Systemic Functional framework is adopted as the main one in the analyses of English and Japanese modality systems.

Halliday and Matthiessen (2014) subcategorize the system of Modality of English into Modalization and Modulation. Further, Modalization is divided into usuality and probability, and Modulation into obligation and inclination. Whereas the English Modality system is considered to be quite simple, Teruya (2007)'s subcategorization for the Japanese Modality system is far more complex: he divides Modalization into ability, probability and usuality, and Modulation into necessity, obligation, permission, expectation and inclination. Fukuda (2016) added evidentiality to Modalization, and Kadooka (2016) followed this addition.

Then follow the syntactic analyses of the Modality expressions in Japanese. There are some positive/negative pairs with polarity, such as 'hituyou ga aru/nai' (*necessity* + NOM + *exist/does not*, 'there is necessity to/not to do something).' One of the pairs in which the positive and the negative polarity belong to different categories is the permission 'si-te mo ii' (*do* + *also* + *possible*, 'you can do') and the obligatory 'si-te wa nara-nai' (*do* + TOP + *possible-not*, 'you must not do'). Notice that the negation form 'nara-nai' does not have the positive counterpart '*naru' in the sense that one can do something, which shows that there is asymmetry between the positive and the negative polarities with some verbs in Japanese. Together with

such asymmetries, the negation patterns of the Japanese modality expressions give us fresh insight into the lexicogrammar and semantics of Japanese.

From its inception, SFL was envisioned as an instrument for text description, which enabled it to be a powerful tool for textual analysis. Chapter 5 is an example of research in which the theoretical insights of SFL are brought to bear on a real-life phenomenon – clinical discourse – a field where terminology and underlying assumptions are in need of clarification. While Chapters 2 to 4 are discussions within the theoretical constructs of modality in SFL, Chapter 5 exemplifies how the theory can be utilized in the applied linguistic domain.

Throughout the chapter, Kato gives attention to the concept of the choice system – the system network – which lies at the theoretical core of SFL. There are multiple choices available to speakers to make meaning of their social activity, and speakers select lexicogrammar from the system network at the moment of their utterance.

Kato observed the choices of modal expressions made by ASD (autism spectrum disorder) individuals in comparison with their TD (Typically Developed) counterparts, while referring to the corpus of the spoken language of each group that Kato had constructed. Statistical differences were found in the use of modal expressions by the two groups. Kato maintains that these differences are caused by cognitive differences. In the case of ASD, mutations in neural and cognitive functions due to cerebral dysfunction result in failure to read both cultural and situational contexts, which leads to different choices of language expression from normal subjects. Kato argues that speakers with brain dysfunction such as seen in ASD made inappropriate choices from the system network options – choices which were irrelevant to the ongoing social context. This constitutes pragmatic impairment. Kato concluded that pragmatic impairment is due to neurocognitive failure in reading the social context.

Hence Kato proposes that the SFL model of communication, which gives primacy to social context and the stratification of language, should be modified to include cognition. Kato points out that SFL has heretofore given insufficient attention to the cognitive side of language use. Although effective in capturing language as social phenomena, Halliday's approach has shown little interest in associating it with psychological or cognitive domains. Kato argues that cognition should be given prominence, along with social context and the stratification of the language, in SFL constructs.

While Chapter 5 describes how cognitive dysfunction influences the ASD speaker's socio-linguistic activities, Kato believes these findings will have relevance even outside the field of clinical studies. Indeed, research on pragmatic disorders may shed light on how ordinary people use language in social activities, and this,

in turn, may contribute to the advancement of the theory of pragmatics as well as SFL theory.

Thus, the papers collected in this volume demonstrate a functional account of Japanese within an SFL model of language with a fresh perspective to Japanese linguistics. The papers also refer to cross-linguistic issues concerning how the principles and theories of SFL serve to empirically elaborate descriptions of individual languages, which will lead to the enrichment of the theory and practice of linguistics and beyond.

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CHAPTER 2

The system of modulation in Japanese

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This chapter explores the system of modulation in Japanese in the framework of Systemic Functional Grammar (SFG) (Halliday 1985, 1994, Halliday and Matthiessen 2004, 2014). It attempts to apply this theory of language to the description of Japanese modulation, i.e. obligation and inclination. Unlike many traditional approaches of Japanese modality which confine themselves to the interpretation of sentence-final elements, the systemic functional approach posits a text-based, structural-functional account of modality in relation to the system of speech function. In light of this, the present study postulates an elaborated framework of modulation in Japanese with reference to the system network of modulation with typical realization forms, which contributes to the expansion of the interpersonal meaning potential in interaction.

Keywords: Systemic Functional Linguistics (SFL), Systemic Functional Grammar (SFG), Japanese, interpersonal metafunction, mood and modality, modalization and modulation, grammatical metaphor, speech function, structural-functional approach, system network of modulation

1. Introduction

Mood and modal systems are vital resources in the exchange of messages in verbal communication. Although those systems are different in individual languages, either system, as Palmer (2001) states, tends to be more dominant over the other in any language system. This research topic has been widely studied from different perspectives, including in Japanese linguistics, and numerous studies have been conducted since the 1930s. However, despite the attention given by many scholars, some unresolved but interesting issues persist in the account of Japanese language. These concern, for instance, the definition of mood and modality, the interrelation between the two systems, and the range of forms to be included in each system. Different perspectives might result from the diversity in theories involved, but if we make meanings 'to act semiotically' (Halliday 2016: 16) in a culturally recognised way, then there must be a unified interpretation to be found in the way we choose to mean in language or we involve in making 'semiotic choice' (Halliday 2016: 15).

https://doi.org/10.1075/z.234.01iim

Needless to say, this is too broad a topic to tackle in a single paper. In this respect, the present chapter will focus on the modal systems in Japanese, and, more specifically, the system of *modulation*, which is used together with *modalisation*to realise modality in Japanese. Both italicised terms were initially postulated by Halliday (1970) in his account for English within the framework of Systemic Functional Linguistics (henceforth SFL). Although the terminology may vary depending on theoretical frameworks in which it is used, the notion in question, more or less, corresponds to that of Palmer's event modality (Palmer 2001). Previous studies have pointed out that modulation in Japanese has been a relatively unexplored area in that Japanese has only one grammaticalised auxiliary, *beki*, to express necessity and appropriateness with other complex expressions in various formulations, including adjectives, nouns, and particles, to cover various meanings in modulation. However, the fact that significant studies in European linguistics have focused on verbal moods and modal auxiliaries, like in English, inevitably tempted many Japanese scholars to apply it to the analysis of mood and modality in Japanese. In this sense, although we have plenty of descriptive studies, far fewer theoretical studies from functional perspectives have been conducted with particular reference to Japanese.

On these grounds, this paper attempts to bring together the previous general findings on modulation (or event modality to use Palmer's (2001) term) from SFL and other traditional studies to account for modulation in Japanese. We also elaborate on hitherto proposed system networks of modulation in Japanese (Teruya 2007) to postulate a modified working framework with finer systemic choices incorporated.

With this in mind, in Section 2, we briefly take account of previous studies on modality regarding Palmer's (2001) pioneering work on mood and modality in different languages and other significant research in traditional Japanese linguistics. Then, in Section 3, we discuss how modal meanings in modulation in Japanese can best be realised through the system network in a more systematic way. To this end, Section 4 is devoted to providing finer systemic features in the system of modulation in Japanese with possible realisation patterns in the categories of modulation.

2. Previous studies on modality

As Butler (2003: 2) states from a functional point of view, language is 'first and foremost, an instrument for communication between human beings.' Mood and modality, in this regard, form a major part of the interpersonal meaning resources in language. In SFL terms, these resources primarily contribute to 'the development of exchange' (Halliday and Matthiessen 2014: 134), in which modality construes 'the region of uncertainty that lies between "yes" and "no"' (Halliday and Matthiessen 2014: 176).

In the present section, though we find a great deal of work on modality, and at the same time since our focus here is to identify some relevant aspects of modality in Japanese, we confine ourselves to overviewing some critical approaches with different perspectives. First, we look at prototypical work done by Palmer (2001) on various languages and other theoretical works to set up a theoretical basis for a working framework of modulation in Japanese. This leads us to review the relevant critical features of SFL work (Teruya 2007) and traditional studies (Masuoka 2007, Narrog 2014) in Japanese will be taken into account to elaborate categories of modal meanings later in this paper, including those that are characteristic of Japanese.

2.1 Mood and modality

Palmer (1986, 2001), in his typological account of modality, discusses details of contributing grammatical features in various languages. Mood and modality, in general terms, play an essential role in the development of exchange in communication. More specifically, they contribute to the realisation of semantic features expressing the speaker's views on or attitudes towards the possible or desirable world imbued in the messages to be exchanged.

Obviously, grasping the cross-linguistic concepts of modality may not be an easy task. However, Palmer's (1986, 2001) investigation and findings do provide us with empirical evidence in which we can find contributing features to the account of modality in Japanese. To mention Palmer's (1986, 2001) theoretical views:

> The notion of modality […] is much more vague and leaves open a number of possible definitions, though something along the lines of Lyons' (1977: 452) 'opinion or attitude' of the speaker seems promising. (Palmer 1986: 2)

> Modality is concerned with the status of the proposition that describes the event. (Palmer 2001: 2)

> It has come to be recognized in recent years that modality is a valid cross language grammatical category that can be the subject of a typological study. (Palmar 2001: 1)

> The grammatical markers of modality are very varied, […] Basically there are three types of marker: (i) individual suffixes, clitics and particles, (ii) inflection and (iii) modal verbs […] They are found as markers both of terms in modal systems and of mood. (Palmer 2001: 19)

Palmer's framework, then, identifies the sets of grammatical markers of modal systems and mood in various languages that realise the typical meanings of modality representing the typological categories as in Table 1.

Table 1. Palmer's typological categories of modality

Propositional modality	
Epistemic modality	**Evidential modality**
Speculative	Reported
Deductive	Sensory
Assumptive	
Event modality	
Deontic modality	**Dynamic modality**
Permissive	Abilitive
Obligative	Volitive
Commissive	

Noticeably, Palmer regards evidentiality as partly related to some aspects of modality and refers to that aspect as part of modality.[1]

Given the pioneering nature of Palmer's work, we find some issues to be accounted for towards the analysis of modality in Japanese as follows;

i. Although Palmer's typological approach demonstrates that it can identify a wide range of grammatical realisation of modality both in modal systems and mood across many languages, few empirical examples of Japanese have been given, hence leaving his framework untested against the Japanese language system. In this sense, it is worth investigating how traditional studies of Japanese linguistics (Sawada 2014) can contribute to testing his proposed framework.
ii. Apart from those grammatical realisational systems of modality listed in Palmer (1986, 2001), other types of expressions such as modal adjuncts, clause-final elements, suffixes, particles should be accounted for, in line with classification of synthetic and analytical forms of Japanese (see Muraki 1991). Also relevant to this aspect is the definition of modality itself and its scope of individual approaches, which makes a study of modality rather complex.
iii. From a theoretical point of view, since our focus of interest is the extent to which a functional perspective can be taken into account in the analysis of Japanese modality system, we assume that we can base our proposed framework on some of the Palmer's findings are useful, but little has been mentioned about the functional aspect to test a research question regarding how systemic functional theories can benefit from Palmer's typological evidence.

1. Although the system of Judgement subsumes modality and evidentiality, how the one is more dominant over the other depends on the language we work on.

Turning now to the scope of modality, we also refer to different definitions of modality, according to Narrog's (2014) work to explicate the diversity of modality analysis.

1. Modality as necessity and possibility
   Modality is defined in philosophy and logical terms. The philosophical and linguistic accounts for meaning are quite different from each other. Narrog points out that the philosophical approach is too formalistic to describe the propositions or events in natural languages (von Wright 1951, Kiefer 1997).
2. Modality as the qualification of the clause
   This approach takes the position that modality serves to characterize the types of clauses. This aspect is also relevant to the mood system of the clause that contributes to the characterisation of the clause type, and, in pragmatic terms, its speech-functional aspect of the clause, though the relationship between them may be complicated in individual languages (Kudo 2005).
3. Modality as the undetermined or irrealis events or propositions
   In this approach, modality is used to realise 'the undetermined or irrealis events by the language users' (Sweet 1892/1900, Lyons 1968, 1977, Palmer 1986, 1999, 2001, Kiefer 1987, Langnacker 2003, Narrog 2005). Although we can find some differences in positions in previous studies, this approach, in general terms, recognises the core concept of modality to add the meaning of judgement to the propositions or the events.
4. Modality is the attitude or the subjectivity of the speaker
   This approach considers modality as the speaker's subjective judgement, and 'the speaker's mental attitude' (Jespersen 1924/1992, Lyons 1968). In some studies of Japanese linguistics, Nitta and Masuoka (1989) and Masuoka (1991) adopt this approach. With the position taken to relate the mental attitude that is associated with the speaker's subjectivity, we can observe that the concepts of subjectivity or the mental attitude are closely related to the speaker's conscious or cognitive-linguistic activities. However, this may be the function of cognitive process that we assume in the use of language itself.
5. Modality as one of the two major elements of the clause
   In this approach, the clauses are divided into two major elements: proposition (content) and modality (Fillmore 1968, Nakau 1979, Masuoka 1991). In other words, the division of the clause into proposition and modality means that much of the interpersonal meaning resources is to be regarded as modality to be separated outside the proposition. Whether this theoretical position can be implemented to build up the theoretical construct of the interpersonal meaning making mechanism remains unclear and seems to require clarification.

The position adopted in this study aligns with those referring to modality as the semantic domain realising the undetermined or irrealis events or proposition as in Palmer (2001) and Narrog (2014).[2] However, as we can see from the above, although different perspectives are given concerning the validity of the concept, it should be noted here that they tend to be confined within the treatment of modal meanings in sentence structure.

2.2 Brief overview of Japanese mood and modality

We now provide an overview of previous approaches to modality in Japanese linguistics. Table 2 summarises the scope of individual approaches in terms of realisation forms and other functional features 1–4 taken from Yamaoka (2000).

1. Sentence endings (verbal endings, modal endings, particles)
2. Non-sentence final elements (predicate-selecting adverbs, adverbial particles)
3. Subjective content words (emotive adjectives)
4. Sentence function

Note that the approaches Yamaoka (2000) examined take different views of modality and some of them use the terms mood and modality interchangeably.

We can see from Table 2 that all approaches focus on sentence endings. While approaches dealing with adverbial expressions are recognised, only Nitta (1991) extends the scope to include adjectives. Some approaches also account for modality in relation to sentence mood types. For instance, Nitta (1991) includes speech-functional elements of a sentence to account for modality, and when modality expresses the attitude of the speaker, it also involves certain interactional elements towards the hearer in interaction, including a sentence-final question particle *ka*, for example. The inclusion of formal properties in the sentence as such may be an indication of the expansion of the scope of modality in the system of speech act. Assessing the approaches to modality, Yamaoka (2000: 84) points out that since the realisation of modal meanings partly depends on grammatical features conforming a sentence such as subject person, semantic features of verbs and other predicate features, the study of modality can benefit from the study of functional elements of sentence. Yamaoka (2008) also incorporates these aspects in his account of speech function and offers the theoretical framework of speech function in Japanese. Although the main focus of his study is not on modality but

2. Note that what Narrog's definition differs from the present paper is his inclusion of evidentiality and his view on a question with the particle *-ka* as the undetermined fact.

Table 2. The scope of Japanese modality

Approach	1	2	3	4
Yamada (1936)*	✓			
Tokieda (1950)*	✓	✓		
Watanabe (1953)*	✓			
Haga (1954)*	✓			✓
Kindaichi (1958)**	✓			
Mikami (1959)*	✓			
Ueno (1971)*	✓	✓		
Suzuki (1972)*	✓			
Kitahara (1970, 1981) ***	✓	✓		
Teramura (1981)*	✓	✓		
Nakau (1979)*	✓	✓		
Nitta (1991)*	✓		✓	✓
Masuoka (1991, 2007)**	✓			✓
Minami (1993) ***	✓	✓		
Okuda (1996)*	✓			✓
Moriyama (2000) ***	✓			
Nomura (2003) ***	✓			
Kurotaki (2005)***	✓			
Kudo (2005)***	✓			✓
Narrog (2009) ***	✓			
Onoue (2001) ***	✓			

Key:
* Yamaoka's (2008) original assessment
** added by Kurotaki (2005)
*** assessed by Iimura partly based on Igarashi (2016)

rather on speech functional features of utterances between the speaker and hearer, Yamaoka's framework has a good basis for the interpretation of modal meanings, together with the relevant mood elements in the context of utterance. What is noticeable here is that Yamaoka's (2008) framework, which deals intensively with utterances in a conversational unit called the streams of the Deontics consisting of demanding-giving-acceptance, has been postulated by complementing Searle's speech act theory and Halliday's speech function model. In this respect, his model has a functional perspective in that he takes into account utterances in a conversational unit, though he does not go further to apply his model to the conversational analysis. Also significant here is that his attempt suggests that although his work contains a few modal expressions such as *beki, temoii, rebaii, hougaii, tehoshii*, modality plays an important role in the account of speech function of utterance. Further, the modal meanings are determined by the interaction of certain mood

elements and pragmatic conditions. This aspect should thus not be set aside in the account of modality and Yamaoka (2000: 84) actually stresses the importance of this aspect, pointing out that the previous studies on modality in Table 2 have not addressed this topic. It should also be noted here that because language makes meanings in interaction, we may be able to account for modality in Japanese in a more integrated language model to accommodate this interpersonal aspect. In the subsequent sections we apply a text-based functional approach, i.e a systemic functional approach, to attempt to account for modality including these perspectives discussed in this section.

3. Japanese modality within the SFL framework

3.1 Criteria for defining modality in Japanese

As shown in Section 2, the definition of modality varies and tends to be confined with the morphosyntactic analysis of modality. However, as Matthiessen and Nesbitt (1996: 39) state, 'Internally, linguistics has finally extended its domain from words in sentences to include text in context, and as a result, descriptions need to cover more levels and take on the awesome resources of discourse semantics in context'. We elaborate on these perspectives using our framework.

Here, we discuss the scope of modality in greater detail. Since different disciplines bring about different definitions, our aim here is not so much to weigh them out, as it is to single out the one for a text-oriented analysis in context. To do so would require applying a frame of reference to conduct the analysis consistently. To this end, we take account of modality from the following criteria.

1. the scope or the definition of modality in the target language system (3.2)
2. the semantic domain in which the modality system is involved (3.3)
3. the range of expressions that realises modality (3.4)

These dimensions are closely interrelated to achieve the realisation of modal meanings themselves, but also for the clarity of the theoretical framework itself.

3.2 The scope of modality in SFL

In the present section, we shall first determine how modality is defined in terms of the SFL framework with reference to Japanese.

Teruya (2007) offers a pioneering and comprehensive SFL work of Japanese. Equally important are the in-depth contributions given by what is called the Kyoto Grammar, which finds its basis in SFL and has produced a series of work elaborating on Japanese-specific linguistic properties but also proposing original accounts for the Japanese language system (Tatsuki 1990, 1995, 1998, 2004, 2008, 2013, 2020). By extending and refining the theoretical principles of Halliday (1985, 1994), Halliday and Matthiessen (2004, 2014), Fawcett (2000, 2008) and so forth, these studies address the following topics in Japanese: finiteness, mood and modality, transitivity systems and Theme/Rheme structure. Along with these contributions, a growing number of studies in Japanese from SFL perspectives have also been conducted (Thomson et al. 2013, Funamoto 2020, to mention only a few).

It should also be noted here that these studies adopted or modified theoretical concepts from Halliday and Matthiessen's work (Halliday 1985, 1994; Halliday and Matthiessen 2004, 2014) that have developed their SFL theory mainly with examples from English. This leads us to consider the definition of modality in SFL from typological and language specific points of view. To this end, we examine the two major contributions from Teruya and Tatsuki, while also referring to the components in English.

Let us start with the discussion of Japanese MOOD structure where modality is incorporated in the whole system.

Table 3 below shows the comparison of the interpersonal structural components of the clause in English and Japanese. As Halliday and Matthiessen (2014: 30) state, the clause of the grammar is 'a proposition, or proposal, whereby we inform or question, give an order or make an offer, and express our appraisal of and attitude towards whomever we are addressing and what we are talking about.' This is what is called the interpersonal metafunction.[3] We can observe this function with some language-specific components systematised in individual languages. While English has its construct of the Subject and the Finite elements of the clause, there are also language-specific elements in Japanese as identified in Table 3.

3. See Halliday and Matthiessen (2014: 30) for further details about metafunction, including the ideational and the textual.

Table 3. Elements of the interpersonal structure of the clause in English and Japanese (Iimura 2016: 36)

English	Japanese	
Halliday (1985, 1994) Halliday and Matthiessen (2004, 2014)	Tatsuki (1998)	Teruya (2007, 2017)
Subject	**Subject (S)**	**Subject**
Finite	Finiteness	(Finite) /Predicator
Primary tense	tense (T)	primary tense
Modality	**modality (M)**	**modality**
Polarity	polarity (P) or negator (N)	polarity
Predicator Verb	(predicator)[4] main verb adjective	predicator verb adjective
Complement	**Complement**	**Complement**
	question marker (Q) *ka* ender (E)?	Negotiator
Adjunct	(Adjunct)	Adjunct
Vocative		Vocative

Teruya (2007) and Tatsuki (1998) note that Finite in Japanese does not have a similar function to its counterpart in English, such as the Finite operator. Teruya (2007) does not include the Finite within his description. Tatsuki (1998) also provides a detailed discussion about the status of the finiteness in Japanese in which some language-specific elements such as negator, question marker and ender are treated as a cluster. Teruya (2007) classifies the final particles such as *ka* as Negotiator, while Tatsuki (1998) treats them as elements in a cluster structure. These observations illustrate the diversity of language systems such as English and Japanese. It is also worth mentioning other important contributions such as Hori (1995) on the presumption of the Subject in Japanese and Fukui (2013) on the Mood.

As mentioned in the outset of this section, mood and modality contribute to 'the development of exchange' (Halliday and Matthiessen 2014: 134), in which modality construes 'the region of uncertainty that lies between 'yes' and 'no'' (Halliday and Matthiessen 2014: 176). Teruya (2007: 200) also applies the same definition of Halliday and Matthiessen (2004) for his account of modality in Japanese.

Modality is then referred to as the system that produces a wide variety of meaning types of intermediacy whose function contributes to the development of exchange

4. Although the term Predicator and adjunct is not explicitly referred to in Tatsuki (1998), we assume that this element be included in his description.

in communication, though different languages may have some specific systems. We follow Halliday and Matthiessen (2014: 691) in defining modality as follows:

> Modality refers to the area of meaning that lies between yes and no – the intermediate ground between, positive and negative polarity. What this implies more specifically will depend on the underlying speech function of the clause. (1) If the clause is an 'information' clause (a proposition, congruently realized as indicative), this means either (i) 'either yes or no', i.e. 'maybe'; or (ii) 'both yes and no', i.e. 'sometimes'; in other words, some degree of probability or of usuality. (2) If the clause is a 'goods-&-services' clause (a proposal, which has no real congruent form in the grammar, but by default we can characterize it as imperative), it means either (i) 'is wanted to', related to a command, or (ii) 'wants to', related to an offer; in other words, some degree of obligation or of inclination. We refer to type (1) as MODALIZATION and to type (2) as MODULATION.

In terms of the scope of modality, we can surmise that the SFL model in question places modality in a slightly broader language system than those of other traditional studies that we have seen in Section 2. SFL sees modality as closely linked to the speech functional aspect of language, which is presented in Table 4. In the SFL model, the system of MOOD[5] incorporates the contributing resources involved in the realisation of various types of interpersonal meanings. In this regard, modality is defined in relation to the realisation of 'the most fundamental types of speech role': giving and demanding, with the two types of the commodity to be exchanged, namely, information and goods-&-services. These four features serve to define the four primary speech functions under proposition and proposal, illustrated in Table 5.

The question then arises as to how we perceive the framework given in Halliday (1985, 1994) and Halliday and Matthiessen (2004, 2014), in other words, how far we can apply the descriptive framework and its notions to the description of Japanese. Here we follow Caffarel et al.'s view (2003) that systemic theory is a resource for construing language as a higher-order semiotic system (p. 16) and that systemic linguistics draws the line between theory and description in such a way that theoretical assumptions are very general and all the categories of particular languages belong to the domain of description. (p. 11). We thus assume that the systemic framework should be applied to the description of Japanese modality as well.

5. Note that the system of MOOD in SFL consists of a set of 'co-systems' (Teruya 2014: 217) such as TENSE, POLARITY, MODALITY and HONORIFICATION.

Table 4. Modalisation and modulation in Japanese (adopted from Teruya (2007))

Commodity exchanged	Speech function			Type of intermediacy		Typical realisation
information	proposition	statement question	moralisation	ability	(in)ability (subject's (in) ability to carry out a process)	[suru] *koto ga dekiru* 'can [do]'
				usuality		[suru] *koto ga aru* 'it sometimes happens [that]'
				probability		[suru] *kamo sirenai* (lit.) 'it is not known whether = maybe'
goods-&-services	proposal	command	modulation	necessity		*nakereba naranai* (lit.) 'unless … does/is = must' [suru] *hitsuyo ga aru* 'there is the necessity [to]' (experiential construral of 'necessity')
				obligation	commonsensical	*bekida* 'ought [to]'
				permission	acceptability	*temoii* 'may [do]'
				expectation	recommendation, expecting	*sureba ii* 'it is good [to]' *sitara/suruto ii 'it* would be nice [to]'
		offer		inclination	inclination, intention	*tsumorida* 'it is intention [that]'

Table 5. Giving or demanding goods-&-services or information (adopted from Halliday and Matthiessen 2014: 136)

	Commodity exchanged	
Role in exchange	**(a) goods-&-services**	**(b) information**
(i) giving	'offer'	'statement'
	Would you like this teapot	He's giving her the teapot
(ii) demanding	'command'	'question'
	Give me this teapot	What is he giving her?

3.3 The semantic domain of modality

The second aspect concerns the semantic domain of modality. As shown above, modality affects the realisation of proposition (proposition and proposal to use SFL terms) at the clause level. The question to be pursued here is how various types of interpersonal meaning potential, in this case, those of modality, are interpreted and classified in individual language systems. In many cases of SFL studies, the fundamental principles and the terms used in the account of modality remains the same. However, when it comes to studies on Japanese modality, including those from traditional Japanese linguistics, what belongs to modality varies according to descriptive models. There are also cases in which the same lexicogrammatical construct is categorized either as mood or modality. Each theoretical approach determines the semantic scope of descriptive models.

In SFL, given the scope of modality referred to as 'the area of meaning that lies between yes and no – the intermediate ground between positive and negative polarity' (Halliday 1994: 356), the transgrammatical patterns realise a wide variety of meanings. In light of this, the types of modality, i.e. modalisation and modulation, are realised with other related systems of ORIENTATION, VALUE, and POLARITY, which are respectively represented in the system networks[6] as in Figure 1.

6. Halliday and Matthiessen (2014: 22) state that 'Structure is the syntagmatic ordering in language patterns, or regularities, in what *goes together with* what. System, by contrast, is ordering on the other axis: patterns in what *could go instead of* what. This is the paradigmatic ordering in language'. As Halliday (2013: 18) puts it, 'The semiotic activity of choosing what to mean can be represented as selecting a path through various networks of systems.'

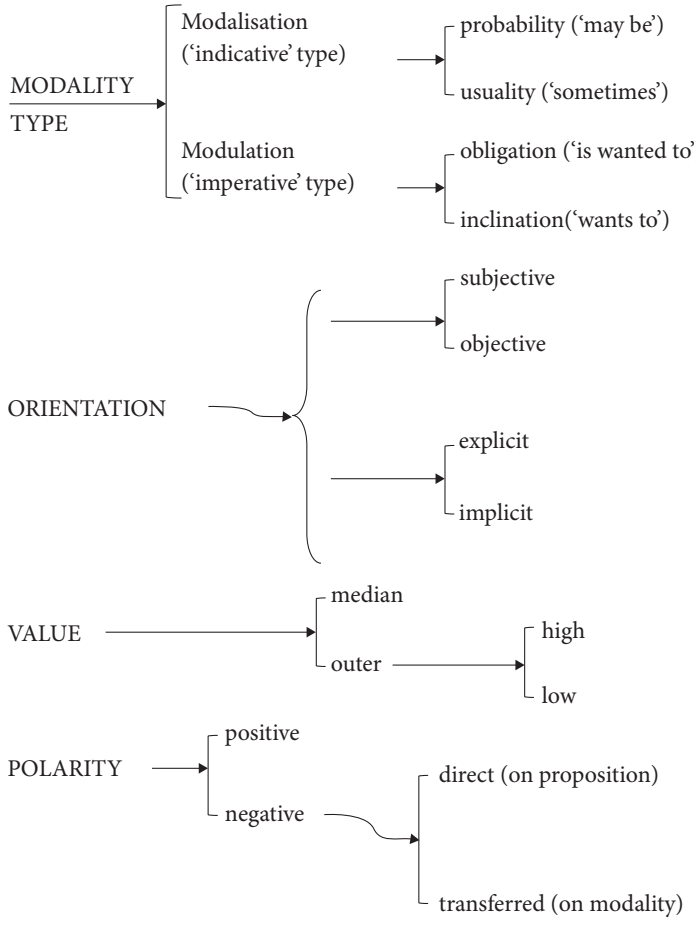

Figure 1. System networks of MODALITY and POLARITY (adopted from Halliday and Matthiessen 2014: 691)[7]

Table 6 illustrates examples generated from the systemic choices from the above network. As mentioned in Section 3.2, the TYPE of modality is distinguished between MODALISATION and MODULATION, each of which has two subtypes of modality, i.e. probability/usuality and obligation/inclination, respectively. The ORIENTATION network determines 'how each type of modality will be realised' (Halliday 1994: 357). It has two sets of variants – i.e. the subjective/objective and the explicit/implicit, all of which 'combine with all four types of modality' (p. 357), but with some gaps (see Table 6). Note also that the modality system in SFL is

7. The systemic conventions used in this paper are shown in Appendix 1, taken from Teruya (2007: xxv), though the proposed networks do not use them exhaustively.

Table 6. Modality: Japanese examples of type and orientation combined

	Subjective: explicit	**Subjective: implicit**	**Objective: implicit**	**Objective: explicit**
Modalization: probability	*Watashi wa kare ga tiikappu o kau to omo*. (I think he buys a tea cup.)	*Kare wa tiikappu o kau kamoshirenai*. (He may buy a tea cup.)	*Kare wa osoraku tiikappu o kau daroo*. (He probably buys a tea cup.)	*Kare ga tiikappu o kau to kangaerareru*. (It's likely that he buys a tea cup.)
Modalization: usuality		*Kare wa tiikappu o kau kotogaaru*. (He tends to buy a tea cup.)	*Kare wa yoku tiikappu o kau*. (He sometimes buy a tea cup.)	*Kare ga tiikappu o kau kotoha yokuaru*. (It is usual for him to buy a tea cup.)
Modulation: obligation	*Watashi wa kare ga iku koto o yookyusuru*. (I want him to go.)	*Kare ga iku beki da*. (He should go.)	*Kare ga iku gimuga aru*. (He's supposed to go.)	*Kare ga iku koto ga kitaisareteiru*. (It is expected that he goes.)
Modulation: inclination		*Kare wa iku tsumorida*. (He'll go.)	*Kare wa iku keshin o suru*. (He's determined to go.)	

designed to expand the meaning potential of the interpersonal function of language by the 'metaphorical' (Halliday and Matthiessen 2014) modes of expression.[8] To express modality explicitly the speaker construes 'the proposition as a projection and encodes the subjectivity (*watashi wa omo*), or the objectivity (*kangaerareru*), in a projecting clause' (see Halliday 1994: 355). However, we have the intermediate cases between the explicit and implicit such as *watashi no kangaedewa* (subjective) and *osoraku* (objective).

The VALUE network is designed to be 'attached to the modal judgement' (Halliday 1994: 358). Median means that 'the negative is freely transferable between the proposition and the modality' (Halliday 1994: 358). With the outer values – i.e. low and high, the negative is not freely transferable between the proposition and the modality. In other words, when the negative is transferred, the value switches from high to low, or from low to high. In order to account for the shifts, Halliday also introduces the POLARITY network. Here, Halliday makes a distinction between positive and negative, and further from the negative a distinction between direct and transferred. Although we have the two types of negative forms, both negatives are negations on the process, as Halliday (1970) states:

8. See Halliday and Matthiessen 2014, Chapter 10, for the concept of grammatical metaphor.

> There is no such thing, therefore, as a negative modality; all modalities are positive. This is natural, since a modality is an assessment of probability, and there is no such thing as a negative probability. A modality may combine, of course, with a thesis which is negative; but the modality itself is not subject to negation – it does not enter the system of polarity, which thus has no place in the modality network.
> (Halliday 1970: 333)

Hence, both (2) and (3) negate the proposition that 'I take part' with the negative adjective *nai* [NEG=negation].

(1) Watashi wa sankasuru tsumori da.
I take part am willing to
'I am willing to take part.'

(2) Watashi wa sanka shi nai tsumori da. [direct negative]
I take part NEG am willing to
'I am willing not to take part.'

(3) Watashi wa sankasuru tsumori wa nai. [transferred negative]
I take part am willing to NEG
'I am not willing to take part.'

Based on the networks of modality systems that include POLARITY in Figure 1 and the many categories of modality, we can now recognise possible realisation patterns of modality. The intention is to systematically mediate between transgrammatical semantic domains (Halliday and Matthiessen 2014; 665), in this case, with a description of Japanese. The subtypes of modality in Table 4 are accounted for later in Sections 4 and 5. This also leads us to consider a third aspect: the range of modal expressions in Japanese. In the following section, we shall focus on the area of modulation and determine how Japanese lexicogrammar organizes its own expressions, more specifically in the area of modulation.

3.4 Modes of expressions in modulation in Japanese

Having discussed the theoretical aspects of modality, we must now examine the modes of expressions of modulation in Japanese, since the range of modal expressions, whether congruent or metaphorical, is closely related to the scope of modality and interpersonal meaning resources.

Table 7 shows three types of modal expressions in Japanese. Generally speaking, the congruent forms are modal auxiliaries or modals (e.g. *beki* (should)), which form the grammaticalised or core type of forms (Type I). The morphologically more complex types such as *nebanaranai, zaruwoenai, teii, hoogaii*, are also referred to as modal expressions and are common in Japanese. Some forms of this type include

the two general words *ii* and *warui* (good and bad), which have a positive and negative polarity, though they represent slightly broader meanings corresponding to *necessity, acceptability* , and *appropriateness* (to use Masuoka's (2007) terms) (see Section 4.2 for further discussion). We refer to these as Type II. Table 6 also includes a set of expressions such as *hitsuyoogaaru* which are metaphorical and take the experiential constructs in SFL terms (see Teruya 2007: 214). Referred to as Type III, these expressions can be included to 'expand the meaning potential of modality' (Halliday and Matthiessen 2014: 699). This treatment is closely linked to the issue on the extent to which a certain framework of modality is expanded to account for what kind of modal meanings.

Table 7. Types of expressions of modulation

	Modes of expression	**Typical expressions**
Type I	modal auxiliary	*beki*
Type II	morphologically more complex	*nakereba naranai* (lit.) 'unless … does/is = must' *temo ii*[9] 'maybe [do]'
Type III	expressed experientially with more explicit lexis for denoting the name of modality type	*hitsuyō ga aru* 'there is the necessity [to]' *atarimae da* 'natural' *kyokasuru* 'allow'

In more explicit lexicogrammatical terms, Teruya (2007: 210) accounts for (i) morphological elements of modes of expressions, but also (ii) the validity of expanding the meaning potential of modality as follows:

(i) downranking
  (a) clause to group/phrase
    [[clause]] ^ *koto* (grammatical item) + 'can do'
    [[*suru*]] *koto ga dekiru* '(lit.) that [[do …]] is able = can [do]'
  (b) clause complex to group/phrase
    [condition] || verbal/adjectival
    [*si*] *nakereba naranai*: [*si*] *nakereba* || *-naranai* 'must [do]'
    [*site*] *mo ii*: [*site*] *mo* || *ii* 'it is OK. [to do]'
(ii) embedding: [[an embedded clause]] + a noun
    [[*suru*]] *soo /mitai / hazu / tame / sei da*
    '[[clause]] seem to / appear to / supposed to / sake / because'

9. Note that *i*-adjective *ii* (good) in Type II bears more general meanings than its ordinary sense.

The compositional hierarchy (known as the rank scale) (Teruya 2007: 19) is at stake here. Downranking in (i) is where 'an item of the unit of rank is downranked to the rank below its original rank, i.e. from clause to group/phrase' (Teruya 2007: 37). In (a), a clause is downranked into a group by *koto* (known as a formal noun or a nominaliser in traditional Japanese grammar) and combined with *dekiru* ('can do') (Teruya 2007: 37). In (b), negative conditionals are included in the combinations between negative conditional/informal variant 'if not' (*nakereba*) and second negative 'it won't do'/'it's no good' (*naranai*) (Kaiser et al. 2001: 451). These lexicogrammatical constructs are widely used to form modal expressions as a group in Japanese, though usually the conjunctive particles indicating condition are used in the 'if…then…' construction separated by the two clauses/sentences. In (ii), a clause is downranked into a group modifying a noun. As such, Japanese modal endings/expressions in a sense have some characteristic morphosyntactic patterns.

We may then elaborate on the framework in terms of the grammatical and lexical scales, as shown in Table 8. Apart from Type I, which is fully grammaticalised as a modal auxiliary, Types II and III have various lexicogrammatical elements. Type II is a composite of complex features such as a negative adjective (*nai*), a grammatical form (*koto* as a formal noun), and core lexis (*dekiru* ('is able'), *ii* ('good'), *warui* ('bad'), etc.). Moving further towards the lexical end of the lexicogrammatical cline, lexically more explicit or salient expressions are found in Types III and IV. Type V forms clause complex in projection, which in SFL fall into a set of metaphorical modes of expressions.

The recognition of Types III, IV and V serves as a step further and has the potential to incorporate modal meanings from a broader perspective. This, as we can see, is a departure from traditional morphology-based approaches to modality, though we can find a similar approach in the account of English modal expressions in more traditional terms. In this regard, Perkins (1983: 104–5) makes essential

Table 8. Types of modulation forms

I	II	III	IV	V
Modal auxiliaries	downranking clause complex to group/ phrase	downranking clause to group/phrase	embedding	Clause complex
	[proposition to/reba/ tara||ADJ/V]	[*surukoto ga* N *da*]	[*suru* N *da*]	[*o/to* V]
beki da ('should')	*si nakereba nara nai* ('must do') *site mo ii* ('it is OK. to do')	*suru hitsuyoo ga aru* ('have an obligation to do') *surukoto ga hitsuyoo da* ('it is necessary to do') *surukoto ga nozomasii* (' it is desirable to do')	*hazu da* ('supposed to')	*surukoto o nozomu* ('expect to do')

Note: N=noun, ADJ=adjective, V=verb

comments on the use of auxiliary and non-auxiliary modal expressions in English as follow:

> Lyons (personal communication) suggests that 'the more fully something is grammaticalized rather than lexicalized and integrated with the syntax in terms of government and agreement, the more central it is in the system'. Thus it would appear that the modal auxiliaries are indeed more 'central' in English than non-auxiliary modal expressions, which tend to be realized lexically, and are thus grammatically more peripheral.

Although English and Japanese have different lexicogrammatical systems, the underlying principle suggested above is similar across languages. Generally, the more lexically free for modification, the more space for expanding the delicacy to express finer senses of modality. The semantic domain of modality is thus realised in different forms in the grammar; for example, in English, *I want you to do …, you should do …, you're required to do …, It's expected that you do …*. In this respect, we incorporate Type V expressions to account for language use from the point of the interpersonal function of language. The inclusion of metaphorical expressions can provide more delicate interpersonal meanings imbued in their lexicogrammatical structure.

This principle is also applicable to the use of Japanese markers of modulation. The morphologically complex construction type, i.e. Type II, is more common than those of Type I in the realisation of Japanese modal meanings. Type III is used to convey more explicit and finer modal meanings, though Japanese may have distinctive structures. Generally speaking, while English has a more grammaticalised group of expressions of Type I, i.e. modal auxiliaries, Japanese has a wider variety of TYPE II markers for modality, i.e. expressions consisting of morphologically complex units. Compared to English, Japanese has different lexicogrammatical patterns to make modal meanings. While English mainly uses modal verbs (Type I) as congruent and other patterns of structural realisation of Type III as metaphorical, Japanese uses mainly Type II expressions with Type III variations. In Japanese, the number of Type I variations, i.e. (modal) auxiliaries, is quite limited. As pointed out in Masuoka (2007), this is partly because the expressions in Type II serve as a norm with a sense of good and bad as in *surebaii, shinaihogaii*, together with positive and negative polarity choices.

3.5 Summary

As Caffarel et al. (2003: 16) state, 'Systemic theory is a resource for construing language as a higher-order semiotic system'. Systemic Functional Grammar (SFG) is, in principle, applicable to an analysis of a wide variety of language systems, hence the system of modality. In this section, we have very briefly examined the scope or the definition of modality, the semantic domain in which the modality system

is involved and the range of expressions that realises modality. We see that the system of modality in SFL is designed to account for the indeterminate semantic area, negotiating with other systems such as those of MOOD and speech function and making the whole interpersonal metafunctional meaning potentials most resourceful for language users. What is noticeable is that the account of modality is integrated into the larger language system of MOOD as a whole. In this sense, the views of previous studies on mood and modality examined in Section 2.2 can be complemented with SFL perspectives in respect of a text analysis and individual approaches can supplement each other. It should be noted too that further empirical investigation still seems to be necessary in Japanese in terms of descriptive work, which is now the main task of the following section.

4. Modulation

4.1 Descriptive framework of modulation

We are now in a position to investigate the modulation system in Japanese in more detail. As Teruya (2014: 214) comments, the systemic functional accounts of Japanese in general are still 'in the early pre-systemic stage'. This also reinforces the need to empirically account for two pressing issues. One is theoretical and the other terminological, both being closely interrelated. Notably, since the theoretical framework and terminology were originally generated through the analysis against the empirical data in English,[10] the systemic functional theories and descriptions need scrutinising in the contexts of individual languages.

The focus in this respect is the extent to which the current theoretical framework and concepts can be applied to the analysis of Japanese and traditional Japanese studies can offer some contributing findings. In this study, following Caffarel et al.'s view (2003) of the systemic theory as a resource for construing language as a higher-order semiotic system, we shall explore how an SFL approach can describe the meaning potential of Japanese modulation.

To this end, Sections 4.2 to 4.4 further examine modulation in Japanese, i.e. the notions of obligation and inclination, including insights from Japanese traditional linguistics that capture important characteristics of Japanese (Masuoka 2007). We also affix the systems of SUBJECT PRESUMPTION and SUBJECT PERSON, as the choice of these features contribute to the determination of modal meanings. We then postulate a working framework of system networks of modulation in Japanese.

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10. We are aware that the increasing number of typological and multilingual studies have been undertaken (Matthiessen 2004, Matthiessen et al. 2008).

Finally, in the subsequent Sections 4.4 and 4.5, we elaborate how the working framework systematically accounts for modulation in Japanese, which is the main aim of the present study.

4.2 The concept of modulation

For the sake of clarity, let us first summarise some terminological differences in modulation, including the variants of SFL work, as in Table 9. We can state that event modality (i.e. deontic and dynamic modalities) (Palmer 2001) is generic in that it incorporates the other categories. Roughly speaking, modulation and its subcategories in SFL (Halliday 1970; Halliday 1985, 1994; Halliday and Matthiessen, 2004, 2014) correspond to Palmer's terms. Eggins and Slade (1997) use the terms obligation and inclination to cover individual instances in English, including permission, for example.

Table 9. Categories of modulation

event modality (Palmer 2001)				
deontic modality permissive, obligative, commissive				*dynamic modality* volitive, abilitive
modulation (Halliday 1970)				
committed/passive permission, necessity (obligation, compulsion)				uncommitted/active inclination, ability
modulation (Halliday 1985, 1994: Halliday and Matthiessen, 2004, 2014)				
obligation				*inclination*
modulation (Eggins and Slade 1997)				
obligation				*inclination*
event modality (Sawada 2014)				
deontic modality				*dynamic modality*
modulation (Teruya 2007)				
hitsuyoo *necessity*	*gimu* *obligation*	*kyoka* *permission*	*kitai* *expectation*	**sikoosei** *inclination*
evaluative judgement[11] (Masuoka 2007)				
hitsuyoo rui [necessity-type]		*yoonin/hiyoonin rui* [acceptability-type]	*tekitoo rui* [appropriateness-type]	

Sawada (2014) adopts Palmer's terms, though the extent to which the framework can be applied to Japanese may require further investigation. Masuoka (2007) also presents categories that are distinctive from others and are intended to account for

11. Adachi (2002) uses the term evaluative modality.

a deontic dimension under evaluative judgement. It should also be noted here that while the term 'obligation' has been used in recent SFL writings since Halliday's (1970, 1985) work, Teruya (2007), dealing with Japanese language, uses five types of modulation, including the category of inclination.

It remains unclear how the terms of obligation and inclination including the variants in different descriptions should be accounted for. A crucial question then is how these terms can be interpreted with respect to Japanese language.

Let us start with the account of traditional Japanese studies. Masuoka (2007) uses the term 'evaluative modality' to describe meanings in this semantic domain (Masuoka 2007, Adachi 2002, Nitta 2009). Masuoka (2007) points out that the deontic sense may not apply to Japanese modality. Instead, he postulates evaluative modality in which the concept of 'desirability' serves as a semiotic norm which affects our course of action. Thus, in Japanese, we make a judgement whether it would be good or desirable to perform an assumed action or worth imposing such an action on others. From this point of view, Masuoka (2007) postulates three features to categorise modal expressions, i.e. *necessity*, *acceptability*, *appropriateness*, which the desirability of our action underlies.

Masuoka's *hitsuyoo-rui* ('necessity-type'), for example, includes necessity ('*hitsuyoo (sei)*' and obligation ('*gimu (sei)*' .The former is 'what must be done by all means'. The latter is 'something that is required by norms such as morals and law, or the duty that people must do according to their position'. Teruya (2007) refers to *gimu* as something commonsensical, or something that is legally or formally to be done. The [acceptability] ('*yoonin*') -type includes the feature permission which is realised by expressions such as *site ii, sitemo ii* (*can* and *may*). The third feature [appropriateness] ('*tekitoo*')-type realises the meaning of expectation/*kitaisei*, which has a variety of expressions such as *sitemo ii*, *sitara ii, suruto ii, sureba ii, sitahooga ii*. In Teruya's (2007) classification, *recommending* and *expecting* are subsumed under the term expectation. In the meaning of expectation ('*kitaisei*'), it is safe to say that there is little or no indication of the involvement of the speaker but the speaker advises the relevant addressee of his/her best course of action, based on the appropriateness of the event. Hence, in this sense, the speaker expects something to happen based on the judgement he makes. If the speaker sees that s/he is ready, the speaker is likely to recommend him/her to do something. If not, the speaker only expects or wishes the event to happen for the course of action.

The modal meanings found in Masuoka (2007) also have been widely studied in Moriyama and Matsuki (1989), Takanashi (1995, 2002), Niwa (1991) and Amemiya (2000) (to mention only a few). It should also be pointed out that evidential modality and explanative mood or modality are included under appropriateness, though, in fact, this type has a rather broader semantic domain than that of deontic modality in other languages, as modal expressions such as *noda, monoda, kotoda*, those

belonging to evidential modality (hence, propositional modality, in Palmer's term), are included.

In this respect, the sense of evaluation plays a part when making a judgement either epistemically or deontically in Japanese. Moreover, if a speaker chooses to invoke or take a particular social action, this means that s/he makes a judgement about the relevant addressee's participation in the event. It has been widely acknowledged that modality is inherently subjective and the nature of Japanese modality (i.e. epistemic and evaluative modalities) may suggest that Japanese language is more epistemically-oriented than English which is more deontically-oriented, as indicated in many accounts on modality in Japanese (Kurotaki 2005, Masuoka 2007)

Masuoka's (2007) also comments on the scope of deontic modality with respect to that of modality of judgement of values (Masuoka 2007) in Japanese and questions whether the two types of modality can serve to fully account for the semantic domain in Japanese. The main tenet of Masuoka's view on the characteristic nature of Japanese modality is that modality in Japanese, like many languages, is intrinsically/inherently epistemic-oriented, which is the nature of modality itself. Also in Japanese, expressions of modulation vary in lexicogrammatical terms. As is widely recognised, Japanese modulation does not have a group of grammaticalised expressions like English modals, but instead has a range of morphologically or lexicogrammatically varied compound units such as *sinakutehaikenai, surebaii* and *surutsumorida*. In this sense, Japanese is said to be an *ikei*-type language,[12] while English a *dookei*-type language.[13] Then in modulation when the judgement by the speaker is oriented towards the qualification of the action to be taken, rather than the probability or the usuality of the proposition, the modulation meaning is likely to be generated.

Narrog (2012: 124) also comments on the morphosyntactic nature of modal markers in Japanese and the directionality of change from, say, propositional to/from event modality:

> Modern Japanese has a variety of markers for modality, and it has a few markers that cover both volitive and non-volitive meanings, but there is not a single historically documented case of a deontic marker that has acquired an epistemic function. Thus, the scenario 'from deontic to epistemic' is not very meaningful if Japanese modality is approached from a historical perspective. [Narrog 2012: 124]

12. Japanese modal expressions, especially those of modulation, are compound forms that consist of agglutinated forms, which are grammatically distinguished from a more grammaticalised group of expressions like modal verbs in English, for example.

13. In English, the semantic domain of modality is realised mainly by the use of modal auxiliaries, and the same and fully grammaticalised form such as *must* and *may* can realise epistemic and deontic meanings.

Similar comments are also found in other studies (Masuoka 2007 and Kurotaki 2005, to mention only a few).

These comments made on the Japanese language is insightful. The critical question then is how we clarify the categories of SFL work in Table 9.

We will reserve the concept of desirability underlying three types of evaluative modality in Masuoka (2007) for something as a socio-cultural norm underlying our semiotic activities and recognise evaluative modality at the exchange of goods-&-services. This also means the exclusion of the explanative mood/modality and evidential modality from modulation. However, this would require the modification or reinterpretation of Masuaoka's original term which we prefer to avoid. Instead, we acknowledge that the use of obligation indicates the realisation of meaning types of obligation, only when the modulated proposals based on the norm of desirability. We maintain the SFL terms that are capable of applying the underlying socio-cultural norm of desirability when we identify the modal meaning in a given utterance, and, given the subtypes of obligation, we can apply the criterion that we realize a modulated proposal of obligation when we exchange goods-&-services intended to impose an action on someone else. In this sense, we recognise some distinguishing features of Japanese language and culture and its underlying effect on the treatment of modulation, i.e. obligation.

With regard to the terminology, we are to use the feature obligation as a more general term and create a less specific term obligatory representing *gimu* (implying some commonsensical, legal or ethical senses) in Japanese and apply a multi-system contrast network. Hence, the feature obligation is a primary choice subsuming other features such as permission and necessity, as shown in Table 9. This solution can avoid the terminological problem with the use of obligation, which causes the difference in the degree of delicacy otherwise.

In the present study, we assume our position, including the treatment of inclination, as an alternative to other non-SFL descriptions in terms of modal categories in Table 9.

Now we postulate the following system network for modulation in Japanese (see Figure 2).

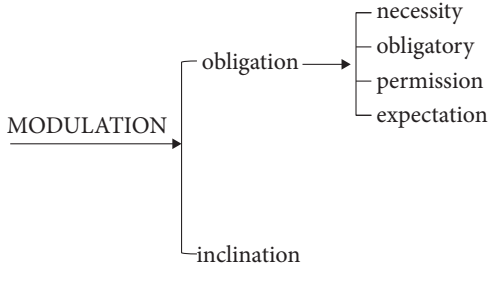

Figure 2. Modulation in Japanese

4.3 Systems of SUBJECT PRESUMPTION and SUBJECT PERSON

Here we give a brief account of the systems of SUBJECT PRESUMPTION (see Figure 3) and SUBJECT PERSON (see Figure 4) in Japanese, which are interrelated to determine a meaning of modality, here, of modulation. So far we have dealt with the realisation of modality by assuming that those systems generate optimal choices in respect to the speaker's intended meaning in interaction. We cannot determine the modal meaning irrespective of the contextual features and relevant realisational lexicogrammatical properties. What is important is that the agent of modulation is the speaker her/himself or someone else (Halliday 1970: 349). For example, the speaker is the Agent (Teruya 2007: 286) and *Anata* (=addressee) is the Actor in (4), while in (5) and (6), someone else may be the Agent. In (6), however, if the speaker voluntarily offers a 'goods-&-services', the meaning can be inclination, which may be probabilistically limited. In fact, Halliday (1984: 87) includes *I must win!* in inclination as related to the speech function of 'offer'. *Must* in English may have a different connotation from *beki* in Japanese, as *must* is defined in LDCE as '(especially British English spoken) used to say that you intend or want to do something'. We can, however, provide an illustrative example in Japanese as in (7).

(4) Anata wa iku beki da.
You TH go should.
'You should go.'

(5) Watashi wa iku beki da.
I TH go should
'I should go.'

(6) Kanojo wa iku tsumorida.
I TH go intend to
'She intends to go.'

(7) Watashi wa kataneba naranai!
I TH win must.
'I must win!.'

The point to be made here is that the modal meaning cannot be determined irrespective of other lexicogrammatical systems, let alone the contextual features in interaction. Examples 4 to 7 show that the SUBJECT PERSON system is obviously involved in the determination of the meanings. We need to relate other systems of lexicogrammatical components to the specification of meaning choices. For the sake of reference, we share the following system networks and actually we use them in the account of obligation and inclination in Sections 4.4 and 4.5.

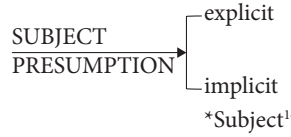

Figure 3. The system of SUBJECT PRESUMPTION (Teruya 2007: 171)

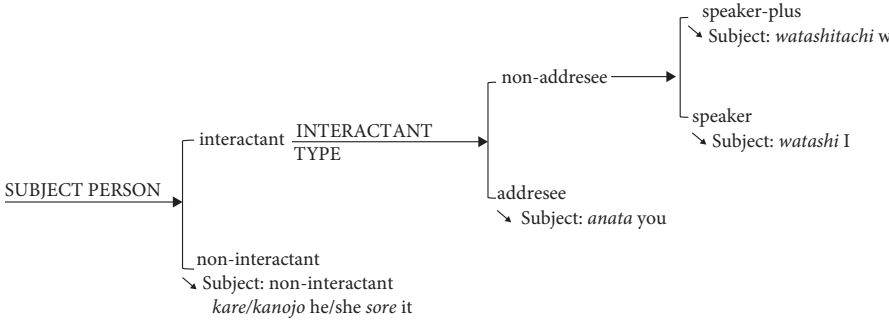

Figure 4. The system of SUBJECT PERSON (Teruya 2007: 171)

4.4 Obligation

Given the core framework of modality, we first clarify the subtypes of obligation (Section 4.4) and inclination (Section 4.5) with some realisational patterns. In each section, we also investigate the transgrammatical semantic domains in relation to modulation. This refers to how the generated lexicogrammatical patterns from the system networks contribute to the expansion of semantic domains of modulation and how they are systematised to contribute to the realisation of speech function for negotiation (Halliday and Matthiessen 2014: 705), with a view to the way other related systems are interrelated to each other. Finally, we illustrate the possible systemic choices with some examples of realisations.

4.4.1 *Subtypes of obligation*

We recognise four types of obligation with further distinctive features incorporated in obligatory (i.e. 'social' and 'commonsensical') and expectation (i.e. 'recommending' and 'expecting') (see Table 10). We have also discussed earlier and confirmed that the underlying categories of necessity, acceptance and appropriateness posited by Masuoka (2007) can correspond to those applied in the present study. Here we will clarify the concept of obligation in terms of lexical notions.

Let us examine the four meaning types: necessity (*hitsuyoo*), obligatory (*gimu*), permission (*kyoka*) and expectation (*kitai*). The first two fall within Masuoka's

14. In Japanese, the unmarked choice of the Subject is implicit, unless we need to state it from the contexts.

(2007) necessity type. Permission corresponds to the acceptance type and expectation to the appropriateness type. To scrutinize the concept, we consider how these notions are treated in lexical terms.

According to the classification of Ono (1981), the four categories as in Table 10 derive from different meaning areas: 'good', 'demand' and 'mind'. Necessity (*hitsuyoo*) subsumes under the higher category of value, suggesting something worthwhile or useful, or something you cannot do anything without. This sense of necessity is realised in the clause. The imposer understands his/her position and the situation in which a social act is to be performed, and impose the addressee/performer on the act with some type of modulated meaning.

The meaning of obligatory (*gimu*), which seems similar to necessity, comes from a slightly different meaning area, demanding (*yookyu*). In this case, the deontic source is the law, rules (social or moral) and ethics. As Table 10 shows, adopting Teruya's (2007: 214) notions, we have the features, social and commonsensical: the former referring to the legal, social rules, the latter to moral or commonsense norms. However, the distinction made here may not necessarily be distinctive in realisation forms listed in Table 10. The realisation of those meanings may depend on the contextual features as well.

Interestingly enough, permission (*kyoka*) also falls under the same category as obligation. In this case, the person asks the speaker for permission about what the person wants to do, because s/he knows that if the speaker did not say that the speaker doesn't want the person to do what he or she want to do, the person cannot perform the action. In this case, the act of requesting comes, in a sense, from the person in question, not the speaker who can give the permission. When Halliday and Matthiessen (2014: 583) refer to permission as 'the speaker's judgement of obligation', the interactive nature of permission giving process, indicating a sense of asking for something and acknowledging a request, may be implied in their explanation.

Table 10. The lexical analysis of obligation in Japanese

Necessity (*hitsuyoo*) **(grouped under 'good')**	**Obligatory (*gimu*)** **(grouped under 'demand')**
something you need to have, because you cannot do something without it; something essential *deontic source=social situation	something you have to do or obey according to the law, rules (social or moral) and ethics: something to be complied *deontic source=laws
Expectation (*kitai*) **(grouped under 'mind')**	**Permission (*kyoka*)** **(grouped under 'demand')**
expect [someone to do something] *deontic source=imposer cf. I expect to do …	When someone lets you to do something that someone wants to do but they cannot do it unless a permission giver's permission *deontic source=giver

Finally, the meaning of expectation (*kitai*) is grouped under the general meaning of inclination (i.e. a feeling that makes you want to do something, or a tendency to think or behave in a particular way, to use definitions from LDCE). Here the meaning expectation in an obligatory sense requires clarification when categorised under obligation, since expectation works in two different manifestations, one in obligation and the other in inclination (as one of the modulation types). A meaning of obligation tends to be realised when the speaker expects someone to do something leading to a command type of proposal. Conversely, inclination, as our modulation type, occurs when the speaker expects to do something leading to an offer type of proposal. We include the later type of expectation as inclination.

As the speaker's imposition on the action to be performed by the relevant addressee becomes more indirect, the intended meaning tends to focus on the appropriateness of the action. Hence, the speaker is likely to shift from imposing the action directly on the addressee to expecting or recommending an action more indirectly.

Table 11 shows subtypes of obligation and its forms of realisation with a relevant underlying speech function to which this type of modality is typically related. As shown in Example (7) in Section 4.3, we should also note that the meaning of some expressions such as *nakerebanaranai* may not be determined irrespective of the choices of SUBJECT PRESUMPTION and SUBJECT PERSON and also the contextual features of the utterance. Some expressions may occur in different meaning areas. See Table 8 for the expression types I–V.

We can see the following from the above analysis:

1. The present study uses the term obligation as an umbrella term (Eggins and Slade 1997; 102). The four types of modulation of obligation are set up here: necessity, obligatory, permission, expectation.
2. In SFL, the obligation meaning is treated as that contributes to the exchange of goods-&-services type conforming as a proposal, which further contributes to the realisation of a speech function of command.
3. In light of this, the underlying speech function, i.e. a command, provides a typical lexicogrammatical environment where the imperative type of modulation, i.e. obligation, is typically realised. We can see in the account of obligation in the above that the speaker imposes on someone (typically addressee) a certain act, or lets him/her to perform an act. The typical lexicogrammatical constructs are recognised in the realisation of certain types of obligation meanings added to the proposal of the clause.
4. As seen in Section 4.3, the determination of modal meanings depends not only on the lexical features of realisation forms, but also on how a modal proposal is formed under the system of speech function, let alone other lexicogrammatical patterns such as tense, aspect, process type, the system of SUBJECT PERSON in the clause.

Table 11. Systemic choices and expressions of obligation in Japanese

Speech function	Obligation ('be wanted to')	Forms of realisation
command (proposal)	**necessity**	Type II *zaruoenai* ('can not but') *sika nai* ('have no choice but [to]') *niwa oyobanai* ('no need [to]') *yorisikataga nai* ('have no option but [to]') *nihokanaranai* ('nothing but [to]') Type III *hitsuyoo ga aru* 'there is the necessity [to]' *gimu ga aru* 'obligation exists' *fukaketsu da* 'indispensable' *atarimae da* 'natural' *tōzen da* 'reasonable'
	obligatory social	Type I *beki da* ('should')
	obligatory commonsensical	Type II *nakereba/[si]nakutewa naranai* ('must [do]: (lit.) unless… does/is') *nebanaranu* ('have to') *nakereba ikenai/dameda* ('must [do]: (lit.) unless…is not good') Type III *gimu da* ('it is a duty [to]') *sekinin ga aru* ('you have an responsibility [to]') *atari mae da* ('it is natural')
	permission	Type II *te ii* ('may') *to/te (mo) ii* ('may') *te(mo)/kamawanai* Type III *kyoka suru* ('allow') *kinsi suru* ('prohibit')
	expectation recommending	Type II *reba ii* 'it is good [to]' *tara/to ii* 'it would be nice [to]' *hoo ga ii* 'it would be better [to]' Type V kitai suru ('expect to')
	expectation expecting	

5. A speech function can be performed in an unmodalised proposal. The main difference is that with the presence of modal proposition or proposal we can create a semantic indeterminacy by which the speaker can expand the meaning potential. That may be to make an indirect command or a positive offer, for example.

4.4.2 *Semantic domains of obligation and realisational patterns*

In this section, we attempt to further specify the semantic domains of obligation from the following aspects. First, to clarify how the concept of obligation is perceived in the description of Japanese, we elaborate on some discernible features to distinguish between subtypes of obligation, i.e. necessity, obligatory, permission and expectation in Japanese. We assume that we regard an SFG-based framework as a theoretical model used for the description of multiple languages. Second, we also illustrate how lexicogrammatical realisation patterns are interpreted in relation to the expansion of meaning potential in text (Halliday and Matthiessen 2014: 699) with some agnate variants in transgrammatical semantic domains in modulation in Japanese.

Tables 12 and 13 demonstrate how subtypes of obligation are realised in relation to other interpersonal systems of Japanese and how some agnate variants are metaphorically realised with reference to ideational metafunction systems.

Seen from the MOOD system as a whole, the interpersonal meanings realised converge towards the negotiation in meaning to exchange messages, whether they are modalised or not. The Mood system plays a role in forming messages into exchange and the system of modality creates the intermediate semantic space between 'yes' and 'no' where a clause of indicative mood is somehow modalised or modulated for the contribution to the realisation of speech function. We will not go into detail regarding how the systems of mood and modality expand the meaning potential in terms of modulation, so Table 12 is still incomplete but explains partly the importance of the interplay of contributing interpersonal systems in Japanese, which, compared with English, still remains unexplored. We also note here the explicit subjective and objective dimensions in obligation. As Table 13 shows, the

Table 12. Obligation with other lexicogrammatical systems (congruent)

Realisation examples [politeness:unmarked]	Metafunction			
	Interpersonal			Experiential
	Speech function: Command			
	Proposal			
	Types of Mood: indicative / imperative	Modality Types: Modulation: Obligation: [necessity][obligatory] [permission] [expectation]	Subject, Subject Person, Tense, Polarity, Negotiator	
1. Anata ga ike. [Go.]	imperative		[ex][addresse][np][pos]	material
2. Anata wa ika nakerebanaranai. [You must go.]	indicative	necessity	[ex][addresse][np][pos]	material
3. Anata wa ikku bekida yo. [You should go.]	indicative	obligatory	[ex][addresse][np][pos][ng]	material
4. Anata wa itte ii. [You may go.]	indicative	permission	[ex][addresse][np][pos]	material
5. Anata wa itta hoo ga ii. [You had better go.]	indicative	expectation	[ex][addresse][np][pos]	material
6. Anata wa ikuna [Don't go.]	imperative		[ex][addresse][np][neg]	material

[ex]=subject:explicit, [addresse]=Subject Person:addressee, [np]=Tense:nonpast, [pos]=Polarity:positive
[neg]=Polarity:negative, [im]=subject:implicit, [ng]=Negotiator:insistence

Table 13. Obligation with other lexicogrammatical systems (metaphorical)

Realisation examples [politeness:unmarked]	Metafunction			
	Interpersonal			
	Speech function: Command			Experiential
	Proposal			
	Types of Mood: indicative / imperative	Modality Types: Modulation: Obligation	Subject, Subject Person, Tense, Polarity, Negotiator	Process Type
1. Watashi wa anata ga ikkukoto o kiboosuru. [I want you to go.]				
β 'anata ga ikkukoto o [projected proposal]		*β* expectation	*β* '[ex][speaker][pos]	*β* 'material ('go')
α Watashi wa … kiboosuru. [verbal process: desiderative]	*α* indicative		*α* [ex][addresse][np][pos] (subjective)	*α* verbal: desiderative ('want')
2. Anata ga ikkukoto ga kitaisareru [It's expected that you go.]				
β 'Anata ga ikkukoto ga [projected proposal]		*β* expectation	*β* '[ex] [addresse] [pos]	*β* 'material ('go')
α kitaisareru. [verbal process: desiderative]	*α* indicative		*α* [im] [np][pos] (objective)	*α* verbal: desiderative ('expect')

[exp]=explicit, [sub]=subjective

=interpersonal metaphor

projecting clauses in the shaded areas indicate an expanded metaphorical clauses. Though the lexigogrammatical patterns may vary across languages, a further descriptive follow-up should be needed for Japanese in general from the perspectives of SFL.

4.4.3 *Selected examples of the relevant systemic choices*

As we set out the relevant system networks as in Appendix 2, we can present some illustrative examples of subtypes of obligation. The list of morphological notations, i.e. OBL = obligation, NEC = necessity, PER = permission, NEG = negation, NOM = nominative, ACC = accusative, fml = formal, is shown in A–D.

A. [subjective][implicit]

(8) a. *Kenkootekina tabemono wo taberu beki da.*
healthy food ACC eat-OBL
'You should eat healthy food.'

b. *Dameninatta tabemono wo taberu beki dehanai.*[15]
rotten food ACC eat-NEG-OBL
'You should not eat rotten food.'

B. [objective][implicit]

(9) a. *Kenkootekina tabemono wo taberu hitsuyoo ga aru.*
healthy food ACC eat-NEC
'You are required to eat healthy food.'

15. The common negative form of *beki da* is *bekideha nai*. The other form *nai bekida* is not a preferred choice in Japanese.

b. *Dameninatta tabemono wo tabenai koto ga hitsuyoo da.*
rotten food ACC eat-NEG-NEC
'You are required to not eat healthy food.'

c. *Dameninatta tabemono wo tabenai koto ga hitsuyoo da.*
rotten food ACC eat-NEG-NEC
'You are not required to eat healthy food.'

(10) a. *Kenkootekina tabemono wo tabeta hooga ii.*
healthy food ACC eat-better-EXP-REC
'It is good to eat healthy food.

b. *Dameninatta tabemono wo tabenai hooga ii.*
rotten food ACC eat-NEG-better-EXP-REC
'It is good to not eat healthy food.

c. *Dameninatta tabemono wo taberuto yokunai.*
rotten food ACC eat-EXP-REC-good-NEG
'It is not good to eat healthy food.

(11) a. *Kenkootekina tabemono wo tabete ii.*
healthy food ACC eat-PER
'You are allowed to eat healthy food.'

b. *Dameninatta tabemono wo tabenakutemo ii.*
rotten food ACC eat-NEG-all right-PER
'You are allowed to not eat healthy food.'

c. *Dameninatta tabemono wo tabeteha ikenai.*
rotten food ACC eat-PER-good-NEG-PER
'You are not allowed to eat healthy food.'

C. [subjective][explicit]

(12) a. *Watasi wa anata ga kenkootekina tabemono wo*
I TH you NOM healthy food ACC
taberukoto wo yookyusuru.
eat-NEC-require
'I require you to eat healthy food.'

b. *Watasi wa anata ga kenkootekina tabemono wo*
I TH you NOM healthy food ACC
tabenaikoto wo yookyusuru.
eat-NEG-NEC-require
'I require you to not eat healthy food.'

c. *Watasi wa anata ga kenkootekina tabemono wo*
I TH you NOM healthy food ACC
taberukoto wo yookyuusinai.
eat-NEC-NEG-require
'I do not require you to eat healthy food.'

(13) a. *Watasi wa anata ga kenkootekina tabemono wo*
I TH you NOM healthy food ACC
taberukoto wo susumemasu.
eat-EXP-recommend-fml
'I recommend that you to eat healthy food.'

b. *Watasi wa anata ga kenkootekina tabemono wo*
I TH you NOM unhealthy food ACC
tabenaikoto wo susumemasu.
eat-NEG-EXP-recommend
'I recommend that you not eat healthy food.'

c. *Watasi wa anata ga kenkootekina tabemono wo*
I TH you NOM unhealthy food ACC
taberunaikoto wo susumemasen.
eat-EXP-NEG-recommend
'I do not recommend that you eat healthy food.'

(14) a. *Watasi wa anata ga niku wo taberukoto wo kyokasimasu.*
I TH you NOM meat ACC eat-EXP-recommend-fml
'I give you permission to eat healthy food.'

b. *Watasi wa anata ga niku wo tabenaikoto wo kyokasimasu.*
I TH you NOM meat ACC eat-NEG-EXP-recommend-fml
'I give you permission to not eat meat.'

c. *Watasi wa anata ga niku wo taberukoto wo kyokasimasen.*
I TH you NOM meat ACC eat-NEG-PER-recommend-fml
'I do not give you permission to eat meat.'

D. [objective][explicit]

(15) a. *Kuruma ni notteiru zenin-ga sītoberuto wo tyakuyoosurukoto*
in the car everyone NOM seat belts ACC fasten
ga gimutdukerareteiru.
NOM mandatory-OBL
'It is mandatory for everyone to fasten their seat belts when in the car.'

b. *Kuruma ni notteiru hito ga siitoberuto wo tyakuyoosinaikoto- wa*
in the car us NOM seat belts ACC fasten-NEG TH
gimutdukerareteiru.
mandatory-OBL
'It is mandatory not to unfasten the seat belts when in the car.'

c. *kuruma ni notteiru hito ga sītoberuto wo tyakuyoosurukoto wa*
in the car us NOM seat belts ACC fasten TH
gimutdukerareteinai.
mandatory-NEG-OBL
'It is not mandatory in this area to fasten the seat belts when in the car.'

4.5 Inclination

4.5.1 *Subtypes of inclination and forms of realisation*

The notion of inclination is glossed as 'want to' in IFG (Halliday 1985, 1994: Halliday and Matthiessen 2004, 2014). Teruya (2007) also notes two features, i.e. inclination and intention. Although English and Japanese have different lexicogrammatical structures, we assume to a certain extent that the notion of inclination proposed here can serve as the primary choice of the two distinctive features (i.e. obligation and inclination).

Inclination in general terms can refer to a person's natural tendency or urge to act or feel in a particular way. What we do with inclination in communication is to express what we would like or are inclined to do in a modal proposal to realise a speech function of an offer. In Ono (1981), inclination (*shikosei*) in Japanese is defined as an intention, including a feeling or desire to do something. Yamaguchi (2003) and Shibata et al. (2002) have features such as a mind, an intention and willingness to do something. Here, we define the underlying meaning of inclination as 'having a mind or an intention to do something'. The feature intention here refers to a plan or desire to do something. In our framework, we further set up finer choices to refer to the speaker's intention or the emotional state, i.e. the features of intention and *willingness* (with some emotional state). The inclination modulations can then be realised through expressions in Table 14. See Table 8 for the expression types I–V. We can then add the features intention and willingness to the system network in Figure 2.

The intention may be further distinguished between *decision* and *plan*. In this case the former expresses a straightforward or instant decision to do something, while the latter, i.e. plan, expresses, by the use of *siyoo* ('will do') or with the mental verb *omoo*/think, as in *siyotoomoo*, the decision which has already been made, usually in the presence of the addressee(s) to which the message is conveyed (Masuoka 2007: 164).[16] Nihongo Kijyutsu Bunpo Kenkyu Kai (*ed.*) (2003: 59) also refers to the expressions *tsumorida* and *siyotoomotteiru* as a plan which has already been made before the speaker expresses his/her intention to do something. We acknowledge that the semantic domain of inclination refers to both a feeling or an intention that makes you want to do something and a tendency to think or behave in a particular way. In this sense, the inclusion of willingness as an *emotional* type enhances certain meaning potentials of the speaker's state of mind that are related to some intentionality of the speaker or some feelings that motivate or drive the speaker to do something.

16. Masuoka (2007: 164–5) states that volitive meanings can be expressed by *suru*-form (do-dorm) and *shiyoo*-form (volitive-form) (Masuoka 2007: 164–5). In this study, we do not take account of verbal mood types.

Table 14. Systemic choices and expressions in the modulation of Japanese

Speech function	Inclination ('want to')	Forms of realisation
offer (proposal)	**intention**	Type II *yoonisuru* ('try [to]') *kotonisuru*[17] ('decide [to]') *yootosuru* ('try [to]') *temiseru*[18] ('will definitely') Type III *tsumorida* ('have an intention [to]') *kida* ('intend to …') *kideiru* ('has a mind [to] …') Type IV *koto o keikakusuru* ('plan to') *koto o ketsuisuru* ('decide to') *koto o omoitatsu* ('think of')
	willingness	Type II *siyooganai* ('can't help ') *zuni(wa)ikanai* ('cannot but [to]')

It should also be noted here that we have a variety of metaphorical expressions for TYPE III. For instance, we have verbs of intentional and desiderative types (Teruya 2007: 245), such as *itosuru* 'intend', *keikakusuru* 'plan', *kuwadateru* 'attempt', *gannbaru* 'try hard' and *kitaisuru* 'expect'.

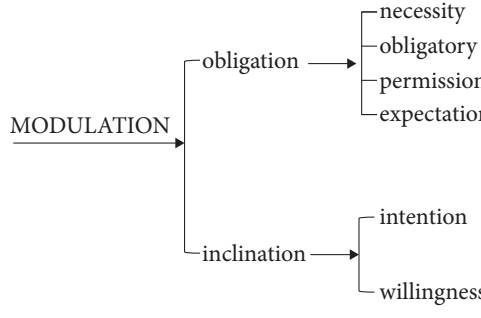

Figure 5. The system of modulation in Japanese

17. There is a strong nuance that you decide by your own will.

18. This expression shows strong will, preparedness, and determination for one's own actions.

4.5.2 *Semantic domains of Inclination and realisational patterns*

Here we confine ourselves to showing congruent types in Table 15. As mentioned earlier, inclination refers to intention and willingness, both related to a feeling or a mind.

Table 15. Inclination with other lexicogrammatical systems (congruent)

Realisation examples [politeness:unmarked]	Metafunction			
	Interpersonal			Experiential
	Speech function: Command			
	Proposal			
	Types of Mood: indicative / imperative	Modality Types: Modulation: Inclination: [intention][willingness]	Subject, Subject Person, Tense, Polarity, Negotiator	Process Type
1. Watashi wa ike. [I go.]	imperative		[ex][speaker][np][pos]	material
2. Watashi wa iku tumori da yo. [I intend to go.]	indicative	intention	[ex][speaker][np][pos][ng]	material
3. Watashi wa iku kideiru. [I'm determined to go.]	indicative	intention	[ex][speaker][np][pos]	material
4. Watashi wa ikanaideha irarenai. [I can't help but go.]	indicative	willingness	[ex][speaker][np][pos]	material
5. Watashi wa ikanai [I don't go.]	indicative		[ex][speaker][np][neg]	material

[ex]=subject:explicit, [addresse]=Subject Person:addressee, [np]=Tense:nonpast, [pos]=Polarity:positive [neg]=Polarity:negative, [ng]=Negotiator:insistence

It should be noted here that we do not have verbal forms that express the speaker's own inclination more subjectively or objectively. We, in fact, have some examples of [subjective: explicit] and [objective: explicit] realisation patterns in Halliday (1984) and Eggins and Slade (1997: 103) as follows:

(16) a. I undertake for Jane to help.
[inclination: subjective] (Halliday 1984: 336)

b. It's a pleasure for Jane to help.
[inclination: objective] (Halliday 1984: 336)

(17) a. It's a conviction that I'll study philosophy next year.
[inclination: high modulation: conviction] (Eggins and Slade 1997: 103)

b. It's pleasure for me to study philosophy next year.
[inclination: median modulation: attitude] (Eggins and Slade 1997: 103)

c. It's a commitment for me to study philosophy next year.
[inclination: low modulation: undertaking] (Eggins and Slade 1997: 103)

We shall not explore this issue in this chapter and leave as it is for future investigation.

4.5.3 *Selected examples of the relevant systemic choices*

We show some illustrative examples of inclination, though we confine ourselves to showing some positive implicit examples.

(18) *Kenkootekina tabemono wo taberukotonisuru.* [intention]
healthy food ACC eat-INCLN will
'I will eat healthy food.'

(19) *Kenkootekina tabemono wo taberutsumorida.* [intention]
healthy food ACC eat-INCLN have an intention
'I intend to eat healthy food.'

(20) *Kenkootekina tabemono wo tabeyooto omotteiru.* [intention]
healthy food ACC eat-INCLN have a plan
'I have a plan to eat healthy food.'

(21) *Kaberukida Kenkootekina tabemono wo taberu kida.* [willingness]
healthy food ACC eat-INCLN have a mind
'I have a mind to eat healthy food.'

See also *Appendix 2* for the emerged system network of modulation in Japanese, with a set of relevant system networks including SUBJECT PRESUMPTION, SUBJECT PERSON and POLARITY.

5. Conclusion

This chapter has explored the system of modulation in Japanese in the framework of Systemic Functional Grammar (SFG). We have reviewed some previous studies on modality in the traditional linguistic approaches from different perspectives. The analysis has indicated the diversity of mood and modality and also revealed that many Japanese studies focus on the morphosyntactic aspects of modal expressions with a few attempting to see modality in relation to the exchange of messages in interpersonal communication. We then turned to an SFL approach to modality and examined SFL-based studies in terms of the dimensions of (i) the scope or the definition of modality in the target language system, (ii) the semantic domain in which the modality system is involved, and (iii) the range of expressions that realise modality. We have recognised that the theory of language in SFL has a good theoretical basis not only for analysing functional aspects of language but also for integrating transgrammatical patterns for the expansion of meaning potential, in this case, in the system of modulation in Japanese. We have also attempted to elaborate on the existing descriptions of modulation in Japanese, including the other related system networks such as SUBJECT PRESUMPTION, SUBJECT PERSON, POLARITY for

the integrated analysis of modulation. Future studies should explore the system of modalisation in Japanese to generate a more comprehensive and language-specific descriptive framework in terms of systemic functional theories.

Abbreviations for grammatical items

ACC	accusative	NEC	necessity	OBL	obligation
EXP	expectation	NEG	negation	PER	permission,
INCL	inclination	NOM	nominative	TH	Theme

Acknowledgements

I would like to thank Enago (www.engao.jp) for the English language review. I am also profoundly grateful to Travis Cote (Tamagawa University, Japan) for proofreading help. This study was supported by grants from the JSPS KAKENHI (Grants-in-Aid for Scientific Research) JP26370459.

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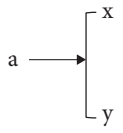
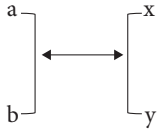
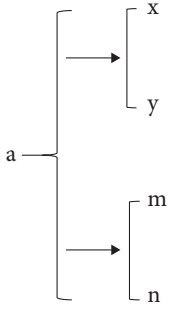
Appendix 1. Systemic conventions (Teruya 2007: xxv)



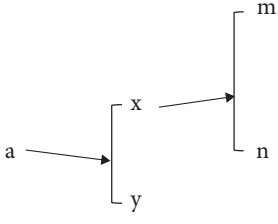
system:
if 'a', then 'x' or 'y'; abbreviated as 'a: x/y'



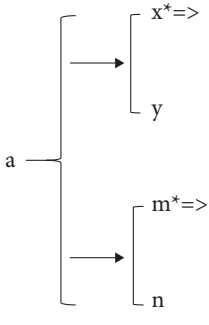
disjunction in entry condition:
if 'a' and 'b', then x/y'



simultaneity:
if 'a', then simultaneously 'x/y' and 'm/n'

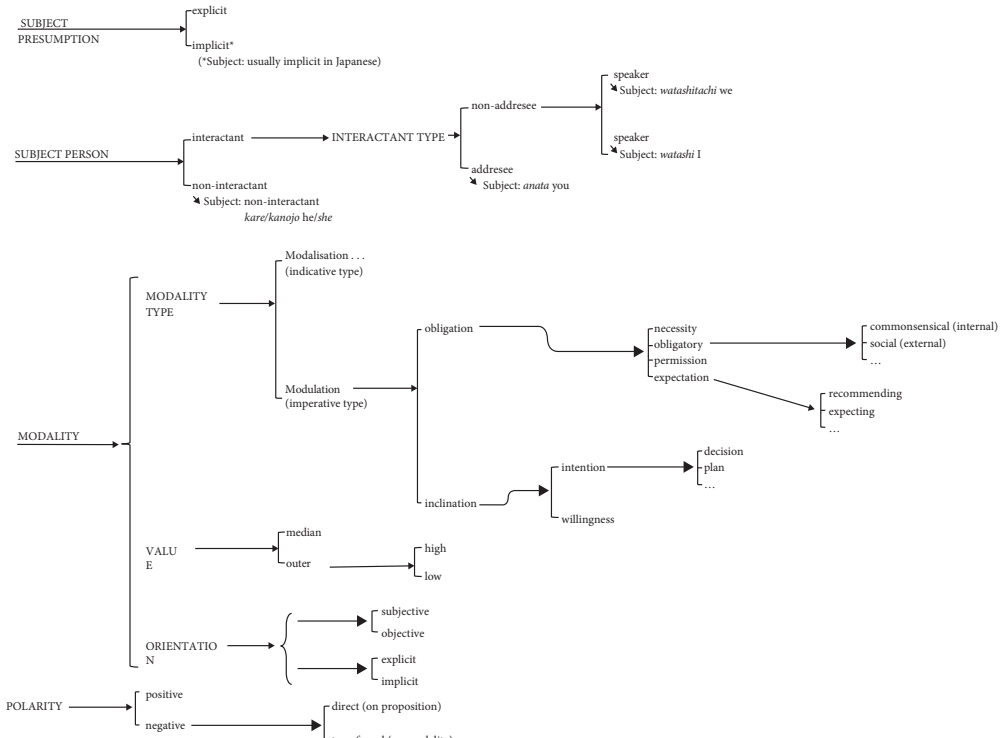


delicacy ordering:
if 'a', then 'x/y'; if 'x', then 'm/n'



conditional marking:
if 'x', then also 'm'

Appendix 2. MODULATION and other relevant systems in the system network of MOOD in Japanese



CHAPTER 3

Grammatical metaphor of Transitivity, Mood and Modality in Japanese

A functional perspective

Kazuo Fukuda
Niigata University

In this chapter, we consider the applicability of the notion of grammatical metaphor to the study of Japanese. We take up Transitivity and reconfirm the fundamental concepts of grammatical metaphor, and introduce the notions of softening and strengthening metaphors as a way of understanding Mood and Modality metaphors. We then discuss the distinction between the Mood-shifting type and the Mood-shift-unbound type of metaphors, and consider the derived metaphors of Mood as well as the meta-Mood and meta-Modality metaphors. We contrast '*daroo*' with English 'will/would' and '*to omoimasu*' with English 'I think' and examine their similarities and differences. Finally, we argue that grammatical metaphor is viable for the analysis of not only English but also Japanese.

Keywords: Transitivity metaphor, Japanese nominalisation, naturalised metaphor, softening/strengthening metaphor, meta-Mood metaphor, meta-Modality metaphor, derived metaphor of Mood, monologic metaphor, Japanese Modality complex, metaphorical crossover

1. Introduction

The concept of 'grammatical metaphor' was introduced in SFL by M. A. K. Halliday (1985, 1994, and elsewhere). Since then, the notion has attracted great attention from linguists who are concerned with different forms of wording which convey almost the same meaning and can, at the same time, contribute to the creation of new dimensions of meaning through their unique functions. (*cf*. Fukuda 2003a, Simon-Vandenbergen, Taverniers & Ravelli *eds*. 2003, Halliday 2004, Yasui 2007, and others).

Grammatical metaphor consists of ideational metaphor and interpersonal metaphor. Admittedly, ideational metaphor and interpersonal metaphor are different in nature, though they have the same nomenclature, grammatical metaphor. The former is closely related with the development of our knowledge and science

https://doi.org/10.1075/z.234.02fuk

(*cf.* Halliday 2004). On the other hand, interpersonal metaphor works to modulate the shades of interpersonal meaning by various degrees.

Despite such differences, we are sure that there are several significant points which are common to the two types of grammatical metaphor; such as the essential distinction of congruency / incongruency, sensitivity to the verbal / non-verbal context, motivations from textual metafunction, and so forth.

We will discuss the essential characters of different sub-types of grammatical metaphors in order to draw an over-all picture of the category. Throughout our discussion, we keep in our mind the fundamental theme of the nature of grammatical metaphor, and also refer to categories in other schools of linguistics when it is helpful for comparison.

We will consider various features of Transitivity, Mood and Modality in Japanese and compare them with English counterparts. By doing so, we will illustrate similarities and differences between the two languages in the use of grammatical metaphor, and demonstrate that the notion of grammatical metaphor basically applies to the analysis of Japanese as well as English.

First, let us see the figured explanation in Halliday (1994: 342, partially modified) about a metaphorical expression '*A flood of protests poured in*'.[1]

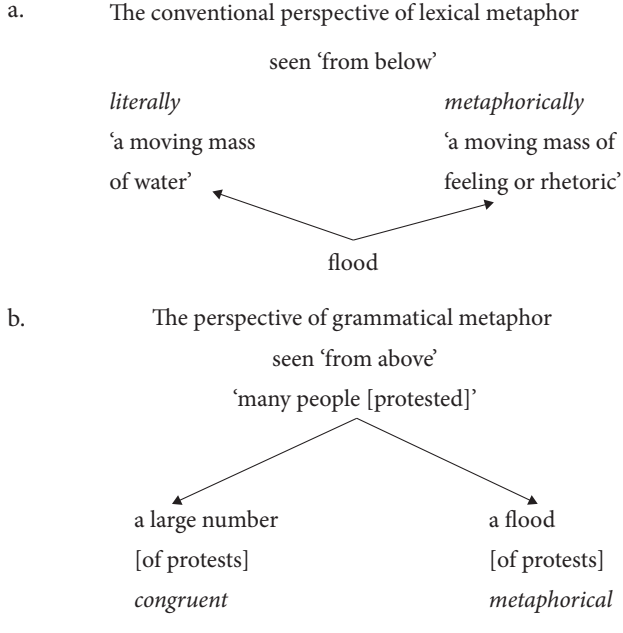


Figure 1. Two perspectives on metaphor

1. In Japanese, the expression of 'a flood of protests' is rare. Instead, the expression 'a storm of protest' is preferred. For example, a metaphor '*koogi no arasi*' or a simile '*arasi no yoona koogi*' is used frequently. Accordingly, the Process is *fukiareta* (blew ragingly) or *makiokotta* (arose), *etc.* as the predicate verb.

Figure 1 illustrates two perspectives on metaphor. (a) starts from below, namely, the polysemy of the lexis 'flood' to find metaphoricity in the wording '*A flood of protests poured in*.' By contrast, (b) starts from above, namely, the speaker's meaning in the semantic layer of language, and proceeds to the selection of either congruent wording or metaphorical wording to express the meaning. Grammatical metaphor is a new perspective of a metaphorical expression, in contrast with the conventional lexical perspective.

Before going into the discussion of interpersonal metaphor, we will first consider the features of ideational metaphor. This will allow us to more deeply understand the nature of grammatical metaphor as the upper category.

2. Ideational metaphor and the distinction between congruency and metaphoricity

2.1 Basic concepts

Let us observe Halliday's following remark. It provides us with a basis upon which to consider the nature of grammatical metaphor.

> (1) Knowing what are the 'typical ways of saying things' is part of knowing a language. This is not as simple a concept as it sounds: the 'typical' might be the way you first learn to say something in your mother tongue, or the way it is most commonly said, or the way it is said in the absence of any special circumstances; and these will not always coincide. But there are what speakers recognise as typical patterns of wording, and it is these that we are calling 'congruent' forms. Since construing experience in the form of language is already an inherently metaphorical process, it is no surprise to find a further dimension of metaphor present in language itself. (Halliday 1994: 343, emphasis added)

In (1), while admitting difficulty in pinning it down, Halliday seems to connect 'typicality' with 'congruency.' However, this could be misleading, for it is not always true, as Halliday himself admits in (2) below. There is a case where typical wording is not congruent. For instance, the English expression 'make a mistake' or 'take a bath' is typical but theoretically speaking not congruent.[2]

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2. In Japanese, 'do' is used for the English 'make' such as '*misu wo suru*' '*Lit.* do a mistake'.For 'take a bath', the Japanese counterpart is '*furo ni hairu*' which means 'go into a bath'. As far as these examples are concerned, Japanese ones are more congruent. Note that these Japanese and English examples here are typical in each language, but the English ones are more metaphorical as the basic meaning of 'make' and 'take' are metaphorically transferred in the relevant verbal groups.

2.2 What is congruent to what?

Halliday (1994: 342) remarks about the notion of 'congruent' as follows:

(2) This is not to say that the congruent realisation is better, or that it is more frequent, or even that it functions as a norm; there are many instances where a metaphorical representation has become the norm, and this is in fact a natural process of linguistic change. (Emphasis added)

Then, the question is what the notion of 'congruent' is. This notion is most fundamental to our understanding of grammatical metaphor, whether it is ideational or interpersonal. The simplest view is that what is congruent is non-metaphorical and what is not congruent is metaphorical. Here, we assume that a congruent form of expression is the one which is most consistent with the pattern of our meaning generated in the semantic layer through our experience in the inner or outer world of our existence. This interpretation best applies to Transitivity metaphor.[3] The figure below illustrates this view:

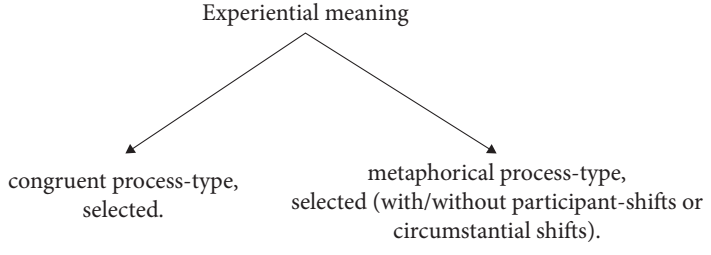

Figure 2. Transitivity metaphor through the process-type shift caused by the process-shift

2.3 From meaning to lexico-grammatical form

Halliday proposes three steps to go from meaning to the corresponding wording. This is also a way of selecting a process type to realise wording. It is assumed that there is a 'typical' way of saying things and the typicality is existent in a 'natural'

3. Transitivity metaphor is a metaphor essentially created by changes in the process type. Note that a nominalisation metaphor is the other kind of ideational metaphor, and that it depends upon cases whether nominalisation involves a change in the process type or not. Apart from nominalisation, we meet a case in which there is some deviancy from the congruent Transitivity, still without change in process type, only with changes of participants and/or circumstantials. Let us call such a case 'semi-metaphor of Transitivity, with a lower-degree metaphoricity. In this way, we could also explain a lexical metaphor grammatically.

sequence of the three steps. Halliday seems to equate 'typical' with 'natural' with regard to a process selection.

The steps are as follows:

(3) i. selection of process type,[4] realised as
ii. configuration of transitivity functions: Actor, Goal, Sensor, Manner etc. realised in turn as
iii. sequence of group-phrase classes: verbal group, nominal group, adverbial group, prepositional phrase, and their various sub-classes.
(Halliday 1994: 343)

The order of realisation in (3) is, first, the selection of process type, then, the selection of the participants and circumstantials, and finally, the selection of grammatical classes. Halliday remarks about the prototypical human cognition of the world as follows:

(4) The prototypical form of the 'outer' experience is that of actions and events: things happen, and people, or other actors, do things, or make them happen. The 'inner' experience is harder to sort out; but it is partly a kind of replay of the outer, recording it, reacting to it, reflecting on it, and partly a separate awareness of our states of being. (Halliday 1994: 106)

This prototypical cognitive perspective probably applies well both to the case of children and that of adults. In the case of adults, however, the influence of the already learned mother tongue will play a significant role in construing prototypical experience. Adults look at the worlds and their experience through linguistic spectacles. Therefore, in addition to (4), when we consider the notion of congruency/metaphoricity, we must also take into account differences in individual languages as well as similarities.

2.4 Congruency and its cross-lingual applicability

In Hallidayan framework, the base of congruency seems to be presupposed to exist, prior to the speaker's selection of lexico-grammatical forms in individual languages. This idea derives from the assumed relations between the experienced event, the speaker's meaning, and the process-type selection: if the speaker selects an expression of any one of the six process-types, at some clause-complexity level,

4. SFL proposes three major process types: material process, mental process, and relational process; and three more minor types: existential process, verbal process, and behavioural process. Intuitively, these processes are also useful for the functional analysis of Japanese.

and if the resulting wording naturally agrees with the type of the relevant event that the speaker experiences; then the expression will be congruent, not metaphorical.

In this way, six types of process are closely connected with the notion of congruency. Therefore, the following relationships are interpreted as natural and congruent: material events are expressed with material processes (like *hitting, making, breaking*, *etc*.), relational events are expressed with relational processes (like *be, become, remain*, *etc*.), mental events are expressed with mental processes (like *think, feel, see*, *etc*.). The same is the case with the three minor process types.

Therefore, the existence of these congruent relations between the event, the meaning, and the process types seem to be language-universal, even though Halliday does not aspire to create a system of a universal grammar.

Intuitively, the mechanism of ideational metaphor is more language-universal, whereas interpersonal metaphor will be more language-specific and culture-bound both in the motives for use and the way of realisation. Note the following examples, which compare English and Japanese, and observe the similarities and differences of ideational metaphors within the two languages:

(5) a. Mary saw something wonderful. (Mental process)
b. Mary came upon a wonderful sight. (Material process)
c. A wonderful sight met Mary's eyes. (Material process)

(*cf*. Halliday 1994: 344)

Among the three wordings, (5a) is most congruent. (5b) is more metaphorical, and (5c) is most metaphorical.[5] There is a process change from mental to material. Moreover, there is a change in the participant role. 'Mary' is the Actor and a 'wonderful sight' is the Goal in (5b), and the relation is reversed in (5c), where the Actor is an inanimate Subject. Japanese also has (5a) and (5b) as natural wording with a similar degree of congruency / metaphoricity. However, there is no literal translation of (5c) in Japanese. For the case like (5c), Japanese uses a different verb as in (6b) and the produced wording is metaphorical, too. The asterisk below signals 'unnatural.'

(6) a. **Subarasii kookei-ga Meari-no me-to deat-ta*
wonderful sight-NOM Mary-GEN eyes with meet-PERF
b. *Subarasii kookei-ga Meari-no me-ni tobikonde-kita / haitta.*
wonderful sight-NOM Mary-GEN eyes-into jumping-come / come-PERF
'A wonderful sight came (jumping) into Mary's eyes.'

5. The notion of grammatical metaphor is gradient, not dichotomous. It is shown as [congruent ← gradient → metaphorical] (*cf*. Halliday & Matthiessen 1999: 235, and also Fukuda 2017a)

As shown above, there is some coincidence between English and Japanese despite the surface difference in the two languages. At the same time, there are some differences. Therefore, in some cases, English is more metaphorical, while, in other cases, Japanese is more metaphorical. This sort of relativity is crucially important when we consider the nature of grammatical metaphor.

Next, look at some examples from Japanese to see what is typical and natural in terms of process-type selection.

(7) a. *Hankati (-ga) oti- masi-ta-yo.*
handkerchief-NOM dropped POL-PERF-NEGOT[6]
' *Lit*. A handkerchief has dropped.'
'Eng. You have dropped your handkerchief.'

b. Rainen *Oranda-ni iku koto-ni nari-masi-ta.*
next year The Netherlands LOC go event-LOC become-POL-PERF
' *Lit*. Have come to go to the Netherlands next year.'
'Eng. I have decided to go to the Netherlands next year.'

(7a) is one of the most natural utterances which are used in everyday conversation in Japanese. Here the speaker is telling someone that he/she has dropped his/her handkerchief. In the Japanese expression, the process selected is a material one with the Process 'drop'. What is significant here is that in (7a) the verb 'drop' is intransitive, while the English counterpart is a transitive 'drop'. In the situation of (7a), it is polite to veil the thematic Subject '*anata-wa*' (you). Also, in (7b), it is related with politeness to veil '*watasi-wa*' (I) and avoid the transitive verb '*kimeru*' (decide). The original nuance of (7b) will not change much even if the intransitive '*kimaru*' (is decided) is used instead of the intransitive verb '*naru*' (become). For more of the discussion of politeness, see Brown & Levinson (1987), Matsumoto (1989), Takiura (2005), Fukuda (2013); and for the term 'veiled Theme', refer to Tatsuki (2000).

(7a) also reminds us of the suggestion made by Hinds and Nishimitsu (1986) that the Japanese language has a preference to focus on the situation rather than the person in the conversational context. Certainly, the situation-focus is preferred to the person-focus in many communication scenes in Japanese. This analysis also applies to the Example (7b). (7b) expresses the decision as if it had not been made by the speaker but just had happened as the result of a natural course of matter.

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6. NEGOT is a shortened form of Negotiator. The term is borrowed from Teruya (2007). It is a functional term to indicate *syuujosi* (clause-final particle) in Japanese. The rich system of final particles such as *yo, ne, yone, zo, ze, ka, na, sa*, *etc*. plays a significant role to vary the speaker's negotiative attitudes. It depends on the kinds of Mood which negotiator can be available. Negotiator is distinct from Modality in our framework unlike the treatment in Masuoka (1991, 2007), Nihongo Kijyutsu Bunpo Kenkyukai (2003), and others.

Besides, both (7a) and (7b) remind us of the language-typological distinction made in Ikegami (1981) between 'a *suru*-type language' like English and 'a *naru*-type language' like Japanese.[7] This distinction applies to (7a) and (7b).

(7a) and (7b) are both considered to be natural for most native speakers of Japanese even though it is not impossible to use the same type of grammatical forms as the English counterparts, since modern Japanese has incorporated some of the English and/or Western ways of wording into its language system and more or less naturalised it.

If (7a) and (7b) are natural, then can we say that they are congruent? This may seem to be merely a question of grammatical terminology, but in fact it is a significant point to be clarified when we consider the notion of grammatical metaphor (*cf.* Taverniers 2003 and Lassen 2003). In the present chapter, we assume that the notions 'natural' and 'congruent' should be distinguished from each other. After all, mother tongue is essentially natural to its speaker.

2.5 The distinction between naturalness and congruency

Naturalness depends upon how the native speakers of the relevant language feel in using various expressions. It should be distinguished from the notion of congruency. As seen above, as far as Transitivity metaphor is concerned, congruency in the framework of SFL means the agreement obtained between the selected process type and the type of the event happening in a particular context. Furthermore, the status of being congruent/incongruent is directly connected with the judgement of whether a certain expression is more or less metaphorical.

In our discussion, we adopt the concept of 'naturalised grammatical metaphor' in order to clearly highlight the feature of 'naturalness '[8] Another important point is that metaphoricity and congruency is a matter of degrees, not a dichotomous distinction. This should be kept in mind always.

Next, if we define the concept 'naturalness' like above, we can predict that different languages have their own naturalness. Then what about the congruency and metaphoricity? In our interpretation, ideational congruency is based upon the agreement between the selected process type and the event happening.

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7. The verb '*suru*' stands for 'do / cause', and the verb '*naru*' for 'become / come to'.

8. The notion of 'naturalised grammatical metaphor' applies not only to ideational metaphor but also to interpersonal metaphor such as the metaphor of Mood and Modality.

2.6 Nominalisation and ideational metaphor

Ideational metaphor is comprised of the two types which are closely related to each other. One is Transitivity metaphor which is accompanied by changes in Process (*i.e.* process-type-shifting metaphor), with / without shifts in participants, and / or circumstantial elements, and a resulting change in Transitivity as a whole.

Then, let us see the other type which is a very powerful grammatical device to create ideational metaphor. That is nominalisation.[9] Nominalisation is process-type -shift unbound and it can occur either with or without changes in process types. Examples from English follow:

(8) a. They were only able to reach the computer on weekdays.
b. Their **access** to the computer was only possible on weekdays.
(Halliday 1994: 353, modified)

(9) a. Because technology is getting better people can write business programs faster.
b. **Advances** in technology are speeding up the **writing** of business programs.
(Halliday 1985: 328)

(8a) is congruent and (8b) is an ideational metaphor through nominalisation by the bold-type noun 'access'. There is no change in process type from (8a) to (8b). The common process is a relational process. In (9), two cases of nominalisation can be identified: from 'getting better' to 'advances', and from 'can write ~ faster' to 'speeding up the writing'. However, the process type of main verbs in (9a) and (9b) remains unchanged as the same material process. Both (8) and (9) happen to be the cases of process-type preserving nominalisation metaphor.

In contrast, there is a process-type shifting nominalisation metaphor. For example, compare the congruent 'He bathed' with a naturalised nominalisation metaphor 'He took a bath'. The process type changes from behavioural to material. Thus, nominalisation is a process-type-shift unbound ideational metaphor.

Nominalisation metaphors like (8b) and (9b) are preferred in scientific writings, whereas congruent wording like (8a) and (9a) are preferred in everyday conversation. Generally, it can be hypothesised that either phylogenetically or ontogenetically, the order of human language development is from the congruent type of wording toward the metaphorical one.[10]

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9. Sato (Suto) and Christopher (2013) proposes a cline of 'nouniness' and, based on it, analyzes the functions of nominalisation in Japanese political manifestos.

10. In fact, nominalisation is found in other cases than scientific ideational metaphors. Note the English expressions like 'take a bath', 'make a mistake', 'have a good sleep' *etc.* are all naturalised nominalisation metaphors in everyday life.

In Japanese also, nominalisation metaphor is omnipresent mainly in literary or scientific texts exactly as identified in English. The examples follow:

(10) a. *Ookuno hito-ga kare-no engi-ni te-wo tatai-ta.*
many people-NOM his performance-LOC hands-ACC clap-PERF
'Many people clapped for his performance.'

b. *Kare-no engi-wa banrai-no* ***hakusyu****-wo abi-ta.*
his performance-TOP a big clap-ACC receive-PERF
'His performance received a big clap.'

(11) a. *Karera-ga oogoe-de waratta-node, odoroi-ta.*
they-NOM loudly laughed as was surprised
'As they laughed loudly, I was surprised.'

b. *Karera-no* ***koosyoo****-ga watasi-wo odoroka-seta.*
their loud laughter-NOM me-ACC get surprised-CAUS-PERF
'Their loud laughter made me surprised.'

From (10a) to (10b), there is no change in the process type. It remains a material process. *Hakusyu* is written with two Chinese characters to make the verb group '*te wo tataku*' into a single noun. It is a familiar noun. In the case of (11) there is a change in process, from mental process to material process (causative). In (11b) *koosyoo* (big laughter) functions to nominalise the verb group *'oogoe de warau'*. It is a literary word and rare in casual conversation. As an outstanding feature of Japanese orthography, Chinese characters are indispensable and powerful means to achieve nominalisation irrespective of the abstraction level of its content.

In addition to the use of Chinese characters, there is another means for nominalisation in Japanese. That is a use of the *renyoo* form of a verb, or a *renyoo* noun, like *warai*.[11] The same examples are *hasiri* (running), *aruki* (walking), *yomi* (reading), *hanasi* (speaking), *etc*, though this rule does not apply to all verbs. These *renyoo* nouns are all familiar in everyday Japanese conversation, unlike the nouns made with Chinese characters.

So far, we have considered the nature of ideational metaphors and the notion of congruency and metaphoricity. With reference to nominalisation metaphors, see the following figure:

11. The *renyoo* noun indicates one type of Japanese noun whose form coincides with the *renyoo* form in the conjugation of Japanese verbs. Only this form in the conjugation can be followed by the polite auxiliary verb '*masu*'. When it is used alone, the form can often behave as a noun.

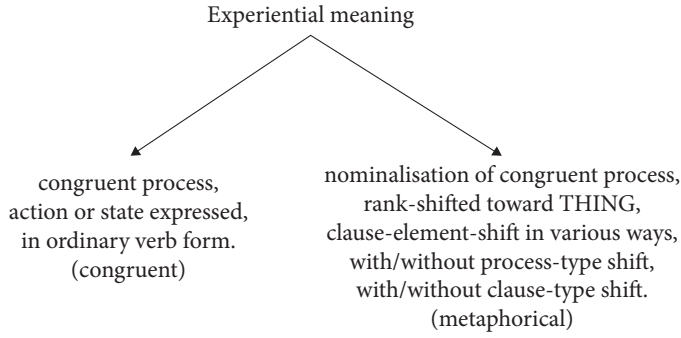

Figure 3. Ideational metaphor through nominalisation

2.7 Summary about ideational metaphor

Before we go into a discussion of interpersonal metaphor, we will recapitulate the gist of our argument of ideational metaphor:

(12) Summarised key points of the previous discussion

i. Ideational metaphor is produced mainly in two ways, namely through Transitivity accompanied by the Process-shift with/without the related change in other clause elements, on the one hand, and nominalisation on the other. For the latter type, the shift of process type is not always necessitated, thus process-type-shift unbound.

ii. Process types seem to be cross-lingual, and so do the grammatical manipulations for nominalisation. Note the functions of *Kanji* and *Renyoo*-noun in Japanese.

iii. Nominalisation metaphor deprives the verb of its real-world-related features such as tense, aspect, person, number, *etc*. and transforms it into an abstract THING which can behave as the Subject, Object or Complement of a clause. Nominalisation usually necessitates changes in participants and/or circumstantials, but the process-type shift depends upon cases.

iv. Congruency / incongruency (*i.e*. metaphoricity) is the key notion to recognise ideational metaphor. This is also the case with interpersonal metaphor.

v. Congruency / metaphoricity is not a dichotomy but a continuum stretching from the congruent pole to the metaphorical pole. Thus, 'more congruent', 'more metaphorical', 'highly congruent', and 'highly metaphorical' are appropriate ways to express their gradient characters.

vi. 'Congruent' and 'Natural' are closely related but different concepts. A selected process-type is congruent or incongruent to the type of occurring event (or the type of the speaker's experiential meaning). Naturalness,

however, is different. Worded expressions in our life are natural or unnatural to our feeling, not necessarily to the event type. Naturalness is combined with high frequency in a particular language and a specific context.

vii. Therefore, there is a case of 'naturalised metaphorical wording', while there is a case of 'unnatural congruent wording'.

From the recapitulation in (12), it is not surprising that, as far as ideational metaphor is concerned, there are similarities and differences in English and Japanese. Next, we will see how interpersonal metaphor behaves in these languages.

3. Interpersonal metaphors in Japanese

In the framework of SFL, interpersonal metaphor contains Mood and Modality metaphors. First, let us consider Mood. The definition of the Mood structure and its functions are as follows:

(13) Mood structures express Interactional meaning: what the clause is doing, as a verbal exchange between speaker / writer and audience.
(Halliday & Matthiessen 2004: 309)

In (13), the basis for further discussion is found in the concept of EXCHANGE. The theory of SFL proposes that various functions of language should derive from the three major metafunctions: ideational metafunction, interpersonal metafunction, and textual metafunction, and that actual linguistic expressions are formed as simultaneous realisations of these three metafunctions. Ideational metafunction works as REPRESENTATION, interpersonal metafunction as EXCHANGE, and textual metafunction as MESSAGE. The capitalised words respectively stand for the broadest semantico-functional categories of language.

When we consider the interpersonal meaning and interpersonal metaphor, the notion of Exchange is crucial, since it is the fundamental property of verbal interactions. Other notions such as speech functions, Mood, and Modality are all based upon the notion of Exchange. Exchange is characterised as the relation of 'give and request.' What is given or requested is either in terms of 'information' or 'goods and services.' From this line of thought, the notion of speech function is proposed.

There are four types of speech functions: statement, question, offer, and command (*cf.* Halliday & Matthiessen 2004: 108). These are regarded as basic and foundational, and all other speech functions are considered to derive from them.[12]

12. Derived speech functions from the basic four are realised in the metaphor of Mood, as will be shown later in Figure 5, Type B. This is a secondary kind of grammatical metaphor, though it has no relationship with the Mood-shift. Note that derived speech functions do not have their own congruent Mood structure in the first place.

Among the four, 'statement' and 'question' convey proposition in terms of 'information', while 'offer' and 'command' convey proposal in terms of 'goods and services'.

Mood is closely linked to the four basic speech functions, and so is the notion of Modality. In fact, Modality is the lower category of Mood in the system network of SFL (*cf*. Kadooka *eds*. 2016: 324–325). For this proximal relation, sometimes Mood and Modality are mixed and mistaken for each other. However, they are clearly distinct notions, even though associated to each other in the realm of meaning. Mood is a fixed grammatical structure which corresponds to each of the basic speech functions, and it is usually characterised by variation in the form or position of the finite verb like in English. By contrast, Modality is a semantic category which expresses the meanings of 'indeterminacy between the positive and negative poles' about the proposition of the relevant clause. Modality is usually conveyed by modal auxiliaries or the predicate verb with modal meaning in the most congruent case. This distinction between Mood and Modality is something that should be kept in mind for the discussion later in this chapter. (*cf*. Fukuda 2015).

3.1 Mood in English

English has three, rather than four, kinds of Mood. They are shown below:

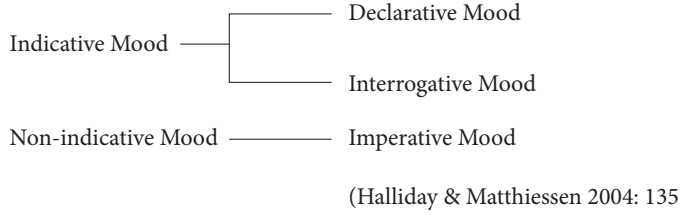

Figure 4. The three kinds of Mood

The speech function is classified into four kinds and the Mood is into three kinds. The reason is that English lacks the fixed Mood structure specialised for the function of 'offer'. This is an accidental gap. As a compensation for this gap, English has an array of different clause types for realizing the meaning of 'offer'. For instance, clauses with the modal meaning of inclination are used, or in other cases, the available declarative, interrogative, or imperative Mood is used for 'offer' as a kind of interpersonal metaphor. The three kinds of Mood in English are expressed within the following structures:

(14) Mood Structure in English

a. declarative

the duke	has	given that teapot away
Subject	Finite	Residue
Mood		

(Halliday 1994: 74)

b. interrogative

has	the duke	given that teapot away
Finite	Subject	Residue
Mood		

(Halliday *ibid*.)

c. imperative

come	into my parlour	will	you
Predicator	Adjunct	Finite	Subject
Residue		Mood tag	

(Halliday *ibid*.: 88)

(14) shows that Mood is structurally constituted by the Mood part and the Residue part. Though it applies to English, this analysis does not apply to Japanese straightforwardly, because, between the two languages, there is a notable difference in the grammatical and communicative weight concerning whether or not the clause Subject is explicitly indicated. In most cases, the English Subject is explicit. In contrast, the Japanese Subject is often implicit, especially when it is a situationally or textually recoverable Subject. Therefore, it is more realistic to think that, in Japanese, the predicate verb is the central, indispensable element for guaranteeing the status of the Mood structure, rather than the combination of Subject and Finite as proposed for English Mood in (14).[13]

3.2 Mood in Japanese

Now, let us consider the kinds of Mood in Japanese. First, we take up the three types of mood structures which correspond to English in order to further illustrate the relative similarities and differences found between the two languages.

We know that some researchers in Japanese grammar say that there is no category of Mood in Japanese. The reason cited for this claim is that there is no distinct grammatical form to express Mood meanings. Such a standpoint must lead

13. For a detailed analysis of the Japanese Mood, see Fukui (2013), in which the Japanese subject is treated as one of the elements of the Residue, not the element in the Mood part.

grammarians to discard the category of Mood and to make it only part of the category of Modality. However, as Fukuda (2015) argues, we need to distinguish Mood from Modality and should be careful not to mix them up randomly. In Japanese, indeed, there is no change either in the form of the predicate verb or in the word order of the clause when changing a statement to a question, and *vice versa*. However, the Mood meaning of 'question' is made clear by adding the particle *ka* to the end of a statement-clause, whether the question is formal or conversational. The function of this addition of *ka* corresponds well to that of the English word-order conversion of Subject and finite verb when making a question clause. Thus, in terms of the semantic function, Japanese has a declarative and an interrogative Mood:

(15) a. *Kare-wa asu Tookyoo-ni iki-masu.*[14] (Declarative Mood)
he-TOP tomorrow Tokyo-LOC go-POL
'He will go to Tokyo tomorrow.'

b. *Kare-wa asu Tookyoo-ni iki-masu-ka?* (Interrogative Mood)
he-TOP tomorrow Tokyo-LOC go-POL-Q
'Will he go to Tokyo tomorrow?'

c. *Asu Tookyoo-ni ike.* (Imperative Mood)
tomorrow Tokyo-LOC go: IMP INFL
'Go to Tokyo tomorrow.'

The statement (15a) is pronounced with level or falling intonation, while the question (15b) is usually accompanied by level or rising intonation. However, the rising intonation is generally used when the particle *ka* is absent.[15]

Note that (15a) and (15b) express the topical Subject *kare* explicitly. When the topical Subject has a higher information value like here, it is made explicit in Japanese. If *kare* here were situationally or textually Given and recoverable, this third person pronoun could be veiled from the surface. The example is like the following: A '*Kare wa Tookyoo ni ikimasu ka?*) B: *Ee ø ikimasu yo*' (*lit.*Yes, ø goes + the particle '*yo*' as New-information marking Negotiator).

The difference between (15a) and (15b) is only the absence or presence of the question particle '*ka*'. Incidentally, when the level or falling intonation is used for (15b), some marked flavors of meaning such as 'surprise', 'protest', 'distaste', and so forth are often added to the question.

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14. The Adjunct *asu* can also occupy the clause-initial position, but in Japanese, unlike English, Adjuncts generally do not take the clause-final position, except for the marked case, like afterthought in conversation or in poetic texts.

15. The question marker *ka* is often omitted in everyday conversation. If that happens, rising intonation is usually required especially to indicate a simple information-requesting question.

Next, let us turn to the imperative Mood in Japanese. In (15c), the Japanese imperative clause takes the fixed form of inflection derived from the predicate verb *iku*, namely, the imperative form *ike*. By contrast, in the English translation of (15c), the root form 'go' is used. Also see the verb 'come' in (14c) above. Interestingly, in the English imperative there is usually no Subject for a basic/bare imperative. This is because commands are essentially directed to the second person, whether singular or plural. Therefore, English, though it is a Subject-oriented language, is similar to Japanese as far as the imperative Mood is concerned. Incidentally, in Japanese, it is possible to use explicit Subject for command, such as '*anata wa ike*' or '*anata ga ike*'. The former *anata* is accompanied by topical or contrastive particle *wa* and the latter *anata* by nominative or exclusive particle *ga* (*cf*. Kuno 1972, 1973; Noda 1996; Fukuda 2003b, 2006). The English counterpart 'You go' is similar to the Japanese counterpart in form and meaning.

Halliday structurally illustrates that (14c) has the status of Mood by pointing out the existence of the Mood-tag 'will you', but it cannot apply to the Japanese imperative in (15c). Japanese has no Mood-tag structure for the imperative.[16] As shown in the discussion above, it is clear from the standpoint of semantic function that Japanese has a Mood distinction and the corresponding structure, since Mood does not only depend upon a grammatical alternation in the form of the finite verb. In our semantico-functional approach based on SFL, we can assume that there is probably no natural language which lacks Mood distinction of the foundational kinds; declarative, interrogative and imperative.

3.3 The whole system of the Japanese Mood

We have proposed six types of Mood in Japanese in Fukuda (2016: 164). There, Mood is defined as the fixed form of a clause, which is primarily combined with a particular interpersonal meaning, which is further found within the semantic domain of the four types of speech functions: 'statement', 'question', 'offer', and 'command'. The six types of Japanese Mood are declarative Mood, interrogative Mood, jussive Mood, requestive Mood, suggestive Mood and oblative Mood.[17] The whole system is as follows:

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16. In fact, the bare imperative in (15c) is usually rare in Japanese, since it sounds authoritative and rude in many cases. Even the English expression 'Have a nice day!' is very rare in the Japanese imperative form. This is why various imperative Mood metaphors have developed the way they are (*cf*. Lassen 2003).

17. Among the six types of Japanese Mood, requestive, suggestive, and oblative all have interrogative Mood with the negotiator '*ka*' (*i.e*. a metaphorical case of Mood) in addition to their own unique congruent Mood structure.

(16) Japanese Mood based on SFL

a. Indicative Mood

(i) declarative (unmarked) ex. '*yomu*' (= read)
declarative (marked)
ex. '*yomu-noda*', '*yomu-wakeda*'
(plus explanation)
ex. '*yomu-kotoda*, '*yomu-monoda*'
(plus evaluation)

(ii) interrogative Mood (unmarked)
ex. '*yomu-ka*'
iterrogative Mood (marked)
ex. '*yomu-no-ka*', '*yomu-wake-ka*'
(plus explanation)

b. Non-indicative Mood

(iii) jussive Mood ex. '*yome*' (= read)
(iv) requestive Mood ex.'*yonde-kure*'
(v) suggestive Mood
Ex.'*(minnade) yomoo*' (=Let's read (together))
(vi) oblative Mood
ex. '(*darekano-tameni*) *yomoo*'
(= Let's read (for someone))

These six types of Mood are squarely connected to any one of the basic speech functions of stating, questioning, offering, and commanding. The number is twice that of the English. It is found that Japanese has three more fixed clausal expressions to deal with three more Mood meanings.

Let us explain about the notion of the 'marked Mood' in (16). Our nomenclature follows Teruya (2007),[18] which is the first comprehensive study of the Japanese grammar based on SFL. The expressions of *noda, wakeda, kotoda*, and *monoda* are often treated as Modality, not Mood in Japanese linguistics. The reason for the treatment is that these clause-final expressions can all encompass the whole propositional content of the clause as their scope. This semantico-functional relationship of embracing is surely one of the most significant features of Modality.

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18. The names of the Japanese non-indicative Mood such as 'jussive', 'requestive', 'suggestive', and 'oblative' are borrowed from Teruya (2007), as is the notion of 'marked Mood'. Incidentally, though Teruya (2007) regards the expression '*daroo*' as Inferential Mood, we classify it as the modalisation Modality of probability. Similarly, though Teruya (2007) classifies *'yomitai'* as Optative Mood, we regard it as a kind of inclination Modality. It is because we consider that Mood is linked to any one of the four speech functions. There is, however, no such basic speech function as involves the category of 'inference' or that of 'desideration'. (*cf*. Fukuda 2016).

It is also one of the fundamental features of the Japanese grammar. However, we regard the clause accompanied by these clause-final expressions as marked declarative or marked interrogative, because they never meet the definition of Modality in SFL, which will be cited in (24) later in this chapter. Among the four, *noda*, and *wakeda* are an explanation marker, while *kotoda* and *monoda* are an evaluation marker.

3.4 Mood metaphor in Japanese

3.4.1 *The nature of Mood metaphor*

Let us see what Halliday says about the metaphor of Mood, which is one of the two types of interpersonal metaphor. By citing the clause 'I'll shoot the pianist' as an example, Halliday states as follows:

(17) Taken by itself, however, the clause *I'll shoot the pianist!* could represent any one of these (*he threatened / promised / vowed / undertook to shoot the pianist*); these speech functions all contain the feature combination 'give + goods &services' i.e. 'offer' and the wording of the clause specifies no more than that.

Halliday (1994: 363)

The most significant fact is that the clause 'I'll shoot the pianist' takes the declarative Mood. Therefore, we consider that the primary speech function is that of 'statement'. If the clause simply expresses the function of 'statement', it is a congruent use.

According to Halliday, this clause expresses 'offer' if it is 'taken by itself'. Halliday's interpretation of the clause as expressing 'offer' probably comes from the presence of the Modal expression '*I'll*'. From our viewpoint, however, this clause is basically a statement, and then interpreted as an offer based on the use of the modal auxiliary 'will', which expresses the meaning of inclination in Modulation Modality. Surely, 'offer' is one of the four basic speech functions, but as we already discussed, 'offer' is an accidental gap in the English Mood system. 'Offer' is communicated in various ways in English. There is no fixed Mood used exclusively for 'offer' in the language. Our analysis is that the clause 'I'll' shoot the pianist' is congruently 'statement' formed in declarative Mood. Next, it is interpreted metaphorically as an 'offer', and possibly it could be further metaphorically interpreted as some other derived speech functions, such as 'threat', 'promise', 'vow', *etc.*, depending upon the context.

After considering Halliday's example of 'I'll shoot the pianist', we define the nature of Mood metaphor as follows:

(18) In every language, there are wide range of speech functions in addition to the four basic speech functions; statement, question, offer and command. However, the types of Mood structures available are restricted to a very few; three in English and six in Japanese (*cf.* (16) above). Accordingly, if the selected Mood

simply conveys its basic speech function, then the wording is 'congruent'. However, if the selected Mood conveys a different speech function from the innate speech function of the relevant Mood, then the wording is regarded as Mood metaphor.

It should be noted that the relation of 'congruency' in the case of Mood metaphor is different from that of Transitivity metaphor. In the former case, the relation of congruency stands between the speech function and the selected Mood, while in the latter the relation stands between the experiential meaning and the selected process-type and/or participants, and/or circumstantial elements.

Now, we propose the two cases of Mood metaphor. Based on (17) and (18), we will demonstrate the mechanism in the following figure:

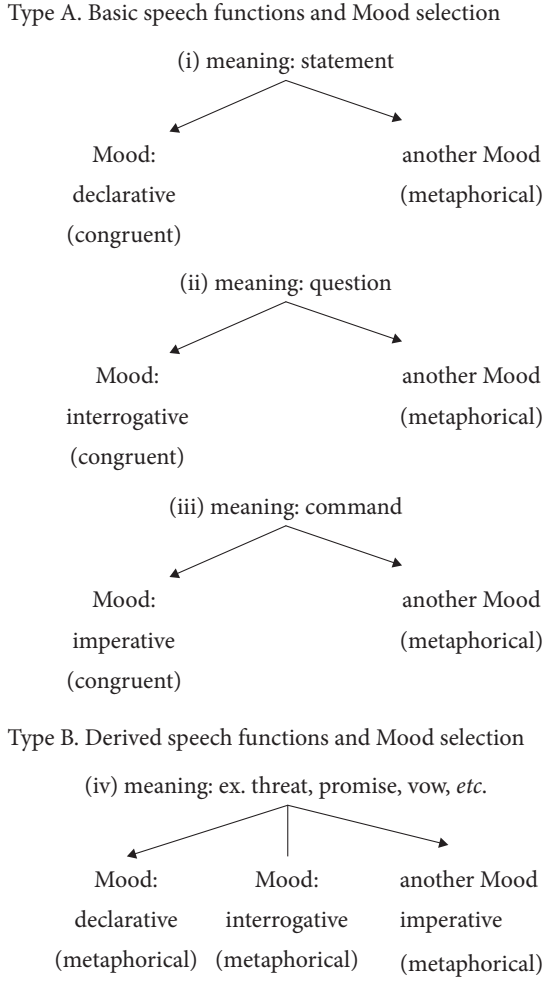

Figure 5. Two types of Mood metaphor (often, though not always, functioning as softener)

Type A in Figure 5 can be called a Mood-shifting metaphor as a dominant kind of primary metaphor of Mood. It selects an incongruent Mood which is different from the corresponding congruent Mood. This Mood-shift produces a sense of 'detouring indirectness' and can often give a softening effect to the utterance.[19]

Note that in (iv) as Type B, there is no 'congruent' Mood structure which corresponds to each derived speech function *X*. If we could compose a hypothesised Mood structure for derived metaphors, it should be like the following: 'Contextually, the speaker intends to convey the derived speech function *X* to the addressee.' This is a hypothetical congruent Mood, in the declarative form, for derived metaphors in general.

These four figures are based upon the English system. In English, the speaker necessarily selects one of the three Mood structures no matter what speech function, and regardless of whether the basic or derived function, is intended to be communicated. Therefore, as far as 'offer' is concerned, it is realised metaphorically through the selection of any one of the three kinds of English Mood.

3.4.2 *Type-A Mood metaphor in Japanese*

First, the three kinds of Mood meanings corresponding to those in English are shown. Afterwards three more mood meanings peculiar to Japanese will follow.

(19) (i) meaning 'statement'[20]

a. *Dare-mo sonna toki monku-wo ie-nai.* (DECL: CONGR)
anybody-TOP such time complaint-ACC say: NEG
'Nobody complains on such an occasion.'

b. *Dare-ga sonna toki monku-wo ieru?* (INTERR: METAPH)
who-NOM such time complaint-ACC can say
'Who can complain on such an occasion?'

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19. The term 'softening' is meant as the effect which lowers the degree of the communicative straightforwardness of the meaning of the congruent Mood. However, note that there is another type of Mood metaphor, such as 'Who knows?' or 'Who cares?' that is used rhetorically. This is also a Mood-shifting metaphor. This kind of rhetorical question seems to be strengthening the meaning of the congruent declarative Mood rather than softening it. On the other hand, possible secondary metaphors are derived from the use of this type of question, which totally depend upon the context. As for such derived metaphors, the judgement of 'Softening or Strengthening' is difficult to ascertain until clarified from their context. See also Subsection 3.5.1 below.

20. (19ib) is a rhetorical WH-question. See the note 19 above. As for (19ic) and (19iic), it is not so easy to judge whether they are softening or strengthening, since they are expressed in imperative Mood. On the other hand, (19iib) softens the meaning of the congruent (19iia), while the metaphorical (19iiib) and (19iiic) soften the meaning of the congruent (19iiia).

c. *Sonna toki monku-wo ieru hito-ga iru-ka kangaete*
such time complaint-ACC can say man-NOM exist-Q think
miro. (IMP: METAPH)
try: IMP
'Consider whether there is anybody who can complain on such an occasion.'

(ii) meaning: 'question'

a. *Kare-wa paatii-ni kuru daroo-ka*. (INTERR: CONGR)
he-TOP party-LOC come will MOD PROB-Q
'Will he come to the party?'

b. *Kare-wa paatii-ni kuru-kasira*. (DECL: METAPH)
he-TOP party-LOC come-wonder
'I wonder if he will come to the party.'

c. *Kare-ga paatii-ni kuru-ka (doo-ka) osiero-yo*.
he-NOM party-LOC come-Q or not tell: IMP-NEGOT [demand]
'Do tell me if he will come to the party.' (IMP: METAPH)

(iii) meaning 'command'

a. *Dete ike*. (IMP: CONGR)
out go-IMP
'Get out!'

b. *Dete itte-kure masu-ka?* (REQ Q: METAPH: Ironical)
out go-give: BEN POL-Q
'Will you get out for me?'

c. *Koko-ni ite-wa ikenai*. (MOD: DRCL: METAPH)
here-LOC be-TOP wrong
'You cannot stay here' or 'It is wrong of you to stay here.'

(i), (ii) and (iii) in (19) are examples of the three types of basic speech functions, namely, statement, question and command. Those functions are common to English and Japanese. We find that it is generally difficult to make a softening Mood metaphor through imperative Mood in Japanese.

The following are about the functions of request, suggestion and oblation, for which the Japanese language has the separate fixed Mood structures respectively as shown in (16) above. Therefore, these have their own congruent ways of expression and metaphorical usage.

(iv) meaning: 'request'

a. *Yonde-kure (or kudasai)*. (REQ: CONGR)
read-give: BEN (or POL)
'Please read for me.'

b. *Yonde-kureru-ka (or kure masu-ka)*. (REQ: INTERR: METAPH)
read-give: BEN-Q (or POL)
'Will you please read for me?'

c. *Yonde-kure -tara arigatai.* (REQ: DECL: METAPH)
read-give: BEN-COND thankful
'I will be thankful if you read for me.'

(v) meaning: 'suggestion'

a. *Isshoni yomoo.* (SUG: CONGR)
together read SUG
'Let's read together.'

b. *Isshoni yomoo-ka?* (SUG: INTERR: METAPH)
together read: SUG-Q
'Shall we read together?'

c. *Isshoni yoma-sete-kure.* (REQ: METAPH)
together read-let-give: IMP BEN [request]
'Please let me read together.'

(vi) meaning: 'oblation'(= offer)

a. *Kimi-no syukudai-wo tetudaoo.* (OBLAT: CONGR)
you-GEN homework-ACC help OBLAT
'I will help you with your homework.'

b. *Kimi-no syukudai-wo tetudaoo-ka?* (OBLAT: INTERR: METAPH)
you-GEN homework-ACC help OBLAT-Q
'Shall I help you with your homework?'

c. *Kimi-no syukudai-wo isshoni yaroo-yo.*
you-GEN homework-ACC together do OBLAT-NEGOT [demand]
'Let's do your homework together.' (OBLAT: SUG: METAPH)

d. *Kimi-no syukudai-wo tetudawa-sete-kure.*
you-GEN homework-ACC help-let-give: IMP BEN [request]
'Please let me help you with your homework.' (OBLAT: REQ: METAPH)

e. *Kimi-no syukudai-wo tetudawa-sero.* (OBL: IMP: METAPH)
you-GEN homework-ACC help-let: IMP [command]
'Let me help you with your homework.'

Note that all the metaphorical versions in (iv)–(vi) are more or less softening the speech functions in the congruent Mood, only except for (vi.e) in the imperative form '*tetudawa sero*'. This is another example to illustrate the general incompatibility between the softening function and the imperative Mood in Japanese.

Next, we will see the type-B Mood metaphor in Japanese.

3.4.3 *Type-B Mood metaphor in Japanese*

Type-B Mood metaphor is a secondary metaphor and Mood-shift unbound. For type-B Mood metaphor, there are a large number of speech functions. They are speech functions which derives from one of the four basic speech functions. In Japanese as well as in English, they have no unique congruent Mood structure with which to express their meaning. Thus, they are always realised metaphorically

through the restricted numbers of Mood structures available. For a general semantic structure of hypothesised congruent Mood for the derived metaphor, see Subsection 3.4.1 above.

B-type metaphor starts from the congruent Mood with the meaning of basic speech function and it is interpreted as a derived metaphor contextually. Therefore, this type metaphor involves a single Mood, not a metaphor created between two different structural Moods like A- type metaphor. A few examples follow:

(20) (i) meaning: 'promise'

a. *Kin-en suru-to yakusoku suru-yo.*
stopping-smoking do-CONJ promise do-NEGOT [promise]
'I promise I will stop smoking.' or 'I promise to stop smoking.'
(Promise: DECL: NAT: METAPH)[21]
(This clause is a so-called performative sentence. *Cf.* Austin 1962).

b. *Kin-en suru-yo.*
stopping-smoking do-NEGOT [promise]
'I will stop smoking.' (Promise:DECL: non-performative: NAT: METAPH)

c. *Sorosoro kin-en -no jiki-da.* (DECL: more METAPH)
now no-smoking GEN time-AST
'It is high time to stop smoking.'

d. *Kituen-wa karada-ni warui-yone.*
smoking-TOP health for bad-NEGOT [seek agreement]
'Smoking is bad for health, isn't it?' (The smoker's utterance)
(DECL: most METAPH)

The Example (20c) and (20d) are completely dependent on the context and the hearer's inference in order to be interpreted as something to do with the speaker's 'promise' not to smoke.

(ii) meaning 'threat'
As is known, in the speech-act theory, there is no performative verb of 'threaten' unlike the case of 'promise'.

a. *Kimi-wo kaiko suru-zo.*
you-ACC dismissal do-NEGOT [decision]
'We will dismiss you.' (Threat: DECL: direct but METAPH)

b. *Kimi -wa kaiko sootoo da.* (Threat:DECL: METAPH)
you-TOP dismissal deserve AST
'You deserve dismissal.'

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21. There is no congruent Mood for 'promise' in Japanese as well as in English. Therefore, all the examples in (20) are a secondary Mood metaphor, though they vary in the degree of being 'naturalised' as an expression of 'promise' for actual use.

c. *Kimi-wa kaisha-wo yameru ki-ga nai-no-kai?*
you-TOP company ACC leave feeling-NOM not exist-EXPL-Q
'Aren't you willing to leave the company?'
(Threat: marked with '*no-kai*', INTERR: METAPH)

d. *Yame-taku-nakattara, nandemo iu-koto-wo kike.*
leave-want-NEG-COND whatever say-TNG-ACC obey.
'If you do not want to leave, obey whatever I tell you.'
(Threat: IMP: METAPH)

Performative or not, derived speech functions have to be interpreted metaphorically, relying on any one of the highly restricted number of Mood structures which could convey their meanings or implicatures.[22]

3.5 Strengthening and softening effects of Mood metaphors

First, let us further explain the meanings of strengthening and softening effects. For 'softening', this has already been defined in note 19 above as the effect which lowers the degree of the communicative straightforwardness of the meaning of the congruent Mood. Therefore, 'softening' relates to '*implicitness*', while 'strengthening' refers to the effect which makes the meaning of the congruent Mood more explicit, and therefore is related to '*explicitness*'. We assume that there are two kinds of functional effects that Mood metaphors, whether a Mood-shifting type or a Mood-shift-unbound type, can create, namely 'strengthening' effect on the one hand and 'softening' effect on the other.[23]

The terms of 'softening' and 'strengthening' may be unfamiliar in the discussion of grammatical metaphor in SFL, where the theoretical basis is semantico-functional and structural. However, we find that these two terms are especially useful for understanding the communicative motives and effects of interpersonal metaphors, even though the distinction between softening and strengthening are not always compatible with the SFL notions of implicit / explicit / subjective / objective, and so forth.

In Japanese, we often say '*kitui iikata*' (a sharp tongue) or '*yawarakai iikata*' (a soft tongue). In fact, communicative tones of wording are appreciated as much as (or sometimes more than) the ideas or events expressed through the wording. This must be related with the development of varieties of discourse markers, clause-final negotiators, and the complex system of honorifics in Japanese.

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22. For Gricean Maxims and the notion of 'implicature', refer to Grice (1975).

23. Type-A Mood metaphor is a Mood-shifting metaphor, thus a two-Mood-related metaphor. On the other hand, Type-B Mood metaphor (or derived metaphor) is a single-Mood metaphor. It is realised through any kind of the basic Mood structures, but one Mood as a starting point is preserved for its metaphorical interpretation in the relevant context.

3.5.1 *Strengthening Metaphor of Mood*

Strengthening metaphor is, as it were, a meta-Mood metaphor. It is a meta-linguistic phenomenon in that it explicitly and/or objectively refers to the Mood meaning itself. Therefore, it can also be called a 'self-reflexive' metaphor of Mood. In Japanese, this type of metaphor is usually produced through the grammatical device of thematisation or nominalisation. Note the following examples about some of the basic Mood:

(21) a. *Ii-tai koto-wa kanozyo-ga kasikoi-to-iu koto-da.*
say-want TNG-TOP she-NOM clever-APPOS THG-AST
'What I want to say is that she is clever.' (DECL: METAPH)
⇒ (CONGR) 'She is clever' (Mood meaning = 'state')

b. *Kiki-tai no-wa sono kaigi-ga itu-ka-to-iu koto-da*
ask-want TNG-TOP the meeting-NOM when-Q-APPOS TNG-AST
'What I want to ask you is when the meeting will be held.' (DECL: METAPH)
⇒ (CONGR) 'When will the meeting be held?' (Mood meaning = 'question')

c. *Watasi-no yookyuu-wa issyuukan inai-no kansei-da.*
my request-TOP a week within-GEN completion-AST
'My request is a completion within a week.' (DECL: Metaph)
⇒ (CONGR) 'Please complete it within a week.' (Mood meaning = 'request')

Strengthening metaphors of Mood in (21a) and (21b) are 'thematic equative' in SFL terminology, while (21c) has the Subject noun which corresponds to the Mood meaning of the clause. (21a) and (21b) have clausal Themes, which form a departing point of the clause as a whole. This kind of structure is affected by some factors in the textual metafunction, such as topic-hood, givenness of information, *etc*. It is grammatically marked and also highly metaphorical in contrast to its congruent counterpart. The thematic structure is Theme + Rheme,[24] and ideationally speaking the type of the process is relational (identificatory). This type of metaphor is making the underlying speech function highly explicit and strengthening it.[25]

Mood structure is inherently congruent to the meaning of each basic speech function. Congruency is achieved by the agreement between the meaning and the Mood selected. Beyond the existence of the guaranteed congruency, the wording in (21) is to turn the congruent Mood meaning toward something more explicit, and

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24. For the notions of Theme/Rheme, refer to Firbas (1964, 1966), Halliday (1994 and others), Fukuda (2006), Thomson (2013), Tatsuki (2017).

25. The meta-Mood metaphor in (21) is a Mood-shift-unbound type. More exactly, this self-reflexive metaphor called meta-Mood always takes the form of Declarative Mood in the identificatory relational clause. Besides, the thematic equative construction is so productive that the term 'meta-Mood' must be used restrictively in order to explicate the case in which the relevant Mood meaning is Thematised or Rhematised by means of this grammatical device.

thus a metaphorical one. (21b) and (21c) express the question and request meanings in the declarative Mood respectively. (21a) does not involve the change in Mood but it is undoubtedly a metaphorical detour to make the congruent meaning more explicit. Thus, in strengthening wording through thematisation or nominalisation, the unpacking of meanings follows a process from the metaphorical meaning of Thematic equative toward the meaning of the Congruent Mood.

Here, the point to be noted is that strengthening Mood metaphor in the case of Meta-Mood, which is located in the interpersonal sphere of meaning, is affected by textual factors such as Theme and/or Information status. Mood metaphor in (21c) involves nominalisation, which plays a significant role to form an ideational metaphor. Besides, the process type is essentially a relational one in declarative Mood for all the examples in (21). Thus, even in the realm of interpersonal metaphor, ideational and/or textual metafunction could show a simultaneous involvement. Thematic Equation as a Mood metaphor is illustrated in the following way:

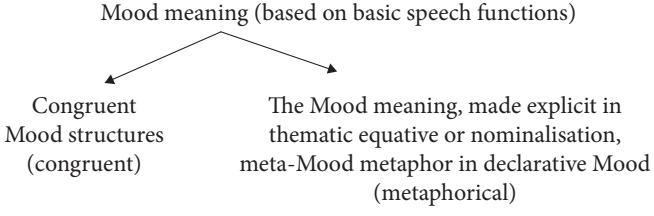


Figure 6. Strengthening Mood metaphor (Meta-Mood case)

Except for the thematic equative or nominalisation as a meta-Mood metaphor of Mood, there is another construction to create a metaphor for the meaning of the congruent declarative mood. For instance, a question 'Who knows?', when used rhetorically, can be a Mood metaphor of the congruent declarative 'Nobody knows.' It is a different type of the Mood-shifting metaphor which is illustrated as Type A (i) in Figure 5, in that it involves the shift of Polarity as well as the shift of Mood.

Furthermore, there are two interesting points to note about this rhetorical question. One is that it is a Mood-preserving metaphorical variant of the ordinary information-requesting question in the same form. The other is that, as a metaphor, its speech functional meaning is not a question but the statement 'Nobody knows', which means that it is a Mood-shifting grammatical metaphor for the congruent declarative wording. In short, a rhetorical question of this type acts as a grammatical metaphor in two different ways at the same time.

In reference to the second point above, this rhetorical question seems to be a strengthening type of metaphor due to the following features: This question contains Polarity-reversal, in that it expresses a reverse Polarity to that of a congruent declarative Mood. That is to say, the positive question can mean the Negative statement, and *vice versa*. Though it is also an indirect and circuitous wording, it

is not a simple softener, but instead, it works as a strengthener due to its rhetorical power of polar reversal. This shows that indirectness is not necessarily equated with softening. We owe this idea to a suggestion by our colleague Masataka Mitsui.

The interpersonal function of rhetorical questions is, however, a topic to be considered on another opportunity, since their derived speech functions, such as 'anger', 'criticism', 'indifference', 'insult', 'sarcasm', 'joking', 'comfort', *etc*. all depend on the specific context of the situation.

3.5.2 *Mood-shifting metaphor of Mood (indirect and softening type)*

In sharp contrast to the strengthening type, there is a softening type of Mood metaphor, which is main as a Mood metaphor. This type of Mood metaphor is produced as a Type A metaphor in Figure 5 above. Therefore, the use of the same Figure is omitted here. The examples follow:

Situation: at the table, Meaning: request for the sugar for coffee

(22) a. *Satoo-wo mawasite-kure.* (REQ: CONGR)
sugar-ACC pass-give: BEN (too casual)
'Pass me the sugar.'

b. *Satoo-wo mawasite-kudasai.* (REQ: CONGR, POL)
sugar-ACC pass-give: BEN (POL)
'Please pass me the sugar.'

c. *Satoo-wo mawasite kureru? ↗* (INTERR: REQ, METAPH)
sugar-ACC pass for me BNF(casual)
'Can you pass me the sugar?'

d. *Satoo-wo mawasite-kudasai- masu-ka?* (INTERR: REQ: METAPH, POL)
sugar-ACC pass-give: BEN-Q (POL)
'Could you please pass me the sugar?'

e. *Kono koohii, satoo haitteiru ka-na* (INTERR: MNL: METAPH)
this coffee sugar is put-Q-NEGOT [monologue].
'I wonder if this coffee has sugar (or not).'

The word *kure* in (22a) is the imperative inflection of the auxiliary verb *kureru*, which means some benefit for the speaker. (22a) is a congruent Mood of request, but it is rare as it sounds too casual and often rude. (22b) is a polite form for (22a) and also congruent. (22c) is interrogative and one-step more metaphorical wording. And its polite form is (22d). This is also metaphorical.

The English counterpart in (22d) 'Could you please pass me the sugar?' is treated as a typical conventional indirect speech act in English in Searle (1975).[26] Interestingly, the addressee's 'ability' is questioned about by using 'can/could you'

26. Searle (1993) states that all metaphors are indirect speech acts. This well applies to the softening Mood-shifting metaphors. However, note that the strengthening metaphors shown in (21) above are outside Searle's notion of an indirect speech act.

to request someone to do something. Japanese also uses *'dekiru*' or '*dekimasuk*a' (= can/could you) to make a requestive question, but it sounds like a direct question about one's ability. So it is not so common for a simple request, except that it is used idiomatically as a casual request for some service like the following: '*Kyoo wa sasimi dekiru*?'(= Can you make a *sasimi* dish today) could be a metaphorical request at a Japanese pub.

Instead of *dekiru*↗ (=can), one group of expressions such as casual *kureru* (ka)↗ or a more polite *kuremasu(ka)*, and its polite form *kudasaru*↗ or a most polite, *kudasaimasu(ka)*↗ are often used to make a request question. Besides, there is another group of requesting auxiliaries, which are known as casual *moraeru(ka)*↗ or a more polite *moraemasu(ka)*↗ and its polite form *itadakeru*↗ or a most polite *itadakemasu(ka)*↗. Note that this latter group all contain the morpheme of 'potentiality' such as '*eru*' or polite '*emasu*'.

These two groups of requestive auxiliary verbs '*kureru*' type and '*morau*' type derive from the benefactive verbs or *jyu-jyu doosi*. The *kureru* type in the first group expresses the meaning 'the other gives something to the speaker', while the *morau* type in the second group expresses the meaning 'the speaker receives something from the other' Note that, in the latter group, the Japanese potentiality-morpheme '*eru*' performs a similar function of the meaning of potentiality, not ability, of the English auxiliary 'can'.

Finally, (22e) is a different and highly detouring kind of softening metaphor, which is vague for a requestive wording. The hearer has to infer the whereabouts of the speaker's requestive intention by considering the clues in the context of situation and the paralinguistic cues accompanying the utterance. In Japanese, (22e) could be used as a monologic utterance to expect some response of the hearer.

The following could be a most vague Softening-type Mood metaphor:

(23) *Aa tukareta-naa*. (DECL: MNL)
ah tired NEGOT [monologue]
'Ah, I am tired.'

In (23), negotiative particle *naa* is a marker of monologue with possible shades of implications. (23) is a declarative Mood. The speaker may talk to him/herself unintentionally, or may exploit a monologue strategically in order to extract some verbal or non-verbal response from the hearer. For instance, the hearer of (23) might say, 'Are you all right?', 'What's happened?', 'You need more sleep', and the like. Human beings usually try to search for the 'optimal relevance' of an utterance at least for a while even in encountering a monologue like (23), as pointed out in Sperber and Wilson (1986). In our interpretation, (23) can be a highly indirect and implicit softening-type Mood metaphor. In short, it can be a monologic metaphor of Mood.

Finally, let us consider the marked Mood in Japanese, as shown in (16a (i)) in Subsection 3.3. Do they have a metaphorical use? They are marked by the

clause-final elements such as *noda* (or casually *no* and *nda*) and *wakeda* (or casual *wake*) with an explanatory function, on the one hand, and *kotoda* (or casual *koto*) and *monoda* (or casual *mono*), with an evaluating function, on the other. In fact, they could function as a Mood metaphor for another Mood. For example, '*Motto benkyoo siro!*' (More + study + do. = Study more!) is imperative Mood and most congruent to the 'command' meaning. In some cases, '*Motto benkyoo suru-nda/suru-kotoda/suru-monoda*' could metaphorically convey the 'command' meaning in Declarative Mood, even though there is a delicate semantic difference between them. In contrast, *wakeda* has no directive use of this kind.

So far, we have discussed the Japanese Mood system and its metaphorical variations. There is a broad distinction between the two kinds of metaphor. One is the meta-Mood metaphor, which is a Mood-shift-unbound type. It takes the form of a thematic equative or nominalisation of the Mood meaning, and gives prominence to the Mood meaning by highlighting it as the Theme (otherwise Rheme) of the whole clause. Thus, we call it an explicitly strengthening metaphor. In addition, we regard a rhetorical WH-question as a strengthening type of mood metaphor, which necessitates Mood-shift and the reversal of Polarity.

The other is an implicit metaphor of Mood, mainly a softening type. Many of this type are a Mood-shifting metaphor. This type resembles Searle's (1975) 'indirect speech act'. The essential feature of the notion is the use of another Mood which is different from the congruent Mood. We find that, for the implicit (or indirect) type of Mood-shifting metaphor, there is a scale of metaphoricity from a 'conventional' or 'naturalised' metaphor to a vaguely implicated non-conventional metaphors including a monologic metaphor.

As additional type of Mood metaphor, we discussed a derived Mood metaphor as a secondary metaphor of Mood. In the case of this metaphor, any of the congruent Mood structures could receive a metaphorical interpretation as a derived speech function from the context.

Next, we proceed to the discussion of Modality in the domain of interpersonal metaphors. In SFL, Modality is the lower category of Mood.

4. Modality metaphor

4.1 English modality as viewed from SFL

According to Halliday (1985, 1994) and Halliday and Matthiessen (2004, 2014), English Modality is essentially of four kinds: probability Modality and usuality Modality under the heading of modalisation Modality on the one hand, and obligation Modality and inclination Modality under the heading of modulation Modality on the other. Only four kinds are proposed. This is because Halliday connects the

notion of Modality to the upper category of Mood. As already mentioned, Mood is expressed in a stably fixed structure which congruently conveys the meaning of any of the four basic speech functions, though there is accidentally no fixed Mood structure for the meaning of 'offer' in English. Thus, in this relation of correspondence, the number of Modality is restricted to as small a number as four.

4.1.1 *The corresponding relations of the major interpersonal categories*

Fukuda (2016: 150) explains the corresponding relations of the major interpersonal categories in SFL in the following table:

Table 1. The parallel relations between the interpersonal categories in English

Speech function	Mood	Modality
Statement	Declarative Mood	All types of Modality co-occur.
Question	Interrogative Mood	Some types of Modality do not co-occur.
Offer	(No fixed Mood)	Inclination Modality is related with 'offer', but not always.
Command	Imperative Mood	Obligation Modality, only when used in declarative, functions to soften command.

Table 1 shows the close relationships between the three kinds of SFL notions: speech function, Mood and Modality. In Halliday's theory, the uppermost category is speech function. It represents four kinds of fundamental functions within interpersonal metafunction. There, the exchange of information (*i.e.* statement and question) and the exchange of goods and services (*i.e.* offer and question) are regarded as the basic aspects of verbal interactions. Next, Mood is directly connected to the speech functions structurally, even though 'offer' has no fixed Mood structure in English.

Modality is the lower category of Mood and it corresponds to the Mood, and again to the speech functions. Modality, however, is a semantic category, unlike Mood as a structural category. Therefore, the number of the kinds of modality could increase as long as the relevant modal meanings fall into any of the upper categories of speech functions or Mood meanings.

There is another point to note about the relation between Mood and Modality. For example, Modality element 'must' or 'may' are usually not used in interrogative Mood when they convey the meaning of probability Modality.

Inclination Modality can be used to express 'offer', but it is also used to express other speech functions of both basic and derived kinds.

Among various modal expressions, only obligation Modality is used as a Mood-shifting type Mood metaphor to soften the meaning of imperative Mood. For example, 'You must/will/may go' instead of 'Go'. On the contrary, probability

Modality does not function as a Mood metaphor even though it does soften 'statement' in the declarative Mood, because there is no Mood shift between the non-modalised declarative and the modalised declarative. The case of this kind is not regarded as an instance of grammatical metaphor.

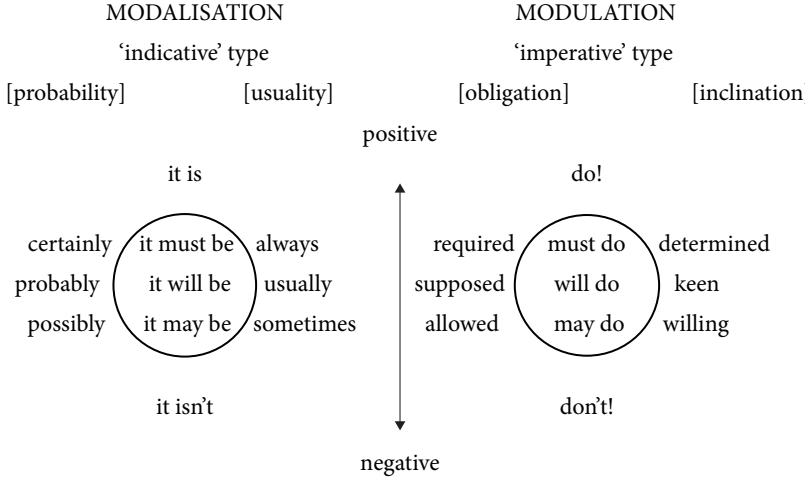
4.1.2 *The definition of Modality in SFL*

Let us now observe the definition of Modality in SFL:

(24) Polarity is thus a choice between yes and no. But these are not the only possibilities; there are intermediate degrees, various kinds of indeterminacy that fall in between like 'sometimes' or 'maybe'. These intermediate degrees, between the positive and negative poles, are known collectively as MODALITY. What the Modality system does is to construe the region of uncertainty that lies between 'yes' and 'no'. (Halliday, M. A. K., Revised by Christian M. I. M. Matthiessen 2014: 176)

The definition in (24) states that the role of Modality is to construe the indeterminacy between 'yes' and 'no'.[27] The system of English Modality is as follows:

(25) The system of English Modality



(Halliday & Matthiessen 2004: 619)

27. Narrog (2014) remarks that the role of Modality is to express *irrealis*, as compared with *realis*. This is a similar definition to the one in SFL. See Narrog (2009) also.

The corresponding relation between Mood and Modality in (25) is not so easy to understand. It is because (25) only shows the basic and fundamental classification of English Modality (*cf*. Halliday 1970, Fukuda 2012, 2014 and elsewhere).

One point to note is that (25) has usuality in the category of modalisation. This notion as Modality is not usually found in the Modality literature. Sawada (2006), which is the most comprehensive study of English Modality ever published in Japan, does not include usuality in the realm of Modality. Masuoka (1991, 2007) and Nihongo Kijyutsu Bunpo Kenkyu Kai (*ed*.) (2003) do not recognise it as Modality in Japanese, either.

In SFL, however, usuality is recognised as a Modality category of modalisation. The theoretical ground for it is that usuality expresses the meaning within the indeterminate area between the positive and negative poles in Polarity. The usuality agrees to the definition of Modality in (25) above. Besides, the meaning of usuality is expressed with the modal auxiliaries, 'will' or 'would' depending on the context, though, of course, the relevant meaning is usually clarified with accompanying temporal Adjuncts. Such temporal Adjuncts are one-step metaphorical in our interpretation (*cf*. Fukuda 2017a). The choice of those Adjuncts are still subjective, namely the speaker's own judgement, not necessarily based on objective calculation. That is why the usuality is recognised as modalisation Modality.

Another point to note is that, in SFL, the most congruent way of expressing English Modality is through the use of modal auxiliary verbs. Thus, there are as many types of Modality in number as the kinds of meaning of modal auxiliary verbs. Consequently, the study of English Modality must generally start with identifying the meanings of English modal auxiliaries. If it is true, other types of Modal expressions than English ones may be identified in other languages.[28]

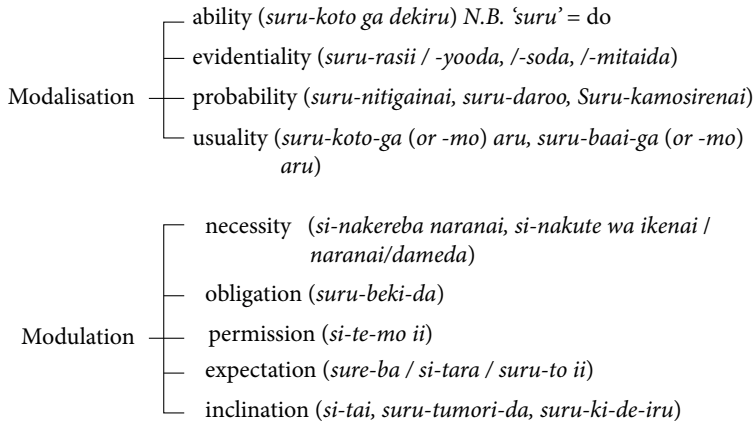
The third point to be kept in mind is that Mood is characterised by the uniqueness of its grammatical form, while Modality is not necessarily bound to its formal uniqueness but is categorised by its meanings, which need to indicate the indeterminate (or uncertain) area between the positive and negative extremes in Polarity.

4.2 Modality system in Japanese

Japanese Modality is categorised into 9 types; the four for modalisation and the five for modulation (*cf*. Fukuda 2016: 166):

28. Other languages may have different grammatical devices than modal auxiliaries in order to express various meanings of polar indeterminacy. SFL, of course, does not deny the possibility, since it is a theory of semantic functions in the first place. For now, let us assume that Modality is expressed *most congruently* by modal auxiliaries, or by predicate verbs with modal meanings.

(26) Modality System in Japanese



Let us comment on some of the features of Japanese Modality. Evidentiality essentially expresses the speaker's more objective judgment based on some outside evidence. However, it is also used to express some degree of probability as if the judgment is subjectively made by the speaker, without any specific evidence. If Modality is defined in terms of the speaker's sheer subjectivity, evidentiality might be treated as something independent of Modality. Such treatment is theoretically possible, but we include evidentiality in Japanese Modality, since it expresses the meaning in the indeterminate region between 'yes' and 'no'.

In Japanese, there is a frequently identified clause-final element *daroo*. Although Teruya (2007) treats *daroo* as Mood of Inference, we relocate it in modalisation Modality because the meaning of *daroo* is almost the same as English modal auxiliary 'will' when it expresses the meaning of inference and also simple future.[29] One feature of *daroo* is the absence of its past form. Another feature is that its value of inference is unrestricted or neutral. As far as these features are concerned, *daroo* is different form the other two modal expressions of probability, *tigainai* and *kamosirenai*.

4.3 Metaphor of Modality: A contrast between English and Japanese

Now, we take up the four types of Japanese Modality which correspond to the English four types, namely probability, usuality, obligation (and necessity), and inclination. For some discussion of the other types of Japanese Modality and remaining points for further study, see Fukuda (2016, 2017b). The aim of discussion

29. In our view, the category of Mood is directly based upon the basic four speech functions of EXCHANGE. In the theory of SFL, there is no basic speech function to be classified as 'inference'. See also note 18 above.

here is to illustrate similarities and differences between Japanese and English as to the metaphor of Modality. First, let us see what the metaphor of Modality is.

According to Halliday (1994: 354–355), metaphor of Modality is identified in the case where a modal meaning is NOT coded as a modal element inside the clause that contains the relevant Process (= the predicate verb) to be modalised, but, instead, inside another clause which constitutes the clause complex. The examples follow:

(27) a. Mary will know. (subjective / implicit)
b. Mary probably knows. (objective / implicit)
c. I think Mary knows. (subjective / explicit)
d. It is probable that Mary knows. (objective / explicit)
(Halliday 1994: 355, partially modified, underlined by the writer)
N. B. Indication in the parenthesis after each example is called 'orientation'. See Halliday and Matthiessen (2014: 692)

According to Halliday, (27a) and (27b) are congruent Modality. (27c) and (27d) are regarded as Modality metaphor. In short, Halliday considers that metaphor of Modality is realised only in a bi-clause, while congruent Modality is in a single clause. Fukuda (2017a) reconfirms that Modality metaphor is gradient, not dichotomous, as well as the other types of grammatical metaphor, and points out that the type of wording like (27b), which uses a modal Adjunct, is a one-step more metaphorical, namely, 'semi-metaphor', as it has an objective orientation. (27b) is not so congruent as (27a) since any change in form will affect the meaning, no matter how tiny the change may be.

To consider Modality metaphor in Japanese, let us see how Japanese translations correspond to each example of (27).[30] The following is the case of probability Modality in modalisation:

(28) a. *Meari-wa sitteiru daroo.*
Mary-TOP know MOD PROB
'Mary will know.'
b. *Meari-wa osoraku sitteiru.*
Mary-TOP probably knows
'Mary probably knows.'
c. *Meari-wa sitteiru-to omou.*
Mary-TOP know-CONJ PROJ think
'I think that Mary knows.'

30. Here we use our translation examples based on the English examples in (27) as we consider that the translation in this case can most clearly show similarities and differences between the two languages.

d. *Meari-ga sitteiru-to-iu koto-wa hobo kakuzitu-da.*
Mary-NOM know APPOS TNG-TOP probable AST
'That Mary knows is probable.'

e. *Meari-ga sitteiru-to-iu (koto-no) mikomi-wa kiwamete takai.*
Mary NOM know APPOS (TNG-GEN) probability-TOP very high
'The probability of Mary knowing is very high.' or 'The probability that Mary knows is very high.'

It is not so difficult to translate (27a), (27b) and (27c) into Japanese. However, (27d) has no word-for-word translation into Japanese, because Japanese does not possess the formal Subject 'it' in its grammatical system.[31] Still, (28d) as a free translation is close in meaning to the English (27d). (28e) is an additional example to illustrate a case of meta-Modality metaphor (or self-reflexive metaphor of Modality) in our terminology. It is the highest in the metaphorical scale just like meta-Mood metaphor discussed above.

Both in (27) and (28), the degree of metaphoricity is becoming higher from the top example toward the bottom one. For Mood, as already discussed above, we have identified two types of Mood metaphor as a broad distinction; a strengthening explicit type created through thematic equation or nominalisation, on the one hand, and a softening implicit type, which is main as a Mood-shifting metaphor of Mood, on the other. On the contrary, for Modality, its metaphorical form almost always acts as a strengthener for the congruent meaning because the function of Modality is to express meanings in the indeterminate region between the polar extremes 'yes' and 'no', so Modality by nature gives a softening effect to the clause. As a result, it is unnecessary to soften the inherently softening meaning of Modality, except for a few cases to be mentioned later. On the other hand, apart from this softening function of Modality, we should keep in mind that, among Modal expressions, there is a rank of values; high, intermediate, and low, in this order between the top positive pole and the bottom negative pole, as shown in (25) above. This difference in values has something to do with the functions of softening/strengthening inside the realm of Modality and also with our notion of 'Modality complex' to be referred to below.

4.3.1 *Srengthening explicit metaphor of Modality*

The dominant function of Modality metaphor is the strengthening of the relevant modal meaning. By the expression 'strengthen' is meant the function to make the modal meaning explicit and/or objective. The figure of strengthening metaphor of Modality is as follows:

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31. The formal 'it' construction like in (27d) could be interpreted as an instance of 'naturalised Transitivity metaphor' in English. The English grammar has developed the formal 'it' which has no semantic content but a grammatical function.

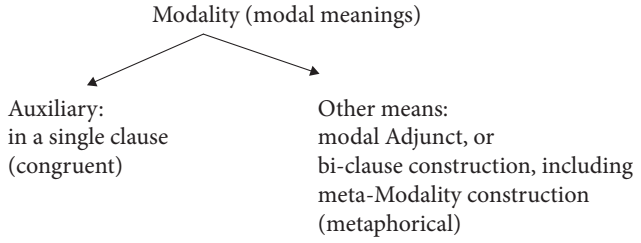

Figure 7. Congruency and metaphoricity of Modality (strengthening Modality metaphor)

In Figure 7, we interpret the use of modal Adjunct as adding one more step of metaphoricity, as compared with the most congruent type, which uses auxiliary verbs.

As for the metaphor of probability in modalisation Modality, Halliday's following examples deserve close attention. All are cases of bi-clause metaphorisation of probability.

(29) a. *It is obvious* that he disclosed information about the company.
b. *Every one admits* that he disclosed information about the company.
c. *No sane person would pretend* that he did not disclose information about the company.
d. *Commonsense determines* that he disclosed information about the company.
e. *You can't seriously doubt* that he disclosed information about the company.
(Halliday 1994: 355, partially modified by the writer and the italics added)

(29) shows the rich variations of metaphorical wording in English to express the modal meaning of probability. The metaphoricity of these examples would have been overlooked with no serious attention if Halliday had not pointed out that they are actually an interpersonal metaphor of Modality. In terms of the function of softening /strengthening, we find that the examples in (29) are all a strengthening Modality metaphor of the congruent wording 'He must have disclosed information about the company'.

We could make a meaning-based free translation into Japanese of all the examples in (29) without much difficulty. For a word-for-word translation, however, there is a difference in the degree of difficulty. For example, (29b) is the easiest to translate in the word-for-word way. For (29a) and (29c), it is impossible because there is no form of 'formal *it*' or no negative form of '*no* + noun' like 'no person' as a Subject of the clause. For the remaining (29d) and (29e), both their literal and free translations are possible, but if we choose a literal word-for-word translation for them, it will sound literary or dramatic. It is rare in casual conversation in Japanese.

Then let us see some examples of Japanese Modality of usuality:

(30) a. *Kare-wa Oranda-ni iku koto-ga aru.*
he-TOP the Netherlands-LOC go TNG-NOM exist
'He goes to the Netherlands.' (frequency implicit)

b. *Kare -wa yoku Oranda-ni iku.*
he-TOP often the Netherlands-LOC go
'He often goes to the Netherlands.'

c. *Kare-ga Oranda-ni iku hindo-wa takai.*
he-NOM the Netherlands-LOC go frequency-TOP high
'The frequency of his going to the Netherlands is high.'

(30a) is most congruent. (30b) is one-step more metaphorical, for it makes the modal meaning of usuality one-step more objective by using the Adjunct of frequency *yoku*. Note that the appearance of the Adjunct *yoku* in (30b) makes the congruent expression *koto ga aru* unnecessary. (30c) uses a meta-Modality word 'frequency' and turns the clause to an equivalent of a bi-clause. (30c) is highly metaphorical as a strengthening explicit and objective metaphor of Modality.

Let us turn our eyes to modulation Modality in Japanese. In (26) above, the Japanese Modulation makes a distinction between necessity and obligation, but here let us tentatively allow the term obligation to represent the two notions of obligation and necessity for convenience's sake:

(31) *Anata-wa sono kisoku-wo mamora-nakereba-naranai.*
you-TOP that rule-ACC observe-MOD OBLIG
'You must observe that rule.'

The Example (31) corresponds to the English Modality, obligation, expressed with 'must'. In (31), *nakereba naranai* is structurally a combination of two negatives, but the modal meaning of obligation as modulation Modality is the same as English 'must'. Either in English or Japanese, modulation Modality, including 'permission', can function as a softening Mood metaphor of a bare imperative Mood. This is a unique function of obligation Modality. In (31), we see the type of Mood shift from Imperative to declarative, which supports our interpretation that obligation Modality, when used in declarative, is a Mood metaphor, namely a softening metaphor of imperative Mood. The same is true for the Modality of permission and expectation in Japanese, except for inclination Modality. Thus, (31) is a Mood metaphor of the congruent imperative 'Observe the rule!' This phenomenon is not found in modalisation Modality, as there is no Mood shift occurring through modalisation.

Finally, let us consider the Modality of inclination in modulation. Both English and Japanese have inclination Modality. In English, it is more or less related with one of the basic speech functions 'offer'. For instance, the modalised clause 'I will help you' or the further metaphorical clause 'I am willing to help you' can express an offer. In addition to inclination Modality, English has a number of 'offer' expressions even though there is no fixed Mood for 'offer'. As a result, it is difficult to identify which is the most congruent 'offer' expression in English.

In Japanese, the function 'offer' is built in both the suggestive Mood and the oblative Mood (both using *siyoo*) as seen in (16b) above. So, these two Mood types express 'offer' congruently. In addition to this congruent expression of 'offer', the speaker could use other expressions of the inclination Modality metaphorically, not congruently. In this case, there is a Mood shift from the congruent Mood of suggestion or oblation to another Mood, such as declarative Mood or interrogative Mood. The following are the examples of 'offer' in Japanese, which are expressed in the declarative Mood, not in the congruent oblative mood for 'offer'. Thus, a Mood metaphor:

(32) a. *Anata-wo tasuke-tai.*
you-ACC help MOD INCL
'I want to help you.'
b. *Anata-wo tasukeru tumori-da.*
you-ACC help MOD INCL
'I intend to help you.'
c. *Anata-wo tasukeru ki-deiru.*
you-ACC help MOD INCL
'I am in the mood of helping you.' or 'I am willing to help you.'

Note that the three examples in (32) are all congruent uses of inclination Modality of modulation in Japanese. They are expressed in the declarative Mood as a metaphor of oblative Mood for 'offer'.

4.3.2 *Subjunctive as a softening metaphor of Modality*

In fact, there is a Modality metaphor of the softening kind. Consider the expression of modalisation 'The rumor might (or would / could) be true,' or modulation 'Then, you might (or would / could) go.' The past forms of these modal auxiliaries are traditionally called subjunctive Mood. As long as the subordinate if-clause is not expressed and the relevant condition is implicit, these past-form modals function to make the utterance softer or more implicit than the case of the present-form modals being used. This phenomenon is regarded as an instance of softening metaphor of Modality in English.

Japanese does not have a subjunctive form of this kind. In Japanese, however, some forms of Modality complex can behave as a softening Modality metaphor. For example, see the expressions *sinakereba naranai daroo* (*Lit.* 'must + will / would + do') or *sitemoyoi desyoo* (*Lit.* 'may + will / would + do'). Here, the intermediate-value probability-Modality *daroo* or its polite form *desyoo* is softening the preceding Modality of obligation and permission respectively. Note that this type of softening Modality complex can occur in almost all the cases of modulation in Japanese where the *daroo* / *desyoo* attachment is grammatically possible, while the combination of pobability Modality and the *daroo* / *desyoo* attachment is questionable. Even if we find the combination '*tigainai daroo/desyoo*' or '*kamosirenai daroo/desyoo*', the auxiliary verb '*daroo/desyoo*' usually means 'confrimation', not 'inference' to soften the preceding meaning of probability Modality.

Apart from the Modality complex made through the *daroo/desyoo* attachment, there is another grammatical means to soften a modal meaning. It is through the projecting expression of '*-to omoimasu*', which is the polite form of non-polite normal form '*to omou*'.[32] This polite form is used frequently and preferred in Japanese. This is a useful expression to describe a personal opinion in a polite manner, while it is sometimes exploited as a conversation hedge to protect oneself from anticipated counterarguments in public.

In Japan, students learn that 'I think' means '*to omou* / *to omoimasu*''. Surely, like 'I think', '*to omoimasu*' can convey the speaker's subjective inferential meaning, but these two expressions are not exactly the same in some points, as described below.

First, '*to omoimasu*' signals the meaning of 'what I have said is exclusively based upon my own inferential idea'. In some uses of '*to omoimasu*', however, the feature of subjectivity and resultant softening effect seems conspicuous rather than that of making the probability meaning more metaphorically explicit as in the English meaning of 'I think'. This subjective emphasis is considered to be a significant feature of '*to omoimasu*'.

Next, another notable feature of 'to *omoimasu*' is that it can project various types of wording, whether they are full clauses in different Moods, truncated clauses, or fragments of wording. It projects the clauses in declarative Mood like English, but unlike English, it can often project the clauses in interrogative Mood and occasionally the clauses in imperative Mood too. The examples of a full clause follow:

(33) a. *Sore-wa hontoo-da-to omoimasu.*
It-TOP true-AST-CONJ PROJ MOD PROB POL
'I think that it is true.'

32. For a detailed description of the notion of projection, see Halliday and Matthiessen (2014: 509–511, 698–701).

b. *Sore-mo ari-ka-to omoimasu.*
It-TOP possible-Q-CONJ PROJ MOD PROB POL
'*Lit.* * I think that is it also possible' ⇒'I think that it may also be possible.'
(*cf.* note 33 below)

c. *Tamani-wa gaisyutu siro-to omoimasu.*
For a change-TOP outing do: IMP-CONJ PROJ MOD PROB POL
'*Lit.* * I think that go out for a change,' ⇒'I think that you must go out for a change.'

(34) a. *Sore-wa hontoo daroo-to omoimasu.*
It-TOP true MOD PROB-CONJ PROJ MOD PROB POL
'I think that it will be true.'

b. *Kimi-wa kono heya-ni iru-beki-da-to omoimasu.*
You-TOP this room-LOC stay MOD OBL-AST-CONJ PROJ MOD PROB POL
'I think that you should stay in this room'

c. *Kono heya-ni i-tai-to omoimasu.*
This room-LOC stay MOD INCL-CONJ PROJ MOD PROB
'*Lit.* I think that I want to stay in this room. ⇒'I want to stay in this room.'

All of the projected clauses in (33) are non-modalised. (33a) is declarative, (33b) interrogative though not a simple information-requesting question, and (33c) imperative. Note that English 'I think' cannot project interrogative Mood and imperative Mood. In (34), all the projected clauses are already modalised. (34a) is modalised with probability Modality, (34b) with obligation Modality, and (34c) with inclination Modality. Indeed, for (34c), English has the expression 'I think that I want to stay in this room' shown as a literal translation in the example, but its meaning is delicately different from the Japanese example that is accompanied by '*to omoimasu*'. Japanese wording '- *itai to omoimasu*', as if it were a single set-phrase, simply describes the speaker's wish or desire in a subjective and polite way without much implication of probability or inference.

Let us recall the orientation of 'I think' as proposed in SFL, which is 'subjective/explicit' as a Modality metaphor of probability with the intermediate value. This characterisation applies to '*to omoimsu*' in (33a), (33b), (34a) and (34b). (34a) is a case of Modal Concord (*cf.* Halliday 1970: 172). In English, this kind of concord is normal. In Japanese, some people may feel more or less a sense of unnaturalness. If so, it is probably due to some redundancy sensed in the sequence of congruent and metaphorical Modal expressions of the same modalisation category of probability and the same intermediate value. (34b) can be called a type of Modal Accumulation between congruent obligation and metaphorical probability (*cf.* Halliday 1970 *ibid.* and Fukuda 2016: 154).

The SFL notion of subjective/explicit metaphor of probability can apply to all the examples of '*to omoimasu*', with the exception of (33c) and (34c).[33] Furthermore, we find it noteworthy that the expression '*to omoimasu*' in all the examples above produces a 'softening effect', which must be associated with the two features of '*to omoimasu*'. One is its polite form in the honorific system, and the other is the grammatical function of projection. In the state of projection, any clause is being presented on the screen of the speaker's subjective cinema. In this point, Modality in general has a function of projecting semantically, but metaphorical Modality can make projection grammatically explicit, such as in the expressions of 'I think', '*to omoimasu*', and others.

As shown above, Modality metaphor '*to omoimasu*' performs the function of softening. In this point, it resembles *'daroo*'. There is, however, a difference between them. The congruent modal auxiliary '*daroo/desyoo*' can soften the modal meaning of the preceding congruent modal auxiliary of the different category, in order to produce the adjacent Modal Accumulation. On the other hand, the probability metaphor *'to omoimsu*' softens almost all types of interpersonal meaning through its function of subjective projection, as long as it is grammatically allowed to appear at the end position of a given clause. As far as Modality is concerned, the expression *'to omoimasu*' produces a kind of the remote Modality complex accompanied with the softening effect, whether it is in Modal Concord or Modal Accumulation.

4.4 Summary of the metaphors of Mood and Modality

Let us summarise Mood metaphor and Modality metaphor in terms of the strengthening (or making explicit) and the softening (or making implicit) functions.

First, let us look back to our discussion about Transitivity and its metaphor. Transitivity metaphor does not have a direct relationship with the functions of strengthening and softening. Transitivity is, by definition, the over-all configuration of process, participants, and circumstantial elements, and reflects how we construe our experiences in the inner and outer world of our existence. Thus, Transitivity is the central category in the realm of ideational metafunction, and so is nominalisation.

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33. Try to use '*to kakusin simasu*' (= I am certain) or *'to soozoo simasu'* (= I imagine) in place of '*to omoimasu*' of each example in (33) and (34). If the two alternatives or at least one fits well, then '*to omoimasu*' of the relevant example is a probability metaphor. In (33c) and (34c), this substitution is difficult to make. Incidentally, if the projected clause in (33b) were interpreted as a simple information-requesting question, then *'to omoimasu*' should be translated into 'I wonder if', not 'I think'.

By contrast, Mood and Modality are the central categories in the Interpersonal metafunction and in the system of the generation of the interpersonal meanings. When we consider Mood and Modality metaphors, we should pay special attention to the two kinds of functions, softening and strengthening. For the definition of these functions, see the footnote 19 and the beginning of Subsection 4.3.1 above. In addition, it should be noted that the softening metaphor is main for the Mood category, while the strengthening metaphor is main for Modality. This distinction comes from the inherent character of Mood and Modality.

Mood is a fixed grammatical structure, and the incongruent (= metaphorical) Mood selection is often motivated by politeness, thus the softening function is dominant, particularly in Mood-shifting metaphor. In fact, however, we have also found that there is a strengthening metaphor of Mood. It is a Mood-shift unbound meta-Mood metaphor (or self-reflexive metaphor of Mood) through the construction of thematic equative or nominalisation on the one hand, and a Polarity-reversing rhetorical question as a Mood-shifting metaphor, on the other. Both kinds of Mood Metaphors are highly affected by situational and/or verbal context for their use.

On the other hand, the inherent character of Modality is to express the indeterminate semantic sphere between the polar extremes, 'yes' and 'no', thus it has a softening function by nature. Therefore, Modality metaphor is oriented conversely towards more and more explicit and/or objective presentation of modal meaning. Consequently, the strengthening metaphor is main. It is, however, found that the subjunctive past form of some modal auxiliaries in English functions as a softening metaphor, but this is restricted to the auxiliaries which have their own past forms. In Japanese, we have shown that a Modality complex, accompanied by '*daroo*' or '*desyoo*', can work as a softening metaphor of Modality, except for the case of probability Modality complex. Furthermore, we discussed the function of '*to omoimasu*' as a softener for almost all kinds of Modality and wording forms.

The distinction between softening and strengthening interpersonal metaphors is summarised in Table 2 below. Note that this classification of metaphorical functions essentially applies to Japanese as well as English.

Table 2 tells us that the grammatical device of projection is related with some cases of interpersonal metaphors of Mood and Modality. However, the same does not apply to the cases such as rhetorical WH-question as a Mood metaphor, derived metaphor of Mood for derived speech functions, and softening-type Modality metaphor by means of subjunctive past-form of modal auxiliaries.

Another significant finding is a metaphorical crossover between Mood and Modality. It will bring out a different interpretation of a metaphor, depending upon which angle we should adopt in observing an interpersonal metaphor, from Mood or from Modality. For example, in view of the congruent imperative Mood

'Go now', the clause 'Let me say you should go now' is a Mood-preserving *softening* metaphor,[34] while the clauses 'You must go now' and 'You are required to go now' are a Mood-shifting *softening* metaphor of the congruent imperative Mood. Viewed from Modality, on the other hand, 'You must go', as a *softening* metaphor of imperative Mood, is the congruent Modality form, while, 'You are supposed / advised / expected to go now' is a *softening* Modality metaphor of the periphrastic *strengthening* Modality metaphor 'You are required to go now'.

Let us remember that Mood is softened with Modality as its lower category, while Modality is a semantic category which is independent of Mood. Besides, Modality elements have their own values from higher to lower. Therefore, this sort of metaphorical crossover can occur in the realm of interpersonal metafunction.

5. Conclusions

First, we concentrated on the elucidation of the relationship between the notion of congruency and that of metaphoricity. We started with the consideration of Transitivity metaphor including nominalisation, and then proceeded to Mood and Modality metaphors. It is reconfirmed that the degree of congruency of Transitivity metaphor depends upon the agreement or disagreement between the speaker's experiential meaning on the one hand, and the selection of lexico-grammatical means such as process types, kinds of participants and circumstantials, on the other. This we call a process-type metaphor. The other type of Transitivity metaphor is nominalisation, in which the relevant Process is deprived of its real-world-reflecting grammatical features, and transformed into THING. It often, but not always, causes the shift of process types.

As for interpersonal metaphor, the notion of congruency is different in kind from the Transitivity metaphor. Congruent Mood is characterised by the agreement between Mood meaning (any one of the basic speech functions) and the selected Mood structure. Any departure from this agreement is regarded as more or less metaphorical. On the other hand, congruent Modality is typified by the agreement between modal meaning and the selected modal auxiliary or predicate verbs with modal meaning. Any departure from this agreement is classified as more or less metaphorical.

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34. Mood metaphors are often accompanied by the shift of Mood. However, Mood metaphors can be created as a Mood-preserving kind. In this example, the Mood of the whole clause remains imperative starting with 'Let', but the congruent imperative clause 'Go now' is rank-shifted to the projected clause with 'say' as a projecting verb, thus indirect and metaphorical.

Table 2. Mood metaphor and Modality metaphor: strengthening and softening

Mood metaphor	Strengthening, Explicit (meta-Mood, Mood-shift unbound)	Thematic Equative: Ex. What I want to say is that it is true. Ex. *Iitai koto-wa sore-ga hontoo-da-to-iu koto-da*. (Say want TNG-TOP it-NOM true-AST-APPOS-TNG-AST) Nominalisation of Mood Meaning Ex. My question is whether it is true or not. Ex. *Watasi-no situmon-wa sore-ga hontoo-ka dooka-da*. (My question-TOP it-NOM true Q or not-AST)
	Strengtheing Implicit (Mood-Shifting)	WH-Rhetorical Question. Ex. Who cares? Ex. *Dare-ga kamau mono-ka*? (Who-NOM care Rhetorical Marker-Q) Possible derived speech functions to be added from the context
	Softening, Implicit <Main Type> (Mood-Shfting)	Mood-shift from congruent INTERR to metaphorical DECL. Ex. I wonder if it is true. Ex. *Sore-wa hontoo-ka-sira*. (It-TOP true-Q-wonder)
	Implicit Derived metaphor (Mood-shift unbound) Context-dependent Metaphor	Ex. I will stay here. (Congruent meaning: Staement) Ex. *Watasi-wa koko-ni todomaru-tumori-da*. (I-TOP here-LOC stay MOD INCL-AST) Derived speech function, metaphorically interpreted from the context: offer/promise/vow/encourage/ comfort/threaten, *etc*. The judgement of 'softening/ strengthening' depends on the context.
Modality metaphor	Strengthening, Explicit <Main Type> Bi-clausal projection or meta-Modality through nominalisation	Ex. It is required that you will go. Bi-clause, Impersonal projection Ex. *Hituyoona-no-wa kimi-ga iku koto-da*. (Required-TNG-TOP you-NOM go TNG-AST) Nominalisation of modal meaning, Meta-Modality.
	Softening, Implicit: Past forms of Modals; *'daroo/desyoo '* attachment or *'to omoimasu'* attachment.	Ex. Then, you might sit down. Ex. S*orekara anata-wa suwatte-yoi-desyoo*.(then You-TOP sit may will/would) Excluding the case of probability Modality. For other examples, see the related pages above. The expression '*to omoimasu'* is used as a softener for Mood and Modality (complex), like *daroo/desyoo*.

Secondly, we have shown that Mood has two types of metaphors, namely a softening (or implicit) metaphor and a strengthening (or explicit) metaphor. The former is the main function of Mood-shifting metaphors, which seems to be politeness-oriented in many ways. The latter is created through the thematisation or the rhematisation of the Mood meaning or through the nominalisation of the Mood meaning. We call it a meta-Mood metaphor, which could be rephrased as a self-reflexive Mood metaphor. This is a Mood-shift-unbound metaphor. These two kinds of Mood metaphor are identified in Japanese as well as in English. Another strengthening type of Mood-shifting metaphor is a rhetorically used WH-question. It is also the case with Japanese. In addition, there is a Mood-shift-unbound metaphor we call a secondary Mood metaphor, to which the distinction of softening and strengthening could not be applied directly, for the judgement depends largely on the context.

Like Mood metaphors, Modality metaphors have two kinds of functions: a strengthening type and a softening one. The former is the main function of Modality metaphors. They are realised through the selection of grammatical means other than modal auxiliaries such as modal Adjuncts, bi-clause constructions, and a meta-Modality metaphor (or a self-reflexive Modality metaphor). As for the softening type of Modality metaphor, it is narrowly restricted to the Modal Auxiliaries 'will', 'can', and 'may'. In the case where those auxiliaries are used in the past form in the clause without any explicit conditional clause, the relevant modal meanings are simply softened. This kind of past form is traditionally named subjunctive Mood. In Japanese, the modal auxiliary '*daroo / desyoo*' can form an Modality complex combined directly with other modal auxiliaries and acts as a softener for their meanings except for probability, while '*to omoimasu*' behaves as a projector to soften almost all meanings of Modality and various wording types.

Thirdly, English and Japanese are surely very different in phonology, orthography, word formation, word order, and many other features. We have, however, found out that there are many more similarities than differences between the two languages as far as grammatical metaphor is concerned. We hypothesise that SFL notions of Transitivity and six process types are cross-lingual. Similarly, the distinction between Mood and Modality also applies to Japanese. After all, the interpersonal category of EXCHANGE and the corresponding four basic speech functions are so fundamental that they could probably be applied to many other languages in addition to English and Japanese. We assume that every language has congruent or more metaphorical wording types with reference to the criteria as discussed in the present chapter.

As for the language specific differences, we have introduced 'naturalised grammatical metaphors'. By 'naturalised' we mean 'typically and frequently used

in everyday life'. We took up several types of construction preferred in Japanese, such as the *naru*-type wording, the frequent use of intransitive verbs, and the veiled Given participants such as the Subject and/or the Object of a clause. These preferred sorts of wording are more or less a departure from the congruency proposed in SFL, thus metaphorical. At the same time, they are completely natural and preferred in Japanese. They may be politeness-oriented, or linguistic-economy-oriented, or focus-distribution-oriented naturalised grammatical metaphors.

It can also be pointed out that there are quite a few examples of 'naturalised metaphor' in English. For instance, the idiomatic 'make a mistake' type of verb group, or the formal or impersonal 'it' construction, the Subject-like 'there' in the existential clause, the frequent use of an inanimate Subject as an Actor or an Agent, *etc*. They are theoretically more or less departing from the congruency as proposed in SFL, thus metaphorical. Still again, they are completely natural in English. They are essentially oriented toward the needs of the grammar of English as an S + V + O language.

Lastly, we saw that, although grammatical metaphor is grouped into ideational metaphor and interpersonal metaphor, it is not created only in the realm of a single separate metafunction, such as ideational metafunction or interpersonal metafunction, but in the simultaneous involvement of the three metafunctions, including textual metafunction.

Grammatical metaphor, as a gradient continuum, gives us a new perspective to explain on language use in different registers and genres from casual conversation to scientific text, and probably a new way to analyze traditional metaphors also, such as tropes and rhetoric. In addition, grammatical metaphor allows us an overview of the ontogenetic and phylogenetic processes of language development, starting from the most congruent towards those which become increasingly metaphorical. This process must be common to all human languages in different guises.

Acknowledgements

I am deeply grateful to my old friends and colleagues Gregory Hadley (applied linguistics) and Yukio Yamazaki (general linguistics) for reading earlier drafts of this chapter, and giving me many valuable suggestions. I alone, however, am totally responsible for any errors.

Abbreviations

ACC	accusative
APPOS	appositive
AST	assertive
BEN	benefactive
CAUS	causative
COND	conditional
CONGR	congruent
CONJ	conjunction
DECL	declarative mood
EXPL	explanative
GEN	genitive
IMP	imperative
INCL	inclination
INFL	inflection
INTERR	interrogative
Lit.	literal
LOC	locative
METAPH	metaphorical
MOD	Modality / modal auxiliary, modalised
MNL	monologue, monologic
NAT	naturalised
NEG	negation
NEGOT	negotiator
NOM	nominative
OBLAT	oblation / oblative
OBLIG	obligation
PERF	perfect aspect
POL	polite
PROB	probability
PROJ	projection
Q	question
REQ	requestive
SUG	suggestive
TNG	THING
TOP	topic

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CHAPTER 4

A contrastive study of the English and Japanese modality systems

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The main purpose of this chapter is to compare the modality systems of English and Japanese focusing on the subcategories of Modalization and Modulation. Since the definitions and the subcategorizations of modality are different from one researcher to another, the descriptions depend on the framework. The Systemic Functional framework is adopted as the main one in the analyses of English and Japanese modality systems.

Halliday and Matthiessen (2014) subcategorize the system of Modality of English into Modalization and Modulation. Further, Modalization is divided into usuality and probability, and Modulation into obligation and inclination. Whereas the English Modality system is considered to be quite simple, Teruya (2007)'s subcategorization for the Japanese Modality system is far more complex: he divides Modalization into ability, probability and usuality, and Modulation into necessity, obligation, permission, expectation and inclination. Fukuda (2016) added evidentiality to Modalization, and Kadooka (2016) followed this addition.

Then follow the syntactic analyses of the Modality expressions in Japanese. There are some positive/negative pairs with the polarity, such as 'hituyou ga aru/nai' (*necessity* + *NOM* + *exist/does not*, 'there is necessity to/not to do something).' One of the pairs of which the positive and the negative polarity belong to different categories is the permission 'si-te mo ii' (*do* + *also* + *possible*, 'you can do') and the obligatory 'si-te wa nara-nai' (*do* + *TOP* + *possible-not*, 'you must not do'). Notice that the negation form 'nara-nai' does not have the positive counterpart '*naru' in the sense that one can do something, which shows that there is asymmetry between the positive and the negative polarities with some verbs in Japanese. Together with such asymmetries, the negation patterns of the Japanese modality expressions are insightful from the viewpoints of lexicogrammar and semantics.

Keywords: Modulation, Modalization, negation, syntactic categories

https://doi.org/10.1075/z.234.03kad

1. Introduction

As the title shows, the main purpose of this chapter is to contrast the modality systems of English and Japanese. Since the definitions and the subcategorizations of modality are different from one researcher to another, the descriptions depend on the framework. In this chapter, the Systemic Functional framework (Halliday 1985, 1994, Halliday and Matthiessen 2004, 2014) is adopted as the main one. One of the advantages of adopting the Systemic framework is that a direct comparison is possible based on the study on the English system in Halliday and Matthiesssen (2014, henceforth referred to as *IFG 4*) and the Japanese counterpart in Teruya (2007).

Among the previous papers of Kadooka (2014, 2015, 2016, 2017, 2020), I followed the Systemic framework for the analysis of the English Modality system: Modulation subcategorized into obligation and inclination, and Modalization into usuality and probability. As for the Modality system of Japanese, on the other hand, I basically adopted the framework in Teruya (2007), but added evidentiality as the subcategory of Modalization. See Section 4 below for the detail.

When we contrast the modality expressions in English and Japanese, it is noticeable that the asymmetry in Japanese is impressive, while it is not the case in English: in English, those pairs such as *must – must not, may – may not, will – will not, shall – shall* not are always symmetrical. In Japanese, however, the negation *nakere-ba-nara-nai* (will-not-do-not, 'must') is unmarked but the positive counterpart **nakere-ba-naru* is semantically eccentric. In that regard, it will be important to look into the syntactic and semantic negation patterns, especially for the analysis in Japanese in the following sections. It will be shown in the following sections that the negations in the Japanese modality expressions are syntactically rather simple, while in English the interpretations are different in the proposition negations and in the modality negations.

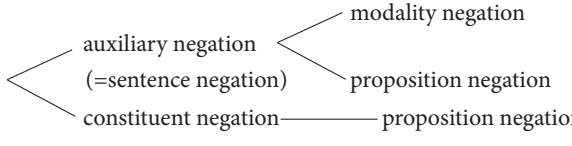
In the following sections, I hypothesize that the analysis for the English modality system in IFG 4 is intentionally made simple. Take the subsystems of Modality for an example: first, the subcategories of modality into modalization and modulation; then modalization into probability and usuality; and modulation into obligation and inclination. The ambiguous description about ability/potentiality in (IFG 4: 696) would endorse this hypothesis. It is not the case, however, for Japanese in this paper and Teruya (2007), due to the syntactic complexity of the modulation expressions.

2. Syntactic negation and semantic negation

Before looking at the Modality systems, we will focus on the negation patterns from the viewpoints of syntax and semantics. In the following sections, we will distinguish 'syntactic negation' and 'semantic negation.' The former refers to the pairs such as *must* and *must not* in English; syntactically the simple negation *not* is added to the auxiliary *must*, and the meaning of the obligation of 'must' is maintained in *must not* (semantic negation). In other words, the opposite of the obligation is realized as the prohibition. In this particular case, the relation between the syntactic and semantic negations are straightforward. In Japanese, on the other hand, the syntactic negation of 'hituyou-ga-aru' (literally 'there is necessity') is 'hituyou-ga-nai' ('there is not necessity'), being realized as the simple negation by 'nai' (not) instead of *aru* ('have, be'). Again the relation between syntactic and semantic negations is consistent. It is not the case, however, the negation *nakere-ba-nara-nai* (will-not-do-not) is unmarked but the positive counterpart **nakere-ba-naru* is semantically odd. Though the syntactic negation *nara-nai* from *naru* is possible, the semantic relation between them is asymmetric. This asymmetry seems to come from the semantic change of the negation *nara-nai* from its counterpart *naru*.

Sawada (2006: 168) emphasizes that "It is important in the negation of the (modal) auxiliaries to distinguish the syntactic function from the semantic one (whether the scope of negation is included or not)" (translation mine). This is in line with the distinction between the syntactic negations and the semantic ones introduced above. Partly due to the limitation of pages, however, this chapter cannot look into such depth as presented in the same page in Sawada (2006: 168, table (8)), with regard to the negation types. The table is as follows:

(1)



"Auxiliary negation" is synonymous as sentence negation, in which the scope of negation covers the whole sentence. While "constituent negation" covers the part of the sentence, i.e. particular word, phrase, clause. The criterion of this classification is the co-occurrence of the negation particle 'not' and the auxiliary verbs. It is noticeable firstly that the auxiliary negation and the sentence negation are synonymous. The next point particular in (1) is that both the auxiliary and constituent negations include the proposition negation. Notice, however, that the constituent negations are immediately the proposition negations.

Below are the examples of the auxiliary negation (a, b) and the constituent negation (c, d, e), proposition negation (f–i) and Modality negation (j–l), from Sawada

(2006: 168–172), citing Klima (1964, emphases original). In the proposition and Modality negation examples, the scope of the negation is indicated with square brackets:

(2) a. John wouldn't be happy with any job.
b. I won't force you to marry anyone.
c. Writers *not* infrequently accept suggestions, and *so* do the publishers.
d. There was some rain *not* long ago, *even* in the desert.
e. *Not* a few authors criticized him severely, *didn't they*?

Proposition negation		Modality negation	
f.	John may [not come].	j.	John may not [come].
g.	John can [not come].	k.	John cannot/can't [come].
h.	John must[n't come].	l.	John needn't [come].
i.	John should[n't come].		

(a, b) are examples of the negation of the *-n't* auxiliaries. Those counterparts without *-n't* in (a) are: *With no job* John would be happy (John would not be happy given any kind of job); *With no job*, John would be happy (John would be happy if he does not have to work). It is surprising that only the addition of comma after *With no job*, the interpretations of the propositions of the clauses are totally different. (b) is the paraphrased version of *I will force you to marry to no one*, which has another interpretation "I will force you not to marry anyone."

In (c), *not* negates the adverb *infrequently*, and hence it is possible to paraphrase as 'It is not infrequently that writers accept suggestions.' Notice that the predicate *accept suggestions* is not negated at all, only the adverb. In this sense, the negation covers only one word. Similarly, the negation covers only *long ago* in (d), not the fact that there was some rain. In (e), the subject *not a few authors* means *many authors*. Though both the auxiliary and the constituent negations share the proposition negation patterns, there is a significant difference: that is to say, in constituent negation sentences, the negation covers only negating part of the propositions. It would be possible to classify the examples in (2) as semantic negation. The negated parts are *infrequently* in (c), *long ago* in (d), and *a few* in (e).

Sawada (2006: 172) points out that Modality has a wider scope than Proposition has, which is shown by the Examples (f–l) above. Though the surface structures, i.e. (f, j) "John may not come" and (g, k) "John cannot come," without brackets, are the same, the scopes indicated by brackets are different. As the examples and the discussion in Sawada (2006) are complicated and lengthy, we will look into only one of them. In "John cannot/can't come tomorrow," a derived version of (k) above, the negation *not* modifies *can*, and hence the contraction form *can't* is possible. This is the modality negation, implying that it is impossible for John to come the next day. On the other hand, in "John can not (≠ can't) come tomorrow," *not* modifies the verb phrase, and as the ≠ sign indicates, it can not be contracted as *can't*. The paraphrase of this would be "it is possible for John not to come the

next day." Thus, it can be concluded that it is crucial for the negation to which word or phrase it modifies.

3. Modality in English

3.1 Definitions of modality

In this section, we will briefly look at the modality systems in English adopting the Systemic definition. In several respects, such as the definition of Modality and the subcategories, the SFL framework is quite different from others. As a comparison, we will also refer to Palmer (1990, 2001) since these are based on the *subjective* view of the modality system in English.

First of all, we will look into various definitions of modality, comparing the concepts and methodologies among the previous studies. Below is the definition of modality in (IFG 4: 176):

(3) What the modality system does is to construe the region of uncertainty that lies between 'yes' and 'no'.

Notice that the term *polarity* – the two ends are positive and negative – is objective in the sense that the speaker's attitude or judgment is not included. Iimura (2016: 51) says that 'by using the lexicogrammatical index of polarity, (3) above defines the scope of Modality, which linguistically distinguishes *the world of being* and *the world of not being*' (translation mine). Fukuda (2016: 144) refers to the Mood system as the lexicogrammatical form corresponding to basic speech function, following the statement that Modality and Mood are the concepts which are not mutually exclusive. From the viewpoint of the Interpersonal metafunction, Modality is part of the whole Mood structure. Fukuda (2016: 147) also points out that there are three *values* in polarity: in [probability], *certainly – probably – possibly*; in [usuality], *always – usually – sometimes*; in [obligation] *required – supposed – allowed*; in [inclination] *determined – keen – willing*. A 'value' is the degree of polarity from the positive to the negative, or vice versa. Fukuda (2016: 153) defines the Modality expressions as follows: 'As Modality is the world of meaning, its expression forms include various ones other than formatted forms, as far as they are consistent with the definition that Modality is the region of uncertainty between 'yes' and 'no'' (translation mine). As unsophisticated impression of mine, these classifications and definitions of the Modality system of English are too simplified and too well-ordered. The table of the Modality system of English in (IFG 4: 691) contains only three auxiliary verbs: *must, will, may*. It seems strange why other auxiliary verbs such as *can, shall* are missing there. Instead, this table is geometrically simple and symmetric.

I hypothesize that the Modality system within the SFL framework, as illustrated by the table in (IFG 4: 691), is the result of abstraction through the filter of the definition. As pointed out above, the table illustrating the Modality system of English in IFG 4 (page 691) only suggests the totality, and hence leaves the detail out. As a matter of fact, the subcategory of ability is considered to be included in the Modality system. In IFG 4: 696, it is referred to as follows:

(4) There is one further category that needs to be taken into account, that of ability/potentiality, as in *she can keep the whole audience enthralled*. This is on the fringe of the modality system. It has the different orientations of subjective (implicit only) realized by *can/can't*, objective implicit by *be able to*, and objective explicit by *it is possible (for …) to*.

This is to be understood as a kind of an analysis of ability/potentiality in the Systemic framework, not a definition. 'This is on the fringe' seems to imply that the category ability/potentiality could be included in the modality system in the Systemic framework, but it is not in the actual descriptions in IFG 4. As will be shown in the following section, ability is included in modalization in the analysis of the Japanese modality system. This may suggest that the same analysis is possible in English – that is to say, ability is one of the subcategories of modalization. Though I will follow the definition of the English Modality system in (3) above and the subcategories in next subsection, I point out the possibility of other categorization.

Halliday and Matthiessen's definition (3) is in contrast with the *subjective* definitions such as those in Lyons (1977) and Palmer (1990). The definitions of Lyons (1977) and Palmer (1990: 2), and the matrix of the English modal auxiliary verbs (Palmer (1990: 18)):

(5) Lyons (1977: 452): They [adverbs such as *frankly, fortunately, possibly, wisely*: KK] are used by the speaker in order to express, parenthetically, his opinion or attitude towards the proposition that the sentence expresses or the situation that the proposition describes.
Palmer (1990: 2): … Lyons' (1977: 452) suggestion that modality is concerned with the 'opinion and attitude' of the speaker seems a fairly helpful preliminary definition…

	Prediction	Possibility capability, permission	Necessity requirement, prescription
Absolute, unrestricted	WILL	CAN	MUST
Contingent, inconclusive	SHALL	MAY	NEED
Morally determined (Palmer 1990: 18)		DARE	OUGHT

The meanings expressed by the modal verbs in English represent, to a large degree, those that are to be included in a typological account of modality, though, as will be seen shortly, the two most semantically fundamental kinds of modality (epistemic and deontic) are in one important sense very different from each other, so that it is necessary to find a justification to include them within a single category.

Here in these definitions, the opinion and attitude of the speaker are subjective. Subjective observations may be arbitrary by the observer's judgments in some cases, hence this definition may need some further arguments. The matrix shows that the English modal auxiliaries are systematized and that the number is relatively restricted, at least compared with that in Japanese (see next section). The chapters and sections of Palmer (1990) are basically arranged with these auxiliaries. In a sense, each of these auxiliaries represents the distinction in the realization of the English modality systems, as well as the subdivisions of deontic, epistemic and dynamic modality.

We will look at the subcategories of the English modality systems one by one. Below are the epistemic modality samples from Palmer (1986: 58):

(6) <positive> <negative>
a. He may be there. He may not be there.
b. He must be there. He can't be there.

Notice that the negation of 'He must be there' is NOT 'He must not be there' in the sense that it is certain that he is not there. The syntactic negation 'He must not be there' does not suggest the epistemic reading. Hence the semantic negation of the epistemic 'He must be there' is 'He can't be there.' There is some kind of semantic asymmetry between *must* and *must not*.

Under the title of the 'strength of modality' (in 9.2.1), Huddleston (2002: 177) lists three examples such as follows (emphasis original):

(7) i. The meeting must be over by now. [strong]
ii. The meeting should be over by now. [medium]
iii. The meeting may be over by now. [weak]

The three stages of strong, medium and weak are what the Systemic framework defines as values, reflecting the degrees of the speaker's certainty toward the factuality, which belongs to the realm of epistemic modality. In (i) the speaker's certainty is the strongest, then (ii) is weaker than (i), and (iii) is the weakest.

Then, following the degrees of epistemic certainty in (7) above, Huddleston (2002: 178) suggests the distinction between epistemic and deontic (8), and between deontic and dynamic (9) as follows (emphasis original):

(8)		strong	weak
i	[epistemic]	a. He must have been delayed.	b. He may have been delayed.
ii	[deontic]	a. You must pull your socks up.	b. You may stay if you wish.
iii		a. You must be very tactful.	b. He may sleep downstairs. [ambiguous]

(9) i. She can stay as long as she likes. [deontic]
ii. She can easily beat everyone else in the club. [dynamic]
iii. She can speak French. [ambiguous]

In (8), all of (i, ii, iii) occurrences are the contrast of the strong *must* and the weak *may*. These instances show the symmetric and the systematized nature of the English modality systems. The strength of *must* is always the case with epistemic, deontic or even in an ambiguous meaning, so is the weak *may* in that the certainty is weaker than *must* in the most instances. When we assume that deontic and epistemic are the most fundamental subcategories of the modality systems in English, the dynamic modality would be the third one, denoting the state of being able to do something. In (9)ii, the ability of beating everyone in the club is denoted by *can*, but in (iii) the ability of speaking French (dynamic) or the permission to speak French (deontic) is ambiguous without the context.

Though the scope of negation is the important aspect in the discussion of the modality, we cannot look into this topic in any depth now. We will only have a brief look at the internal and the external negations of the proposition and the modality. As for the deontic modality negation, Huddleston (2002: 183) lists the samples such as follows, where 'Nec' signifies necessity, 'P' proposition, and 'Poss' possibility:

(10) i. a. You mustn't attend the lectures. [internal negation: Nec not-P]
b. You may not / can't attend the lectures. [external negation: not-Poss P]
ii. a. You needn't attend the lectures. [external negation:not-Nec P]
b. You may / can not attend the lectures. [internal negation:Poss not-P]

It is contrastive with the epistemic samples in (6) that the positive counterparts can be immediately 'recovered' by removing *not* in (10) except (iia): (ia).You must attend the lectures; (ib) and (iib). You may / can attend the lectures. The reason for the ungrammaticality of '*You need attend the lectures' is described as 'The auxiliaries, unlike the lexical verbs, are restricted to non-affirmative contexts (negatives, interrogatives, and related constructions).' (Huddleston (2002: 110)). Though (ib) and (iib) are semantically distinctive (external vs. internal), they are syntactically the same with the positive counterpart 'You may / can attend the lectures.'

In conclusion, the modality system of English can be assumed to be both symmetric and simple, at least compared with Japanese to be shown below. English modality is 'simple' in the sense that almost all of the deontic and epistemic samples are expressed by the auxiliaries. In addition, auxiliaries cannot be duplicated in Standard English, such as '*will can' nor '*must shall.' The combination of multiple parts of speech is, however, unmarked or rather obligatory in Japanese, as shown in the next section. The 'symmetricity' of the polarity implies that the syntactic negations are formed by the addition of 'not,' as in (4)a *He may be there* and *He may not be there*.

Close to the Systemic definition (3) is Huddleston (2002: 173):

(11) Modality is centrally concerned with the speaker's attitude towards the factuality or actualisation of the situation expressed by the rest of the clause.

It seems simple and convenient as the definition of modality to depend on the speaker's attitude and opinion, but this way of defining modality may be dangerous to be arbitrary or subjective. Such arbitrariness will be testified for the Japanese modality system in Section 3.

The next definition is from Narrog (2009: 9, footnote 1):

(12) In 2005, I suggested the following definition: "Modality is a linguistic category referring to the factual status of a state of affairs. The expression of a state of affairs is modalized if it is marked for being undetermined with respect to its factual status, i.e. is nether positively nor negatively factual."

It is remarkable here that the phrase 'neither positively nor negatively factual' reminds us of the Systemic definition of modality given in (3). It is strange, however, that this definition is given in a footnote, not in the main text. More interesting is the description such as follows in Narrog (2014: 14), original in Japanese and translation mine:

(13) After all, subjectivity or the speaker's attitude cannot be restored to any particular grammatical categories whatever understanding of meaning is tried. Therefore, it seems meaningful to deal with 'subjectivity' (or the speaker's attitude) and modality as independent concepts, and to pursue the interaction of modality and subjectivity, rather than define modality with subjectivity.

With regard to the Systemic approach, as for the definition of modality as in (3) above, consideration of subjectivity seems crucial within the domain of the lexicogrammar. Further investigation of the relation between subjectivity or the

speaker's attitude and the meaning and function of modality will be given on another occasions.

The last definition to be referred to in this section is from Sawada (2006: 2), written in Japanese (translation mine):

(14) Modality is a semantic category which does not simply describe the fact that the things (i.e. situations and the world) exist or they are true, but describes how they exist or how they should be, or expresses the perceptions or feelings toward the things.

As a definition of modality, (14) is a bit more minutely mentioned than in (3). Yet the definition itself is subjective utilizing the tools of 'perceptions' and 'feelings' instead of attitude and opinion. It would be plausible to regard (12) close to (5), and distant from (3) and (12).

As a summary of the definitions of modality, let us illustrate in the following diagram arranged in the subjective – objective axis. The numbers correspond to the above citations:

(15) objective

(3) (IFG 4)
(11) Narrog (2009)
(13) Sawada (2006)
(4) Palmer (1990), (4) Huddleston (2002)
subjective

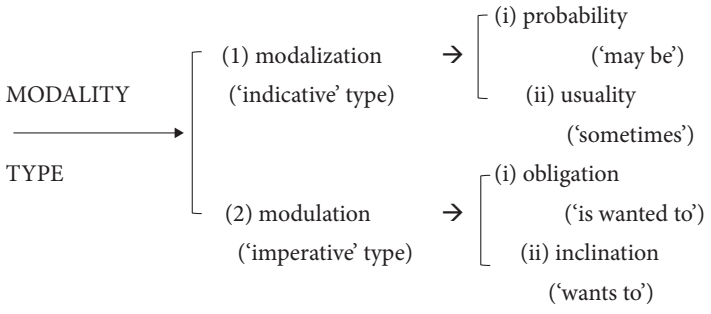
Palmer (1990) and Huddleston (2002) can be regarded as almost exactly similar ones, the latter with simplified wordings. In the following sections, the Systemic approach (3) will be adopted as the definition of modality, with the reasons presented in the beginning of this section. In the following sections, the subcategories of modalization and modulation will be parenthesized as <probability>, <obligation> and so on in the main text so that the categorization will be made clearer.

3.2 Modalization and modulation within the framework of SFL

In this subsection, we will look into the subcategories of the Modality systems within the framework of Systemic Functional Linguistics: Modalization and Modulation. In the following descriptions, the subcategories will be indicated with the angled brackets.

First, the subcategories of the modality systems are schematized below (IFG 4: 691))

(16)



This system network illustrates that the types of modality in English are divided into modalization and modulation, then the former is subcategorized into <probability> and <usuality>, while the latter into <obligation> and <inclination>. My hypothesis about this categorization is that the subdivision of modalization and modulation has been intentionally made coarse. That is to say, more minute subdivision would be possible, for example, in the analyses of the modality systems in other languages than in English. Thompson (2004: 67) presents exactly the same scheme as (16) with the examples: <probability> The child might be hers.; <usuality> She often went there.; <obligation> You should go now.; <inclination> I'll give you a hand. Of these four examples, <usuality> is realized with the adverb *often*, while the other three are realized with the auxiliary verbs *might, should, will*.

Within the SFL framework of the Modality system, the bifurcation into Modalization and Modulation is essential. First, it seems that the illustrations in IFG 4 (p. 691) must be the crucial among other literatures:

(17) Modalization: If the clause is an 'information' clause (a proposition, congruently realized as indicative), … some degree of probability or usuality
Modulation: If the clause is a 'goods-&-services' clause (a proposal, which has no congruent form in the grammar, but by default we can characterize it as imperative), … some degree of obligation or of inclination

These statements seems to be circular in that the definitions finally come to the subcategories of <probability, usuality> and <obligation, inclination>. Besides these subcategories, the Mood distinction between indicative and imperative seems to be the only criterion to divide into Modalization and Modulation.

I guess Fukuda (2016: 145–147) is not satisfied with the definitions of Modalization and Modulation, so he refers to Halliday (1970/2005: 176):

(18) Modality is a form of participation by the speaker in the speech event. Through modality, the speaker associates with the thesis an indication of its status and validity in his own judgement; he intrudes, and takes up a position. Modality thus derives from what we called above the 'interpersonal' function of language,

> language as expression of role. There are many other ways in which the speaker may take up a position, and modality is related to the general category that is often known as a 'speaker's commnet', within which a number of other types have been syntactically distinguished;

Here it is noticeable that the definition of Modality itself is different from the IFG 4 version, i.e. (3) above. In addition, the term 'metafunction' is not adopted, instead interpersonal 'function' is used. Fukuda (ibid. 146) points out that a speaker's comment can be paraphrased as 'a propositional attitude.'

Halliday (ibid. 177) continues to mention modulation:

> (19) These [examples "You must build a gazebo. I can't build gazebos. If I could I would. Well you ought to be able to.": KK] have nothing to do with the speaker's assessment of probabilities. In these examples the auxiliaries *must, can*, etc. express various types of modulation of the process expressed in the clause; modulation in terms of permission, obligation, and the like. They are part of the thesis – part of the ideational meaning of the clause.

With regard to the last phrase 'part of the ideational meaning of the clause,' Fukuda (ibid, 147, footnote) comments that modulation is a judgement toward the condition of the relation between the participant (subject) and the predicate.

More interesting is the table illustrating the Modality system in Halliday (ibid, 173), such as follows:

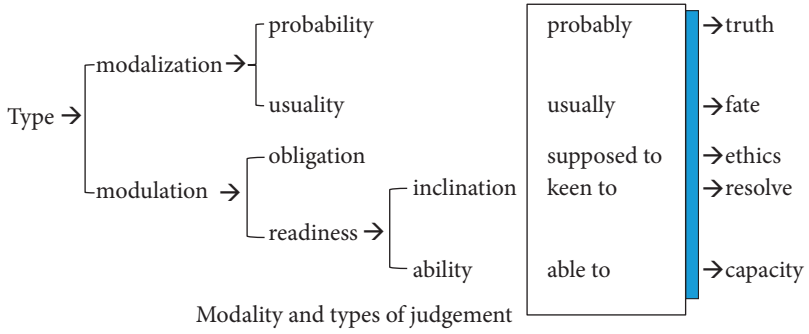
(20)

MODALITY	→	probable	possible
			virtually uncertain
		possible / certain	certain
	→	neutral	
		undertone (tentative etc.)	
		overtone (assertive etc.)	
	→	positive	
		negative	

When compared with the IFG 4 version (16) above, it seems very simple. Other than the polarity choice either positive or negative, there are only two choices of probable or possible/certain, and neutral or undertone.

There are other views of the English Modality system based on the SFL framework. Martin and White (2005: 54) presents the modality system of English as follows (the rightmost columns of sanction, which unites truth and ethics, and esteem, which unites fate, resolve and capacity, are omitted due to the limit of space):

(21)



Modality and types of judgement

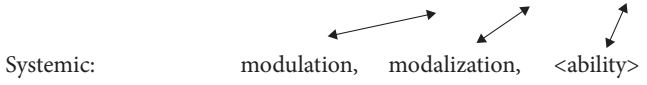
The differences between this and (16) above are: <inclination> in (16) is substituted by <readiness> here, and <inclination> becomes a subcategory of <readiness> together with <ability>. Totally, the number of the subcategories in (21) is counted as five. Compared with the IFG 4 version, <ability> is added in (21). As pointed out in (4) above, Halliday and Matthiessen suggested themselves the possibility of adding <ability> as the third subcategory of Modalization, which is integrated into the part of the Appraisal system.

It is insightful when we look at the table (21), titled as 'Modality and types of judgement,' that the Modality system is paralleled with the system of the Appraisal judgements. The category <probability> is connected to the <truth> judgement through an adverb *probably*, for instance. It may be possible to assume that the subcategories of Modality are adjusted to the Appraisal counterparts; in other words, the IFG 4 version of the English Modality system is inconsistent with the Martin and White's Appraisal system, so they added <ability> and changed <inclination> as the sub-subcategory of <readiness>. As they mention, 'Halliday's work on mood, modality and interpersonal metaphor provides the bridge between interpersonal grammar and appraisal which underpins these connections' (Martin and White (2005: 54)). The subcategories of the Modality system <probability, usuality, obligation, inclination, ability> correspond to the Appraisal counterparts <truth, fate, ethics, resolve, capacity> respectively. With the Martin and White's idea, it is interesting that the seemingly quite different categories of Modality and Appraisal are linked.

Here, the degrees of the polarity between positive and negative are arranged in a stratificational way: modal adverbs *certainly, probably, possibly* for <probability>; *always, usually, sometimes* for <usuality>; for <obligation> and <inclination>, on the other hand, there are predicatives *required, supposed, allowed* for the former and *determined, keen, willing* listed for the latter. The inner circled instances should be interpreted as concerned with the both subcategories: *it must be, it will be, it may be* for <probability> and <usuality>, and *must do, will do, may do* for <obligation>

and <inclination>. Compared with the classifications in Palmer (1990, 2001) and Huddleston (2002), it will be plausible to regard the correspondences, shown with the arrows, as follows, with the examples from Palmer (1990: 5, 27, 28):

(22) Palmer (1990, 2001), Huddleston (2002): deontic, epistemic, dynamic



epistemic a. John may be there now. b. John must be there now.
deontic c. John may come in now. d. John must come in now.

e. In themselves the effects aren't devastating, but chugging can sometimes trigger off a bit of screaming. (W.1.2b.21)[1]
f. I was going to suggest that we might look through Habitat and see if we can find her anything. (S.7.2b.9)

On the general interpretation, the first two, (a) and (b), are classified as epistemic and the next two, (c) and (d), as deontic. In these examples, both *may* and *must* have double meanings of the judgment about the probability of the truth of the proposition (epistemic) and the permission and the imposing of the action of John's coming in (deontic). With the systemic terms, the epistemic modality is realized as <probability> of Modalization, whereas the deontic modality is realized as <obligation> of Modulation.

Similarly, *can* has double meanings. The epistemic *can* in (e) above can be paraphrased with *may*, but it is not possible in (f) of the dynamic modality to replace it with *may*. Paraphrasing of the dynamic *can* would be done with *be possible* or *be able to*: '… and see if we are able to find her anything' in (f).

Generally speaking, the *deontic modality* corresponds to modulation in the Systemic framework, so does *epistemic* to modalization. The definition of epistemic modality in Palmer (2001: 8) and that of modalization in (IFG 4: 691) are as follows:

(23) … speakers express their judgments about the factual status of the proposition. (Palmer 2001)

(24) If the clause is an 'information' clause (a proposition, congruently realized as indicative), this means either (i) 'either yes or no', i.e. 'maybe'; or (ii) 'both yes and no', i.e. 'sometimes' ((IFG 4: 691))

1. The source of the examples from Palmer (1990) is the Survey of English Usage located in the Department of English at University College London. W, S stand for written and spoken corpora, respectively. For the detail, see Palmer (1990: 26).

Though the ways of descriptions are different in (23) and in (24), the definitions are similar to each other.

Then the definition of deontic modality in Palmer (2001: 9) and that of modulation in IFG 4: 691):

(25) … the conditioning factors are external to the relevant individual … Thus deontic modality relates to obligation or permission, emanating from an external source. (Palmer (2001: 9))

(26) If the clause is an 'goods-&-services' clause (a proposal, which has no congruent form in the grammar, but by default we can characterize it as imperative), it means either (i) 'is wanted to', related to a command, or (ii) 'wants to', related to an offer; in other words, some degree of obligation or of inclination. (IFG 4: 691))

Thus, the definitions of both deontic/epistemic and modalization /modulation are given in similar formats. While the Systemic definitions (24) and (26) adopt peculiar terms such as *proposition, proposal, goods-&-services*, Palmer's (23) and (25) are *general* in the sense that other linguists will also use those terms such as *judgments, factual status, obligation, permission* when they discuss modality. Though the terminologies are not alike between the Systemic approach and that of Palmer, subcategories deontic modality – modalization, and epistemic modality – modulation correspond to each other, respectively. Notice that the definition of <obligation> is given as 'is wanted to' and that of <inclination> as 'wants to.'

Palmer (2001: 10), on the other hand, defines dynamic modality as follows:

(27) … dynamic modality relates to ability or willingness, which comes from the individual concerned. … Ability, …, has to be interpreted rather more widely than in terms of the subjects' physical and mental powers, to include circumstances that immediately affect them (but not, of course, deontic permission).

This seems to be the minimum description of the definition of the dynamic modality using the terms *ability* and *willingness*. Ability in the narrow sense will directly correspond to someone's mental or physical potentiality. The following from Huddleston (2002: 185) will be more in detail than (27):

(28) Ability is a matter of internal properties on the part of the subject-referent; it represents a grammatically distinct use in that *may* is excluded even in the most formal style. Two subclasses can be distinguished: potential and currently actualised.

In the most general understanding, it seems, that ability is closer to the potentiality than actualization. To summarize, the subject of the terms such as ability, dynamic modality, are essentially a matter of classification; in other words, the

systematization of modality is structured as the synthesis of subclasses such as ability, usuality, probability, obligation and inclination in the SFL framework, and deontic, epistemic and dynamic modalities of the Palmer's framework.

Now let us have a look at each of the subcategories in the SFL framework with examples of the negation from (IFG 4: 692–693). The ones in (29) are the introduction of modal operators *can't, will ('ll), should* and *won't*, (30) direct negative and (31) transferred negative:

(29) Modal operators (underline added)
<Probability>: There can't be many candlestick-makers left.
<Usuality>: It'll change right there in front of your eyes.
<Obligation>: The roads should pay for themselves, like the railways.
<Inclination>: Voters won't pay taxes any more.

(30) Direct Negative
<Probability>: It's likely Mary doesn't know
<Usuality>: Fred usually doesn't stay
<Obligation>: John's supposed not to go
<Inclination>: Jane's keen not to take part

(31) Transferred Negative
<Probability>: it isn't likely Mary knows
<Usuality>: Fred doesn't usually stay
<Obligation>: John's not supposed to go
<Inclination>: Jane's not keen to take part

As for the modal operators in the four categories in (29), (IFG 4: 692) state that '[t]heir use is more restricted in usuality and in inclination than in the other two types, but as a class they cover all these senses. This brings out what it is that the four types of modality have in common: they are all varying degrees of polarity, different ways of construing the semantic space between the positive and negative poles.'

(30) and (31) are given as the examples with the median value of two negative types: (30) are the ones of the direct negative, which can be paraphrased as the negation in the proposition, while (31) are the ones of the transferred negative, or the negation in the main predicate. In the direct negative or the proposition negation in (30), the <probability> example 'it is likely (that) Mary doesn't know' is the most straightforward one in the sense that the negation is manifested with the ß clause 'Mary doesn't know.' In the <obligation> 'John's supposed not to go' and in the <inclination> 'Jane's keen not to take part,' the negations are realized with the infinitives. The third type of the negation is in the <usuality> example, as the negation of the main predicate 'doesn't.' Notice that the difference with the transferred negation in (31) is the position of the adverb *usually*: it is before the predicate 'doesn't' in (30) whereas it is after that in (31).

The transferred negatives or modality negations in (31) show similar differences. In the <probability> *it isn't likely Mary knows*, the negation is realized in the main predicate *it isn't likely* followed by the subordinate *Mary knows*. In the other instances <usuality> *Fred doesn't usually stay*, <obligation> *John's not supposed to go*, and <inclination> *Jane's not keen to take part*, the negations are realized in the main verbs.

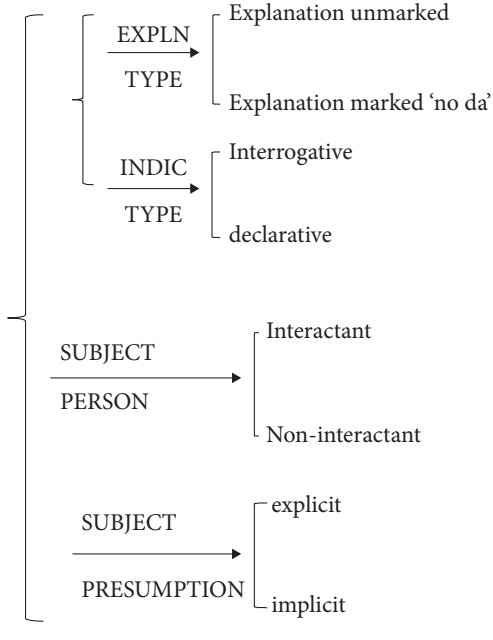
We will accept the system of Modality in English following IFG 4, and then go on to discuss the Japanese counterpart in the next section.

4. Modality in Japanese

4.1 Subcategories of modalization and modulation

In this section, we will look at the Japanese modality system within the SFL framework. One of the main sources that we will follow in this section is Teruya (2007), which not only illustrates the modality system or the Interpersonal metafunction, but also covers whole aspects of the Japanese language from the SFL viewpoints. Below is a system network illustrating the main part of the modality system in Japanese, from Teruya (2007: 171):

(32)



The most general systems of indicative type (Teruya 2007: 171, figure 4.3)

When we compare this with the system network of MOOD in English in (IFG 4: 162 Figure 4.13), we notice the following differences among others:

(33) 1. The first choice of Explanation Type in (32) is idiosyncratic in Japanese, as it is realized with *no da*, having no similar functional counterpart in English.
2. The third choice of the Subject presumption explicit or implicit would be unnecessary in English, as IT IS ALWAYS EXPLICIT.

The most important significance with regard to the first point is that there is NO explanatory type in English that is syntactically or functionally similar to the Japanese *no da* expressions. Though I discussed the matter under the title of *A Functional Analysis of the Explanatory Modality in Japanese* in Kadooka (2013), I found this concept of the explanatory modality *no da* in Japanese is not within the scope in Teruya (2007). Kadooka (2016: 52–53) presents the system network of the MOOD system of Japanese, where the Subject person and the Subject presumption choices are dealt differently.

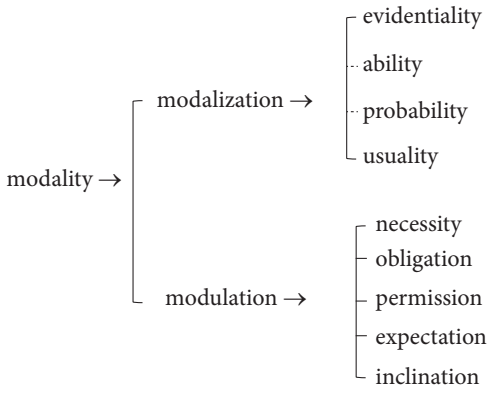
For an example of the 'explanative mood,' Teruya (2007: 174–176) gives the following (b), toward the question (a) and with the non-explanative counterpart (c) and (d):

(34) a. Dou sita-n desu ka?
how do-*NO* POLITE Q
'What happened?
b. Totyuu de ziko ga atta-n desu.
en route at accident NOM occur-*NO* POLITE
'There was an accident on the way.'
c. Totyuu de jiko ga atta.
d. Totyuu de jiko ga ari-mashi-ta.

Notice that the question (a) itself contains the explanatory *no*, as the second element of *sita-n desu ka*, as the result of the phonological/ phonetic change from *sita-no desu ka*. If the question is a plain, non-explanatory version, it would be 'Dou sima-sita ka?' The non-explanative answers (c) and (d) are plain statements that there was an accident on the way. The intention of the explanative mood in (a) and (b) is 'the speaker may present a statement as an explanation for some event needing to be clarified' (Teruya 2007: 174). Here the question (a) itself is with the explanatory mood, the answer (b) sounds more natural compared with (c) and (d) as an excuse for being late.

Now let us look into the subclasses of the modalization and modulation systems. Below is the system network of the Japanese modality system from Fukuda (2016: 166):

(35)



Compared with the English modality system shown in the last section, <evidentiality> and <ability> are added as modalization types, and <obligation> is divided into <obligation>, <necessity>, <permission> and <expectation>. There are nine subclasses in (35). Of these nine, <evidentiality> is the one which is not defined as part of the modality system in Japanese in Teruya (2007). Fukuda (2016: 167, footnote 31) gives the reason of addition of <evidentiality> to the subclass of modalization as follows (translation mine):

(36) There are no auxiliary verbs showing the evidentiality in English. Therefore, seen from the point that modality is limited to the meanings of English auxiliary verbs, <evidentiality> would not be defined as part of the modality system. In Japanese, however, 'rasii, you-da (seems to be), mitai da (looks like), sou da (they say that)' can be included in the modalization system, as these expressions assess the speaker's subjective observations, like <probability>.

Fukuda (2016: 167) also concludes in the main text that 'we will not consider the distinction between subjectivity and objectivity of the bases of the judgments, with regard to <probability> and <evidentiality>.'

Kadooka (2016: 183) agrees with the above analysis that <evidentiality> should be classified as one of the subcategories of modalization (translation mine):

(37) <Evidentiality> is the mental proof that either the speaker or the writer has with regard to the proposition. Though the proposition itself is neutrally described, the speaker or the writer judges as to the truth/ falseness of the proposition. In the aspect/phase expressions (*rasii, sou da, you da, mitai da*), the speaker or the writer describes his/her expectations. In the hear-say expressions (*sou da, to iu*), the speaker or the writer mediates what he/she sees or hears.

To summarize, Kadooka (2016: 184) lists the <evidentiality> expressions in Japanese as follows:

(38) rasii (seems like) – rasiku-nai (not seem like)
you da (seems like) – you-de-wa-nai (not seem like)
sou da (hear-say) – sou-de-wa-nai (not hear-say)
mitai da (seems like) – mitai-de-wa-nai (not seem like)
to-iu (that)
to-iu koto da (that)

See Kadooka (2016: 185 – 187) for the examples of these <evidentiality> expressions collected from the corpus.

My speculation for the diversity of the subclasses in the Japanese modality system is that the syntactic complexity of the modality expressions in Japanese, shown below, is one of the reasons. Teruya (2007: 213–214) lists the modality expressions (the numbers indicated after each category (13 and 14) refer to those of the attested expressions):

(39) MODALIZATION (13)
<**ability**> [*suru*] *koto ga dekiru* "can [do]" [*suru*] *koto ga dekinai* "can't [do]"
<**usuality**> [*suru*] *koto ga (mo) aru* "it sometimes happens [that]" [*suru*] *baai ga aru* "it has the time [that]" [*suru*] *koto wa nai* "it never happens [that]" [*sinai*] *koto mo nai* "it never fails [to]" (sic) [*sinai*] *wake de mo nai* "it isn't the case that [not]"
<**probability**> [*suru*] *ka mo sire-nai / wakara-nai* "it is not known whether = maybe" [*suru*] *ni tigai-nai* "must [do]" [*suru*] *to wa kagira-nai* "it may not very well be [that]"

(40) MODULATION (14)
<**necessity**> [*si*] *nakere-ba nara-nai* "unless … does/is = must" [*si*] *naku-te wa ike-nai / nara-nai / dame-da* "must" [*suru*] *hituyou ga aru* "there is the necessity [to]" [*site*] *wa ike-nai / nara-nai / dame-da* "must not do"
<**obligation**> [*suru*] *beki da* "ought [to]" [*suru*] *beki de wa nai* "not ought [to]"
<**permission**> [*site*] *mo ii* "may [do]" [*si-nakute*] *mo ii* "it is all right not to = you need not"
<**expectation**> [*sure-ba / sita-ra / suru-to*] *ii* "it is good [to], it would be nice [to]" [*si-nakere-ba / si-nakat-tara / si-nai to*] *ii* "it is good [not to], it would be nice [not to]"
<**inclination**> [*suru*] *tumori da* "it is my intention [that]" [*suru*] *ki de iru* "has a mind [to]" [*suru*] *tumori de wa nai* "it is not my intention [that]" [*suru*] *ki de wa nai* "has no mind [to]"

Notice that the English glosses after '=' are the semantic equivalencies, while those before '=' are literal translations. All of these paraphrased cases show that the literal translations are syntactically far more complex than the English equivalents which are realized by one-word auxiliaries. Take "ka mo shirenai" for an example: Its literal translation is "it is not known whether" but the gloss is "maybe."

The underlined Japanese entries above in the (39) list designate those categories which are syntactically asymmetric, all of which belong to the <probability> category of Modalization: *[suru] ka mo sire-nai / wakara-nai, [suru] ni chigai-nai, [suru] to wa kagira-nai*. Common to these three is that they are syntactic negations, and that the positive counterparts are ungrammatical: **[suru] ka mo shireru / wakaru, *[suru] ni tigau, *[suru] to wa kagiru*.[2] This is because of the asymmetric nature of the verbs *wakaru* ('to predict < to understand'), *tigau* ('be different from') and *kagiru* ('to limit') whose negation forms are syntactically grammatical but semantically unmarked, while these dictionary-entry-forms are syntactically marked in the sense that they are negative.

The others, i.e. those entries not underlined in (39), are basically symmetric, and they overwhelm the asymmetrical ones in number. There are, however, two types of symmetry; one is the negation in the last predicate, such as *suru koto ga dekiru / deki-nai*. The other is the negation in the first predicate, such as *si-nakere-ba / si-te wa naranai*. The former patterns outnumber the latter, as the latter include two more pairs *si-te mo / si-naku-te mo ii* and *sure-ba / si-nakere-ba ii*, whereas the former contain five more pairs. For the symmetrical and asymmetrical nature of these forms, see Kadooka (2015).

I hypothesize that these complicated syntactic structures may support the finer subcategorizations of modalization and modulation in Japanese (35) than in English (16). If we were to try to illustrate these complex structures in a table like (16), with the four types of <probability>, <usuality>, <obligation> and <inclination>, it would be almost impossible.

Next are the instances of each type of modalization (41)–(43) and modulation (44)–(48), all from Teruya (2007) with the Romanization modified:

Modalization

(41) <ability>
Hu-hituyou-na toko dake wo kesu koto ga deki-masi-ta ka?
unnecessary part only ACC erase thing NOM able-POL-past Q
"Were you able to erase only the part that is unnecessary?"

(42) <usuality>
Ali ni at-ta koto ga aru no kai!
Ali DAT meet-PAST thing NOM exist EXPLANATIVE EXCLAMATION
"You have met Ali before?!"

2. In the sense that 'one just has to do something' we can say *suru ni kagiru*, which seems to have a meaning similar to necessity. In this particular case, the positive *kagiru* and the negative *kagira-nai* make a semantic pair.

(43) <probability>
Yama ni bessou wo kau koto mo dekiru kamo sirenai.
moutain in villa ACC buy thing also able maybe unknown
"I might be able to buy a villa in the mountain."
Modulation

Modulation

(44) <necessity>
Sou-iu zinzai wo motto sagasi-dasite, kokusai-gaikou ni
such person ACC more search international-diplomacy DAT
tukawa-nakereba naranai.
use-MUST
"Such a talented person must be adopted as a diplomat."

(45) <obligation>
Tyosen-zin no mondai wa Nanboku Tyosen ga zisyuteki-ni
Koreans GEN problem TOP south-north Korea NOM independently
kimeru beki da.
decide ought-to
"As for the Korean problem, south and north Korea should decide on their own."

(46) <permission>
Doko he itte, nani no sigoto wo si-te mo ii.
wherever to go whatever work ACC do also good
"You can go wherever you like, and do whatever job you like."

(47) <expectation>
Karada ni sitagat-te koudou sure-ba ii.
body DAT follow act do-TENTATIVE good
"You can behave following your body."

(48) <inclination>
Sikasi, sore wo oginau dake no kunren wa tunde-iru
but hat ACC make-up-for only DAT training TOPIC pile-up
tumori da.
intention AUX
"But I think I have much training to make up for it."

Here are the analyses of the Modalization types, with the first one of <ability>. (41) is the instance of the polite past version of the ability auxiliary *dekiru*. If it had been the simple past and declarative, it would have been *deki-masi-ta* and the simple present interrogative would be *deki-masu ka*. The English translation of the former half 'Sou-iu zinzai wo motto sagasi-dasite' should be something like 'such personnel should be more needed to be searched for,' if it had been more literal. The usuality

instance (42) is given as the one of the past experience in Teruya (2007: 215). The intention of the past experience is somewhat deviant from that of <usuality>, as a naive impression of mine. A closer example of the usuality, 'Syottyuu (often) Ali ni at-ta koto ga aru no kai' would be preferable with the addition of the adverb 'syottyuu' (often). In the probability Example (43), the meaning of the potentiality is realized with the structure *ka mo sire-nai* (particle *ka* ^ particle *mo* ^ the imperfect form of the verb *siru* (to know) ^ negative aux. *nai*). It is apparent here that the complexity of the Japanese construction can be contrasted with the simple English auxiliary *might*.

Next are the analyses of Modulation. (44) is the most typical <necessity> expression in Japanese, with the complex and lengthy double negation construction *nakere-ba nara-nai* (literally 'do-not must not'). Syntactically, this is the succession of *nakere* (continuative form of the negative auxiliary *nai*) ^ *ba* (postpositional particle) ^ *nara* (continuative form of the verb *naru*) ^ *nai* (negative auxiliary). The contrast between the simplicity of the English auxiliary *must* and the complexity of the Japanese collocation would be one of the keys to focus on in the contrastive studies in these two languages in terms of the syntactic constructions. The meaning of <obligation> seems close to that of <necessity>, as both are glossed as 'it must be', lacking the <necessity> counterpart expressed with *should* in English. The meaning of the <permission> category is different in value from <obligation> and <necessity> in that <permission> is typified by the auxiliary verb *may*. In the English translation (46), the intention of the permission is realized with another auxiliary verb *can*, instead of *may*, however. The paratactic structure of (46) can be paraphrased as 'doko he it-te mo ii, nani o si-te mo ii' (You can go wherever you like, and you can do whatever you like). In the <expectation> one in (47), *-ba ii* sounds interchangeable with the permission meaning; the direct English translation of Japanese would be 'to follow your body should be good.' *Tumori* in (48) sounds like an intention of the speaker that he/she is going to do in the future, but the particular meaning in this instance is that the speaker has a strong self-confidence that he/she has much training.

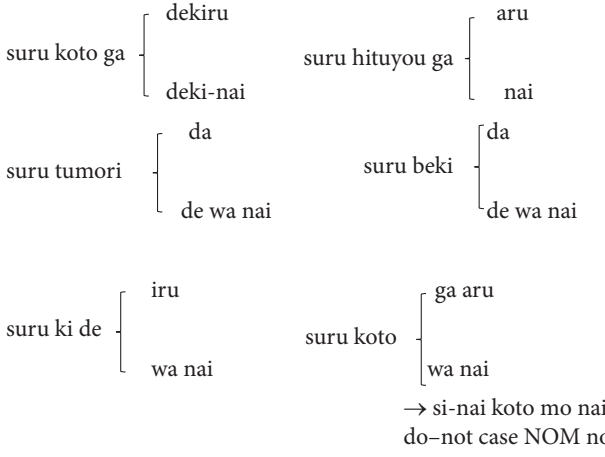
4.2 Positive – negative pairs

In this subsection, the subcategories of Modalization and Modulation will be grouped into the positive – negative pairs.

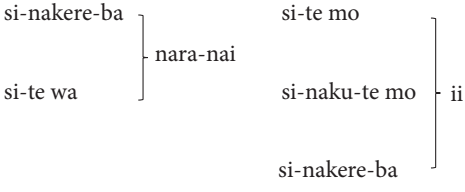
The following entries are symmetric from the viewpoint of polarity, and they overwhelm the opposite in number, i.e. the asymmetric entries. There are, however, two types of symmetry; one is the negation in the last predicate, such as *suru koto ga dekiru / deki-nai*. The other one is the negationn in the first predicate, such

as *si-nakere-ba nara-nai* / *si-te wa naranai*. The former patterns outnumber the latter, as the latter include two more pairs *si-te mo* / *si-naku-te mo ii* and *sure-ba* / *si-nakere-ba ii*, whereas the former contain five more pairs. The schematization as follows will visually help understand the structures:

(49) <last-predicate pairs>



(50) <first-predicate pairs>



The most complicated pair would be the negation of a <usuality> *si-nai koto mo nai* (sometimes it happens, sometimes it does not), which is a double and a partial negation, and *suru koto wa nai* (does not happen), with the polarity of the first-predicate reverted. Though both *suru koto ga aru* and *si-nai koto mo nai* are the negations of *suru koto wa nai*, the meanings of the two are different: *suru koto ga aru* means "it sometimes happens" and *si-nai koto mo nai* "it is not always the case that … not." The difference between *suru koto wa nai* and *si-nai koto mo nai* is that the former is last-predicate negation while the latter is double negation.

The largest difference between the first predicate and the last predicate pairs is that the latter is the contrast of 'being' and 'not-being': *dekiru* (can) vs. *deki-nai* (can not), *hituyou ga aru* ('necessity NOM have') vs. *hituyou ga nai* ('necessity NOM not'), *suru beki da* ('do-should-ASSERTION') vs. *suru beki de nai* ('do-should-ASSERTION-not'), and so on. It is essential that the predicates are the dictionary forms of verbs, in order to terminate the clauses. The first predicate

pairs, on the other hand, must be the adverbial form of the verb conjugation: *sure-ba* ('do-if') vs. *si-nakere-ba* ('do-not-if') followed by *ii* ('good'), *si-nakere-ba* ('do-not-if') vs. *si-te-wa* ('do-CONTINUATIVE-TOPIC') followed by *nara-nai* ('become-not' = necessary).

To conclude, the ultimate reason for the differences between the negations in the first predicate or the last can be ascribed to the complexity of the Japanese modality expressions.

We would like to point out one asymmetry among the listings in (49). It is that is the opposite of <necessity> *si-te wa ike-nai* / *nara-nai* / *dame da* (will not do if not) is <permission> *si-naku-te mo ii* (need not). This asymmetry comes from the nature of the predicates of *nara-nai* and *ike-nai*; both are unmarked forms as negative. In other words, the positive *naru* (literally 'to become, to suit') and *iku* ('to go') are not used as modality expressions. Only *dame* can be negated as *dame de wa nai*, as *dame* is not a verb but a noun meaning uselessness and/or impossibility. In the sense that the opposite of a <necessity> *si-te wa ike-nai* / *nara-nai* / *dame da* is a <permission> *si-naku-te mo ii*, we will refer to this type of negation as a transcategorical negation. When we discuss the subcategories of Modalization and Modulation on later occasions, such transcategorical negations will be one of the criteria to examine the nature of the subcategories. That is to say, if the negation of <necessity> is classified as <permission>, it might be proper to merge these two categories.

In order to contrast with the simplicity of the English modality, we will now analyze the parts of speech in the Japanese modality expressions, focusing on <necessity> as part of deontic and <usuality> as part of epistemic. These two categories are chosen partly under the intention of the pursuit of the Japanese modality system with the SFL framework (i.e. Teruya (2007)). The first to be examined are the examples of <necessity> (Teruya (2007: 214)). The parts of speech are indicated below the gloss (V: verb, Aux: auxiliary verb, P: particle, N: noun):

(51)

<positive>	<negative>
si-nakere-ba-nara-nai	*si-te-wa-ike-nai*
do-NEG-particle-become-NEG	do-continuative-TOP-can-NEG
V – Aux – P – V – Aux	V – Aux – P – V – Aux
suru-hituyou-ga-aru	
do-necessity-NOM-exist	
V – N – P – V	

The positive obligatory meaning 'nakere-ba-nara-nai' is the double negation, with the negation auxiliary verb 'nai' appearing twice. As for the single negation, neither '*nakere-ba-naru' nor '*suru-to-nara-nai' is grammatical, but *si-te wa nara-nai* is grammatical.

Another way of expressing the necessity modality is 'hituyou-ga-aru,' wth the Chinese word 'hituyou' (necessity). Syntactically this is simpler than the double negation 'nakere-ba-nara-nai,' with no negation.

Though the negative counterpart of 'suru-hituyou-ga-aru' is not listed in Teruya (2007), it will be 'suru-hituyou-ga-nai' which is both grammatical and symmetrical. From the viewpoint of the asymmetry between positive and negative, we will look at 'nakere-ba-nara-nai' in more detail.

Johnson (2003: 107) gives the direct translation for Japanese 'Shukudai o das-anakere-reba nar-anai.' as "It will not do if I do not turn in my homework," while the free translation is "I must turn in my homework." This is to show that the Japanese deontic modality is syntactically complicated with the double negation. In English, the deontic meaning is conveyed by the auxiliary 'must' whilst in Japanese with four words 'nakere-ba-nara-nai.'

Another asymmetry with the Japanese verb 'naru' is that this bare form, derived from the meaning of 'become,' is never used in the sense 'one can.' In other words, only the negative form 'nara-nai' is used to suggest the situation 'one canNOT do.' Diachronically, this would be part of the reason the Japanese modality system is asymmetric with regard to the polarities.

'Usuality' is a peculiar category to SFL, but we must concentrate on the Japanese modality now. Below are the samples of both polarities from Teruya (2007; 213)):

(52) <positive> <negative>
suru-koto-ga-aru *si-nai-koto-mo-nai*
do-occasion-NOM-exist do-NEG-occasion-even-NEG

The positive 'suru-koto-ga-aru' consists of four words, and the negative 'si-nai-koto-mo-nai' of five words with double negation. The positive 'suru-koto-ga-aru' suggests that someone does something *occasionally, but not always*. The literal translation of negatve 'si-nai-koto-mo-nai' would be something like 'there is little possibility that would not happen,' though the gloss in Teruya (2007: 213) is "it never fails [to]". In this pair of positive and negative, the negation seems not to be straightforward.

When these relations of negation are illustrated in one table, it looks as follows (modified from the one in Kadooka 2016: 222):

(53)

		FIRST HALF	
		POS	NEG
SECOND HALF	POS	si-te mo ii <PERM> sure-ba ii <EXP>	si-naku-te mo ii <PERM> si-nakere-ba ii <EXP>
	NEG	si-te wa nara-nai <NEC>	si-nakere-ba nara-nai <NEC>

There are four cells in the table with the combination of either positive or negative polarity. The directions of the negation is three ways: left to right, downward, and diagonal. Below are the details:

(54) Left to right: <permission> si-te mo ii → si-naku-te mo ii
<expectation> sure-ba ii → si-nakere-ba ii
<necessity> si-te wa nara-nai → si-nakere-ba nara-nai
Downward <permission> si-te mo ii → si-te wa nara-nai
<expectation> sure-ba ii → <necessity> si-nakere-ba nara-nai
<permission> si-naku-te mo ii → <expectation> si-nakere-ba ii
Diagonal <permission> si-te mo ii → <necessity> si-nakere-ba nara-nai
<expectation> sure-ba ii → <necessity> si-te wa nara-nai
<permission> si-naku-te mo ii → <expectation> si-nakere-ba ii

The reason why the <permission> 'si-te mo ii' *(may)* and the <expectation> 'sure-ba ii' (*had better*), the <permission> 'si-naku-te mo ii' (*need not*) and the <expectation> 'si-nakere-ba ii' (*had better not*) are in the same cell respectively would be a syntactic one that both the conjugated forms of 'si-te' and 'sure-ba' come from the verb 'suru,' so are the negations 'si-naku-te' and 'si-nakere-ba.' This may imply the semantic closeness between <permission> and <expectation>. In fact, in the analysis for English in (16), both are categorized as <obligation>. In order to simplify the analysis in this chapter, which is different from that in Kadooka (2016), we will distinguish <permission> and <expectation>.[3]

The three-way directions can be divided into two: the horizontal movement from left-to-right and the vertical ones of the downward and the diagonal. From the semantic viewpoint, this dichotomy has a significant implication; that is to say, the horizontal one is negation within the same category, but the vertical ones are not, on the other hand (see below).

Notice that the first one in the diagonal direction is double negation, while the second one is reverse negation. That is to say, the first halves of 'si-naku-te mo ii' and 'si-nakere-ba ii' in the second one are positivized in 'si-te wa nara-nai,' and the second halves are negated ('ii' into 'nara-nai'). It is not only that the Japanese modulation expressions are complicated with these syntactic structures, but also that the patterns of negation are complex.

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3. Kadooka (2016: 224) analyzes as follows, as for the two negations concerned: <expectation> sure-ba ii → <permission> si-naku-te mo ii <permission> si-te mo ii → <expectation> si-nakere-ba ii. With this interpretation, the two categories <expectation> and <permission> are interchangeable. In a sense, the analysis in the main text here is stricter in maintaining the sameness of the categories.

Another finding is that the negations invite the transition of the categories. This happens in the vertical negations of the downward and the diagonal directions, but not in the horizontal negations. We will define such transitions as in the vertical and diagonal ones as *trans-categorical*. All of the four pairs of the non-horizontal negations are trans-categorical.

It would be meaningful to point out that all of the four pairs of the trans-categorical transitions end in the <necessity> 'si-te wa nara-nai' (*must not*) and 'si-nakere-ba nara-nai' *(must*). Common to this pair of the <necessity> expressions is the negation in the second half, in addition to the first half in 'si-nakere-ba nara-nai.' One of the most crucial differences of the <necessity> category from the others is that the negation is unmarked in <necessity>. In the other categories, the positive polarity is unmarked. As the result of the negation, trans-categorical changes are realized, which can be considered as semantic changes.

The patterns of the negation are as follows (the category after the arrows of the negation is <necessity>):

(55) Second half negation
<expectation> si-nakere-ba ii → si-nakere-ba nara-nai
<permission> si-te mo ii → si-te wa nara-nai

Double negation
<permission> sure-ba ii ┐
                        ├→ si-nakere-ba nara-nai
<permission> si-te mo ii ┘

Reverse negation
<expectation> si-nakere-ba ii → si-te wa nara-nai
<permission> si-naku-te mo ii → si-te wa nara-nai

It is surprising in a sense that so various patterns of negation are derived from a relatively small number of the predicates. This reflects the syntactic complexity of the modulation expressions in Japanese. The examples are as follows:

(56) a. Warui koto wo si-nakere-ba ii. 'It is good for you not to do bad thing ACC do-not-if good bad things.'
b. Warui koto wo si-nakere-ba nara-nai.
'You must do bad things.'
c. Warui koto wo si-te mo ii. 'You can do bad things.'
d. Warui koto wo si-te wa nara-nai.
'You should not do bad things.'
e. Kore wo sure-ba ii. 'You should do this.'
f. Kore wo si-te mo ii. 'You may/can do this.'
g. Kore wo si-naku-te mo ii. 'You nedd not do this.'

The definition of the category <expectation> itself seems to need a discussion with (a) 'nakere-ba ii.' This particular example would need a context, and it would lead to the addition of *sae* (even): *Warui koto sae si-nakere-ba ii* (you can do anything only if you do not do bad things). (b) is still extraordinary in that it suggests doing bad things: in a sense, the idea to force someone to do bad things is immoral. (c) would be milder to allow to do bad things, while (d) is the most common-in-sense to prohibit immoralities. The double negation of 'sure-ba ii' in (e) and 'si-te mo ii' in (c) is 'si-nakere-ba nara-nai' in (b). The 'reverse negation' patterns are observed in (a)–(d) and in (d)–(g): the first-half negation in (a) is changed into second-half negation in (d); similar pattern in (g) and (d).

When searched by a corpus (Balanced Corpus of Contemporary Written Japanese: BCCWJ) by National Institute of Japanese Language and Linguistics (NINJAL), the heading 'nakere-ba nara-nai' hits 22,411 cases.[4] The cases for 'te wa nara-nai' shows 6,157[5] As a general tendency, it can be estimated that the syntactically most complicated 'si-nakere-ba nara-nai' is most frequently observed in the corpus.

5. Comparison and conclusion

In the discussion so far in this chapter, we have contrasted the modality systems in English and Japanese focusing on the types of modalization and modulation. This section concludes the whole discussion by comparing the modality systems in these two languages.

The key term to cover the whole discussion in this chapter is the negation. One of the difficulties is the comparison of the negation types. In Section 2, the syntactic and the semantic negations were distinguished. Sawada (2006) presented two kinds of the classifications: one is the auxiliary negation and the constituent negation, and another is the modality negation and the proposition negation. In the SFL framework, there is the distinction between Direct Negative and Transferred Negative. The negation structures of the Japanese Modality expressions were complicated among the complex predicate: first-half and second-half negations, double negation, and reverse negation. It must be pointed out that the analyses of these

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4. When searched with '**si**-nakere-ba nara-nai' in Kadooka (2016: 193) the number is reported as 8,266. As the result of removing the main verb 'si,' the number of the case found becomes one third. Still, this is more frequent than the other modulation expressions 'suru hituyou ga aru' (2,818 cases, *have-need to*), 'suru beki da' (247, *do-should*), 'si-te mo ii' (1,125, *may*).

5. With '**si**-te wa nara-nai,' 1,357 cases are found (Kadooka 2016: 193).

negations patterns are not unified across the theoretical and the methodological frameworks in this chapter.

In English, one category of <obligation> in (14) in Section 2, after (IFG 4), corresponds to <obligation>, <necessity>, <permission> and <expectation> for the analysis of Japanese.

To summarize the comparison essentially, the English auxiliaries are arranged schematically as in the table (14) in Section 2 on the one hand, and the Japanese modality expressions are far more complex than the English counterparts due to the combinations of various parts of speech, as shown in (33) and (34), on the other hand. The number of the auxiliary verbs realized in the modality expressions in English is smaller than those of Japanese. In Japanese, there are not only auxiliary verbs such as *dekiru, da, nai*, but also main verbs *aru, tigau, kagiru, wakaru*, nouns *koto*, *beki, tumori* and particles *wa, mo, ga*. The combinations of these syntactic categories form the complicated structure of the modality expressions in Japanese, especially those of the modulation predicates.

When we compare the types of Japanese Modality in (31) with the English counterpart in (15), the former is more complicated in that <ability> is added in Modalization by Teruya (2007). So is the Japanese Modulation, which contains added subcategories of <necessity>, <permission> and <expectation>, other than <obligation> and <inclination>, which are 'inherited' from the English system in (15). It has been hypothesized in this chapter that these additions resulted in the finer types in the Japanese analysis than in its English counterpart, due to the possible reason that the syntactic structures of the Japanese modality expressions are far more complicated than those of English.

The most characteristic difference of the predicates in the English and the Japanese modality expression is, it seems, that in the latter the syntactic categories and the structures are far more complicated than in the former. In English, the modality predicates are basically limited to the modal auxiliaries, and negation is realized with *not*. In Japanese, however, the modality predicates are the combination of verbs, auxiliaries, nouns, adjectives, and case particles. In addition, the negations are asymmetrical: *si-nakere-ba nara-nai* (verb + AUX + particle + verb + AUX) is grammatical but **si-nakere-ba naru* is not. From a syntactic viewpoint, this is a contrast of simple (English) versus complicated (Japanese).

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CHAPTER 5

The cognitive and linguistic reasoning process of the speaker's choice of modal expressions

Modality from the perspective of pragmatic impairment

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The inability to use modality appropriately observed in individuals with Autism Spectrum Disorder (ASD) is generally viewed as pragmatic impairment. This current study explores the divergent modal usage of ASD individuals, viewing it as a pragmatic impairment to be examined from neurological, cognitive, and linguistic perspectives. Based on statistical data derived from observations of how ASD persons use modal expressions while speaking, this paper clarifies the nature of their pragmatic impairment and proposes a new model for research. Although Systemic Functional Linguistics (SFL) did not explore the cognitive side of language use, the current study supports the view that pragmatic competency is primarily a neurocognitive and secondarily a linguistic function. This is evidenced by the empirical studies of lexicogrammatical choices made by individuals with cognitive disability such as ASD, as the current study shows. The central issue is that seeing pragmatic impairment from the neurocognitive perspective tells us how various factors (in addition to language) are integrated when normal people engage in conversational exchange in interpersonal situations.

Keywords: pragmatic impairment, modality, SFL, ASD, clinical linguistics

1. Introduction

Linguistic communication is an aggregation of interacting elements. When some parts of this aggregation go wrong, pragmatic impairment occurs. Linguists and pragmatic theorists, however, do not capture language impairment from a holistic perspective, but rather focus solely on linguistic features or problems of the interpersonal domain. On the other hand, clinicians or pathologists, whose pressing needs are planning an appropriate intervention, take a holistic approach focusing

https://doi.org/10.1075/z.234.04kat

on not only interpersonal but also intrapersonal phenomena. Despite an increasing clinical application of pragmatic theories during the past decades, linguists, pragmatic theorists, and clinicians are not necessarily going forward hand in hand to elicit the mutual benefits of an interdisciplinary approach. In fact, the adoption of pragmatic terminology has often led to confusion in clinical contexts because the theoretical constructs and vocabulary of pragmatics come from linguistics and the social sciences, which tend to focus on representational models of human behavior (Perkins, 2010). Hasty and indiscriminate borrowings by language clinicians from the field of pragmatic theory have too often contributed to a misunderstanding of pragmatic impairment itself, whether viewed generally or at the level of individual cases. This paper aims to integrate a neurocognitive perspective into linguistic theory by bringing in clinical findings. The infusion of both perspectives should lead to a more holistic approach to pragmatic impairment.

SFL is the theory that provides the frame of reference for this current study. SFL is the most suitable framework for investigating pragmatic impairment because it is a systematized comprehensive theory focusing on the social aspects of language. Especially, SFL is effectual for investigating lexicogrammatical resources such as modality (which is the focus of this study) because "choice" is a central tenet of the theory. In the Japanese language, as in English, when speakers want to fine-tune their utterances (for instance, to increase or decrease politeness or ambiguity, or to utilize interpersonal immediacy/distancing effects), they have an abundance of modal expressions to choose from. Individuals with neurocognitive disability often make choices that diverge from social norms. The impairment suffered by individuals with ASD often manifests itself in their inappropriate use of language in social situations. SFL provides a way to map those deviant choices and compare them with more acceptable ones.

In SFL constructs, "languages are described in terms of the choices available to the speaker and the relationships of those choices to each other and to the utterance produced" (Matthiessen, 1995: 53). Halliday (1994: 15–16) argues, "One of the things that distinguishes systemic grammar is that it gives priority to paradigmatic relations: it interprets language not as a set of structures but as a network of systems, or interrelated sets of options for making meaning. Such options are not defined by reference to structure; they are purely abstract features, and structure comes in as the means whereby they are put into effect, or 'realized'." Thus a nuclear concept of SFL is the speaker's choice of lexicogrammatical resources available on the system network.

What does the mapping of choice on the system network tell us, then? One is that when the choices the speaker makes are mapped out, we can identify the speaker's preferences for specific lexicogrammar, which are in turn suggestive of

the speaker's deflected or tendentious perspective of his/her experiential world. If the speaker is a client in a therapeutic interview, for example, the mapping of the client's choices could be the therapist's tool to analyze the cause of the problems the client is facing. If the speaker is a lawyer asking cross-examination questions in a trial case, we see the tactics of cornering the defendant to a dead end. In such cases, mapping the lexicogrammatical choices would yield insights about the speaker's discourse strategy or how the speaker construes the real world. Another concern is that preponderant choice, less choice, or lack of choice of a certain lexicogrammar is suggestive of neurocognitive dysfunction. Data could be collected regarding the lexicogrammatical choices of two groups. In comparison with controls, if the different choices of the target group are statistically significant, then they are suggestive of neurocognitive impairment as well as pragmatic impairment.

This paper starts with a description (in Section 2) of those features of SFL that are relevant to the discussion of modality and pragmatics. SFL not only presents the system network for choices but also a stratified social model of language which speakers take into consideration in making those choices. This description of SFL is mainly from the viewpoint of theoretical linguistics, but clinical concerns are introduced in Section 3, where the neurological problems relevant to ASD are described. ASD was the distinguishing characteristic of the 39 target participants of this research. Information about materials utilized and the procedures for collecting empirical data is given in Section 4, and the results of data analyses are presented in Section 5. This is followed by an exposition (in Section 6) of pragmatic impairment from the perspective of clinical studies of neurocognitive disability. These studies of cognition shed much light on the communication problems of individuals with ASD, and their findings are essential for obtaining a complete picture of pragmatic impairment. The focus of the paper then shifts (in Section 7) to consider the ways in which the culture and situation of utterances influence choices of modal expression. Insights afforded by both SFL and clinical studies are valuable aids in appreciating the communication struggles of the pragmatically impaired in a high-context culture such as Japan. Near the end of the paper, in Section 8, an adjustment to the theoretical construct of SFL is proposed since, as serviceable as that theory is, it does not give prominence to cognitive functions. By viewing pragmatic impairment as primarily cognitive and secondarily linguistic, insights can be gained about how choices of lexicogrammar are made by fully functional as well as pragmatically impaired language users.

2. Theoretical framework of SFL

2.1 Synoptic view of the text defined in SFL

Before entering upon a discussion of the specific research topic, it is essential to capture the synoptic view of "text" according to the theoretical constructs of SFL. SFL is one of the most text-oriented linguistic theories among linguistic schools of thought, and *An Introduction to Functional Grammar* (Halliday, 1994), which is regarded as the standard reference for SFL by systemicists, was written with application to text description (Butler, 2003). SFL captures linguistic activity as a stratified system related to social context. Social context in this case means all the combined social constituent factors such as social system, culture, and consuetude. Combining these factors, SFL categorizes them into two different types of contexts, *context of culture* and *context of situation*. All interpersonal interaction is established by the choice of meaning, which is confined to the specific range these two contexts cover. Figure 1 shows the systemic model of language strata constructed in SFL.

In this model, the upper-most (outer) strata is context of culture, which represents the aggregation of sociocultural factors (such as social value and ideology) specific to the society in which a given language is used. Social activity is firstly defined by context of culture in making choices of lexicogrammatical resources. Interpersonal interaction is a meaning-making activity processed through certain phasic stages taken in order to achieve the specific goal. Depending on the goal, there exist various combinations of phases. This type of goal-directed social activity is termed "genres" in SFL, and they are included in the context of culture. According to Martin (1985: 250), "genres are how things get done, when language is used to accomplish them…. The term is used here to embrace each of the linguistically realized activity types which comprise so much of our culture." In other words, genre is the pattern of linguistic activity taken in a staged process. For instance, think of report writing by college students. Essay writing has conventional stages common across academic fields. The usual stages consist of 'statement of thesis,' 'presentation of evidence,' 'dismissal of counter evidence,' 'summary of evidence,' and 'reiteration of the thesis statement,' in order (Eggins, 1994). In this case, only what the essay is about differs; that is, only the particular contents are different. Telephoning, service counter reception, cooking recipes, and so on are among other examples.

The substantiation of context of culture in the context of situation concerns register. Register captures a social activity through three variables which give the dimensions of the immediate context of each situation. These dimensions are field (the kinds of activity sequences and the subject matter realized in language), tenor (role relations of power and solidarity), and mode (symbolic organization of the text). Field is organized by the ideational metafunction, tenor by the interpersonal

metafunction, and mode by the textual metafunction. According to Martin (1992: 502), "register is the name of the metafunctionally organized connotative semiotic between language and genre." As an example, in psychotherapy, although there are some differences among schools, generally, field is defined as the construction and solution of the problem, clarification of the meaning, and reworking of the problem, tenor is a therapist as specialist and a client as novice, and mode is the constructed interaction via spoken language.

Register reflects on its downranking strata, including lexicogrammar, by influencing the choices which speakers make to create meaning. In SFL constructs, language is seen as a meaning-making system, and speakers make choices from among lexicogrammatical resources.

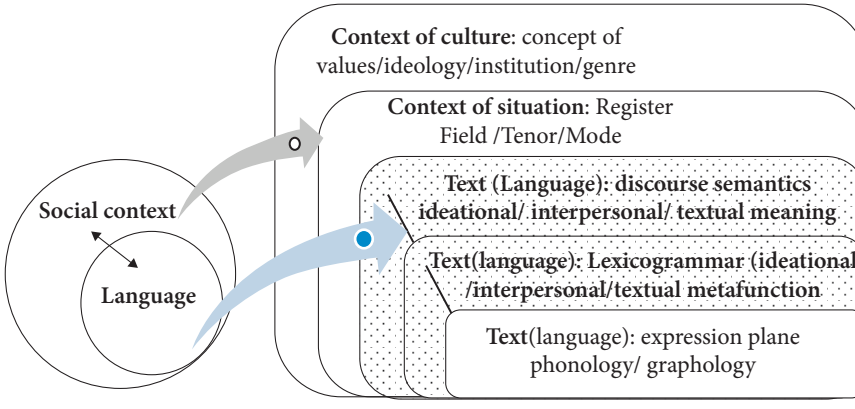

Figure 1. Bidirectional relationship between language and social context and the stratification of language (adapted from Martin, 1999: 36–39)

The circles on the left side in Figure 1, which are a simplification of the right side of the diagram, illustrate the bidirectional relationship between the social context and language, in that "language serves as the realization of and expression plane for social context, and in turn, social context is the content plane for language and is a more abstract level of sociosemantic representation" (Muntigl, 2004: 50). The ranks on the right side of the diagram form a stratified version of the left-side circles, illustrating how a communicator deploys meaning potential in an actual meaning exchange. In particular, field subsumes ideational meanings, tenor subsumes interpersonal meanings, and mode subsumes textual meanings (Muntigl, 2004). Further down the ranks, discourse semantics is realized by lexicogrammar, and lexicogrammar by phonology/graphology. From these interconnections between context and language, a communicator is capable of inferring a context from a given instance of language and presaging language patterns from a given situation.

2.2 Language as system network

One of the central organizing concepts in SFL is choice. According to Martin, language is a meaning-making system in which speakers have choice in their selection of resources from the system network. SFL views language as choices available to the speaker when the speaker engages in social activity. Focus is therefore placed on what speakers might or tend to do in situations of language use (Martin, 1992). Figure 1 illustrates interconnection between the stratified layers. Choices made in the layers of discourse semantics and lexicogrammar are generally congruent or unmarked. However, because these layers are independent from each other, there always exists the possibility that incongruent choices will be made. SFL sees such incongruent or marked choices as grammatical metaphor. Martin's (1991: 116) definition is that "grammatical metaphor is a theory of the ways in which the solidary realisation relationship between lexicogrammar and discourse semantics may be reconstrued, thereby expanding the meaning-making potential of content form."

Systems in SFL are construed as networks of paradigmatic oppositions. Paradigmatic systems are ways of representing the meaning-making potential of language (i.e., the options from which a speaker may choose). We will take a simple example of the therapist's utterance in a therapeutic interview, "What makes you feel anxious or uneasy?" We will analyze this sentence in the system network of mood selection shown in Figure 2. The mood selected for this utterance is, going from left to right, indicative, and then, interrogative, and then, D-word (WH-word). The degree of delicacy increases going from left to right on the network. If interrogative is chosen, then the next choice is opened up between polar or D-word. System networks provide speakers with choices that enable different kinds of grammatical realizations, as Example 1 shows. In other words, when the speaker selects indicative mood, this then creates the choice of selecting either declarative or interrogative (brackets signal an either/or selection). In this example, it allows a speaker to choose an interrogative form in order to demand information. Then what about (3) and (4)?

Example 1.

1. What makes you feel anxious or uneasy?
2. Is there anything that makes you feel anxious or uneasy?
3. I am wondering if you have something that makes you feel anxious or uneasy.
4. It seems that you have something that makes you feel anxious or uneasy.

Since what the speaker wants to know is if the client is anxious about anything, the congruent mood type at the discourse semantics level is interrogative, as shown in (1) and (2). (3) and (4) are incongruent, or metaphorical expressions for the reason that both of them use the declarative mood to realize questioning.

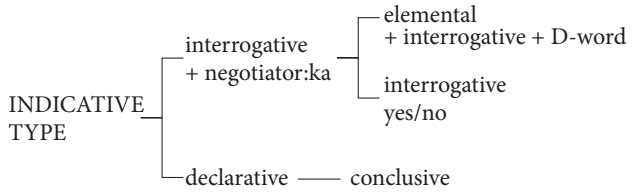

Figure 2. Indicative type from the system network

Why does the speaker not choose a congruent expression? People choose incongruent expressions as a discourse strategy in order to achieve their social goals. In psychotherapy, it is often recommended to ask for information in an indirect fashion rather than throwing out straightforward questions. A straightforward question is likely to cause the client to become defensive, if it makes the client feel uneasy. (1) could be also a loaded question implying the therapist presupposes the client to have some anxiety. (2) is better than (1) in terms of indirectness because the therapist does not prejudge the client to have anxiety. In (3) and (4), the declarative form is selected instead of interrogative, which gives discretion to the client, so that the client does not have to talk about this matter if she does not want to, which gives him/her secure feelings.

People make choices from the system network of the lexicogrammar moment by moment in their utterances. In psychotherapy, by tracing a client's choices in the system network, we can identify the client's predominant language use or a certain tendency in terms of language use, which is suggestive of how the client construes the experiential world. This provides the therapist with clues to probe into the client's internal dialogue, or way of dealing with interpersonal matters.

If we find contextually deviant choices made by individuals with developmental disorder such as ASD in comparison with typically developed or normal individuals, their deviancy is suggestive of pragmatic impairment.

2.3 Theoretical framework of modality in SFL constructs

SFL defines modality as the lexicogrammar expressing mental attitude toward the proposition; that is, modality refers to the area of meaning that lies between *yes* and *no* – the intermediate ground between positive and negative polarity.

Modality is categorized as two types, modalization and modulation. This categorization is based on two considerations: if information is exchanged, modality is realized through modalization, if goods and services are negotiated, through modulation. In Halliday's constructs, modalization refers to the degree of probability or

usuality associated with a proposition and modulation to the degree of obligation or inclination associated with a proposal. Modalization (except for usuality) is nearly equivalent to the type of expression traditionally called "epistemic," while modulation is close to "deontic" modality.

Halliday (1970: 349) suggests that modalization represents the speaker's appraisal of probability and predictability. It is part of the attitude assumed by the speaker and thus external to the content: his attitude in this instance is directed towards his speech role as 'declarer.' And though it is clearly within the interpersonal component, it is also oriented towards the ideational owing to the fact that it is an attitude expressed towards the content.

Kadooka, Iimura, Igarashi, Fukuda, and Kato (2016) identified nine categories of modality in Japanese, newly adding *ability* and *evidentiality* for modalization, as well as *necessity*, *permission*, and *expectation* for modulation to Halliday's original constructs, *probability* and *usuality* for modalization, and *obligation* and *inclination* for modulation, as shown in Figure 3. For modulation, Kadooka et al. (2016) adopted Teruya's (2007) categories. While English developed modal expressions such as modal auxiliary verbs which make grammatical classification clearer, in Japanese, modality is realized by various compositional forms (other than modal verbs) which allow for delicacy of functional meaning. Example 2 shows examples for each category. Kadooka et al. (2016) postulated *necessity* and *obligation* as

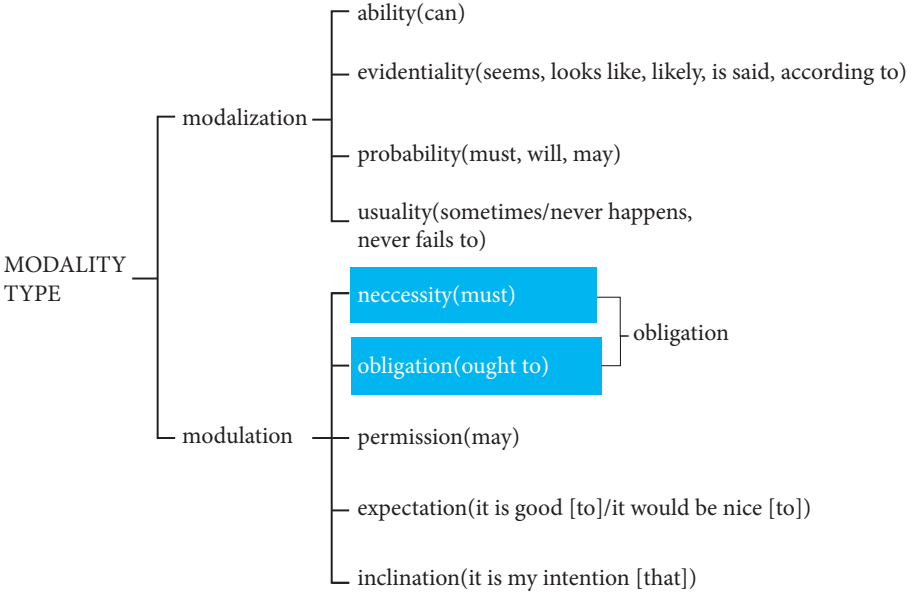

Figure 3. Modality type from the system network

separate categories. In analysis of actual texts, however, expressions in those two categories are too highly overlapped to make clear-cut separation. In order to avoid arbitrariness in categorization, those two are integrated into one as *obligation* in this study.

Example 2.

MODALIZATION

Ability: *Kanojo-wa baiorin-o hiku koto-ga kano-da.*
she-TOP violin-ACC play TNG-NOM be able to-AST
She is able to play the violin.

Evidentiality: *Kanojo-wa baiorin-o hiku rasii / yo-da.*
she-TOP violin-ACC play I hear AST/ seem AST
I heard she could play the violin. / It seems that she can play the violin.

Probability: *Kanojo-wa biorin-o hiku kamo sirenai / hiku ni tigainai.*
she-TOP violin-ACC play may-MOD:PROB/ must-MOD:PROB
She may play the violin / should play the violin.

Usuality: *Kanojo-wa baiorin-o hiku koto-mo aru. / itumo hiku.*
she-TOP violin-ACC play TNG sometimes AST / always play AST
She sometimes (usually) plays the violin.

MODULATION

Necessity: *Kanojo-wa baiorin-o hikanakereba naranai*
she-TOP violin-ACC play must-MOD:OBLIG
She must play the violin.

Obligation: *Kanojo-wa baiorin-o hiku beki-da.*
she-TOP violin-ACC play should-MOD:OBLIG
She should play the violin.

Permission: *Kanojo-wa baiorin-o hiitemo ii.*
she-TOP violin-ACC play may-MOD:PERM
She may play the violin.

Expectation: *Kanojo-wa baiorin-o hikuto ii.*
she-TOP violin-ACC play should-MOD:EXPEC
She should play the violin.

Inclination: *Kanojo-wa biorin-o hiku tumori-da / hiku ki de iru.*
she-TOP violin-ACC play intend-AST / mood STATE
She is going to play the violin / has an intention of playing the violin.

Halliday (1994: 359) recognizes ability/potentiality as one further category needed to be taken into account. He argues that this category is at the fringes of the modality

system since it could be interpreted as inclination. In categorizations of Japanese modal expressions, however, ability/potentiality is included in modalization both in Kadooka et al. (2016) and Teruya (2007). Fukuda (2016) argues that 'dekiru'(can) implies that the subject of the sentence *is able to do something* or *has an ability to do something* regardless of the person indicating *something is possible to be implemented*. In other words, this falls into the range between positive and negative polarity, implying "it is possible to implement or to be implemented if wished or intended," situated between 'implement something' and 'implement nothing.'

The modal category of evidentiality is an important concept for the current study even though some researchers find it a bit controversial. Teruya, for instance, does not include evidentiality in modality, defining evidentiality as a system "by which a judgment is made with respect to the validity of propositions" (Teruya, 2007: 212). Teruya proposed three types of evidence as a judgmental standard: *appearance, source*, and *reasoning*. *Appearance* refers to 'how the information is likely to appear or eventuate,' *source* to how it comes to be known to occur, and *reasoning* to 'for what reason it is judged or known to happen' (Teruya, 2007: 212–16), as shown in Example 3.

Example 3.

Appearance:	*rasii* (seems), *yoda* (likely that), *mitaida* (likely), *soda* (looks like)
Source:	*suru soda* (seems), *ni yoruto* (according to), *to iu* (is said)
Reasoning:	*wake* (it is for the reason that), *hazu* (it is the normal expectation that), *tame* (it is for the sake that).

Because Teruya's insights shed light on how evidence is expressed in both Japanese and English, they have been included in this section. Nevertheless, it is the stance of the current study that evidentiality is best viewed as a modal category, along with probability and other modality types. The difference from probability is that evidentiality is the usage of modal expressions based on evidence the speaker believes to be, while probability is subjective evaluation.

In SFL constructs, modal adjuncts, which are typically realized by adverbials or postpositional groups as shown in Example 4, are included in the category of modality. Halliday (1970: 335) argues that modality is developed from the 'interpersonal' function of language; i.e., language as an expression of role. The speaker may assume a position in many other ways and modality is associated with the general category known as 'speaker's comment,' which includes a number of types that have been syntactically differentiated. These types, as with modality, are usually, though not always, expressed by different classes of adverbs. Speaker's comment is just one among the syntactic complexes. Together, these syntactic complexes comprise the interpersonal or 'social role' element in language.

Example 4.

Evidentiality:	*doyara* (evidently), *mitatokoro* (as far as appearances go), *marude* (so to speak), *ikanimo* (indeed), *atakamo* (as if it were), *niyoruto* (according to)
Probability:	*tabun* (probably), *osoraku* (possibly), *kitto* (no doubt), *matigainaku* (indubitably), *tasikani* (surely), *hyottosite* (by any chance)
Usuality:	*itumo* (always), *taitei* (usually), *tamani* (occasionally), *yoku* (often), *mettani* (rarely), *oriori* (at times), *tuneni* (at all times)
Necessity:	*yamuoezu* (of necessity), *yoginaku* (be obliged to), *subekaraku* (in all cases)
Obligation:	*zettaini* (absolutely), *kanarazu* (necessarily), *dousitemo* (at any cost)
Expectation:	*negawakuba* (hopefully)

2.4 Grammatical metaphor / metaphorical realization

Grammatical metaphor is a situation where meanings typically (congruently) realized by one type of language pattern get realized by other less typical (incongruent) linguistic choices (Eggins, 1994: 63). In other words, when there are two or more grammatically different realizing forms of lexicogrammar, each having potential to make one meaning, one or several may be regarded as grammatical metaphor. In that case, the unmarked realizing form is regarded as *congruent*, and the others as *incongruent*. There are two main types of grammatical metaphor, ideational and interpersonal. The former concerns mood and modality and the latter transitivity.[1] Here we discuss modality-related, interpersonal metaphor, taking *probability* as an example. For instance, *kamosirenai* in the sentence, "taro-wa sore-wo sitteiru kamosirenai (Taro may know it)," is the modal expression equivalent to the English modal auxiliary verb implying *probability*. This sentence can be realized by using a projected clause. The metaphorical variant is "taro wa sore wo sitte iru to omou (I think Taro knows it)," which is a common type of interpersonal metaphor based on the semantic relationship of a projecting clause in a hypotactic clause complex. This represents a common type of interpersonal metaphor established on the semantic relationship of projection. In this type of interpersonal metaphor, the speaker's view concerning the likelihood that his interpretation is valid is coded as a separate,

1. Transitivity refers to the clause system, divided into processes which tend to be realized by verbal groups, participants by nominal groups, and circumstances by prepositional phrases, which Halliday (1994) models as the representation of human experience. Clauses fall into three fundamental categories of process types: material (doing), mental (sensing), and relational (being), subsuming three categories of greater delicacy: behavioral, verbal, and existential. These process types are realized by verbal groups.

projecting clause in a hypotactic clause nexus, rather than a modal element within the clause, that being its congruent realization. The metaphorical variant *I think it is so*, with *I think* as the primary or 'alpha' clause, corresponds to the congruent form *it probably is so* (Halliday 1994: 354). The latter is the congruent form and the former the incongruent one. Some other forms for realizing probability are as in Example 5.

Example 5.

(1) congruent realization
Kare-wa siken-ni otiru daroo.
he-TOP exam-LOC fail MOD: PROB
He will fail the exam.

(2) Metaphorical realizations

(i) mental[2] / relational[3] process
Kare-wa siken-ni otiru-to omou.
he-TOP exam-LOC fail-PROJ think AST
I think he will fail the exam.
Kare-wa siken-ni otiru-to kakusin site iru.
he-TOP exam-LOC fail sure AST
I am sure he will fail the exam.

(ii) nominalization
Kare-wa siken-ni otiru kanouse-ga aru.
he-TOP exam-LOC fail possibility-NOM there is
There is possibility that he will fail the exam.

(iii) adverbial
Tabun kare-wa siken-ni otiru.
Probably he-TOP exam-LOC fail AST
Probably he will fail the exam.

2.5 Orientation

Grammatical metaphor in the modality system is much concerned with orientation. Figure 4 indicates the position of orientation on the system network of modality. According to Halliday (1994: 357–358), orientation is the basic difference that influences how each type of modality will be recognized. In other words, the differences between subjective and objective and between explicit and implicit standpoints are addressed. Differentiation is evidenced explicitly by the clause, being either

2. Process of thinking, feeling and seeing.

3. Process of the state of being

personal projection (mental or verbal[4] process: "I think") or impersonal projection (relational process: "it is possible"); or implicitly within the clause contingent on the modal assessment (subjective: "Henry must be in London" / objective: "Henry's certainly in London") (Matthiessen 1995: 503). Figure 4 illustrates the system and provides examples of the combination of orientation and type.

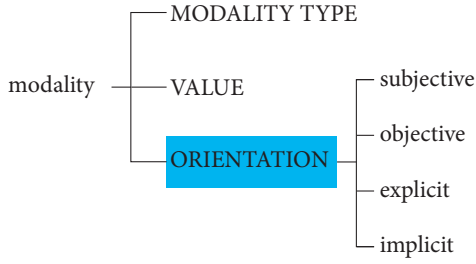

Figure 4. System network of modality

Orientation	Types	Examples
subjective		
(a) explicit	*to (watasi-wa) omou*: I think that / to *(watasi-wa) kakusin siteiru:* I am sure that	*Taro-wa sore-o sitteiru-to (watasi-wa) omou.* Taro-TOP it-ACC know (I) think AST I think that Taro knows it.
(b) implicit	*kamosirenai:* may/ *daro:* will	*Taro-wa sore-o sitte irukamosirenai* Taro-TOP it-ACC know may-MOD:PROB Taro may know it.
objective		
(b) explicit	*toiukoto-wa ariuru:* it's likely that / *koto-wa tashikada:* it is certain that	*Taro-ga sore-o sitte iru koto-wa tasikada.* Taro-NOM it-ACC know TNG-TOP certain AST It is certain that Taro knows it.
(a) implicit	*tabun:* probably / *tasika ni:* surely	*Taro-wa tabun sore-o sitte iru.* Taro-TOP probably it-ACC know AST Taro probably knows it.

Figure 5. Types of subjective/objective and explicit/implicit expressions

Halliday (1994: 357–358) argues that the explicitly subjective and explicitly objective forms of modal expressions are essentially metaphorical since they represent modality as being the substantive proposition. The interpersonal metaphors of modality fulfill an interpersonal function in that they launch a modal space

4. Process of saying.

of probability (e.g., *I suppose that*…, *I guess that*…, and *I think that*…). Halliday (1994: 355) argues that by our nature, we as speakers usually prefer to emphasize our point of view, and the strongest way to accomplish this is to make the statement appear to be an assertion ('explicitly subjective' *I think*…). Conversely, we may go further by presenting the illusion that it is not our point of view at all ('explicitly objective' *it's likely that*…).

According to Halliday (1994: 362–363), there is a certain paradox involved in modal features used in the grammar of interpersonal exchange. This can be seen in the fact that the only time we state that we are certain of a condition is when we are not. If the speaker knows for certain that someone has left the house, s/he will simply state, *John's left*. By making a high-value probability statement, such as *John is certain to have left*, or *I am certain John left*, or *John must have left*, 'I' indicate that 'I' may harbor some doubt which 'I' am trying to conceal from the listener by expressing certainty. While subjective metaphors state clearly *this is how I see it* and have many degrees of value (*I'm sure*, *I think*, *I don't believe*, *I doubt*, etc.), most objectifying metaphors demonstrate a *high* degree of probability. In other words, they are attempts to project something as an objective certainty when in reality the speaker is expressing an opinion. Halliday (1994: 363) suggests that most of the "games people play" in the daily forum of interpersonal interactions encompass the use of metaphors of the objectifying type.

3. General picture of ASD from the neurological perspective

Before entering into the discussion of the focal issue of this paper, we need to get a general overview of ASD from the neurological perspective. It is helpful to consider the neurological symptoms of ASD when discussing the relationship between language and cognition. The diagnostic criteria of ASD in DSM- 5 (APA, 2013) are:

A. persistent deficits in social communication and social interaction,
B. restricted, repetitive patterns of behavior, interests, or activities,
C. symptoms must be present in the early developmental period,
D. symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning,
E. These disturbances are not better explained by intellectual disability or global developmental delay.

Social impairment is the central issue of this developmental disorder which affects communication and behavior. Deficits in social communication and social interaction include pronoun reversal, stereotypic or repetitive language, poor conversational

coherence and cohesion, an absence of questions to gain new information, inappropriate use of questions, and restricted range of communicative functions such as less initiation, less affirming, and less turn taking (Ziatas et al., 2003).

These symptoms of ASD occur because of malfunctioning brain systems that support social-communicative circuits. Social and communicative behavior requires coordination among several portions of the social brain network, and these portions are developmentally impaired in ASD. The social brain network involves a number of structures that support social information processing, emotion, and social behavior. These structures include parts of the temporal lobe (fusiform gyrus and superior temporal sulcus), the amygdala, and parts of the pre-frontal cortex (Rogers and Dawson, 2010). Here we will briefly touch on five brain dysfunctions characterizing clinical symptoms of ASD: (1) abnormal connectivity of the neuron network, (2) decrease of the number of Purkinje cells, (3) dysfunction of the social brain network, (4) dysfunction of the mirror neuron system, and (5) influence of neurochemical substances.

1. Abnormal connectivity of the neuron network: In ASD, poor connectivity by neural networks between the different parts of the brain which function to carry out complex behaviors that require integrated functioning across brain regions has been reported. Appropriate performance of social activities requires the development of basic behaviors such as joint attention, the act of pointing to share interest, attention shifting, motor behavior, and expression of emotion, all of which must be enacted in a coordinated fashion. Abnormal brain connectivity hinders carrying out social activity grounded on these basic skills.
2. Decrease of the number of Purkinje cells: It has been reported that the number of Purkinje cells in the cortex of the cerebellum is 35–40% fewer in individuals with ASD than in typically developed individuals. This deficiency impairs attention, emotion, cognition, and motor functions.
3. Dysfunction of the social brain network: When individuals with ASD are engaged in social tasks (e.g., looking at a face or listening to words with emotional content), reduced activity in the social brain regions has been observed (Rogers & Dawson, 2010). In addition, one part of the social brain, such as the amygdala, does not function properly in coordination with another part, such as the fusiform, while engaged in social tasks (Rogers & Dawson, 2010).
4. Dysfunction of the mirror neuron system: The mirror neuron system involves the inferior parietal lobe, the inferior frontal cortex, Broca's area in the temporal lobe, the STS, and the motor cortex. This region is related to the following three functions: "(i) the mechanisms that allow for the implicit mapping of and learning from others' behaviour, (ii) the motivation to attend to and model

conspecifics and (iii) the flexible and selective use of social learning" (Vivanti & Rogers, 2014). The mirror neuron system is activated when observing another's behavior, gestures, and facial expressions and imitating another's behavior. This system also concerns empathy. It is reportedly activated while doing tasks from Theory of Mind.

5. Influence of neurochemical substances: As a possible cause of ASD, elevated blood concentrations of serotonin have been pointed out. In recent years, while it became evident that the transmission density of serotonin was reduced in the brain overall, the reduction of oxytocin, another neurochemical substance which is influential, has reportedly been observed among individuals with ASD. Currently, attention is being paid to promising evidence that oxytocin administration improves social and communication deficits. Development of a drug utilizing oxytocin to alleviate the symptoms of ASD is under way.

It is quite evident from the observation that symptoms of ASD's social deficits disappear or are alleviated by the administration of chemical substances that brain function affects cognition and cognition is made apparent in the language expressed.

4. Method

4.1 Corpus data and materials

1. *Corpus*

The data used for this research is from a corpus, which the author constructed, for the spoken language of Japanese individuals with ASD and their typically developed (TD) counterparts. This corpus is different from existing corpora in that it includes semantic tagging from the minute linguistic analysis based on SFL. This corpus enables mapping of the speaker's lexicogrammatical choices, and it facilitates the quantification of those choices so that statistical inferences can be made. This corpus is continuing to grow in size over time as a monitor corpus. Modality is among the semantically tagged resources. In accordance with the classification shown in Figure 3, modal expressions in the interview texts were tagged along with other grammatical resources based on SFL in this corpus.

2. *Participants*

This corpus contains spoken language samples from individuals with ASD aged three years to adults. Among those, the use of modal expressions in interview conversations by late juveniles and adults (n = 39) diagnosed as high-functioning autistic matched to TD counterparts (n = 42) was studied. Individuals with ASD were

diagnosed as ASD based on DSM-5 while using the Autism Diagnostic Observation Schedule-2 (ADOS-2) as a diagnostic aid.[5] Those with high-functioning autism had reasonably good linguistic ability.

3. *Materials*

The spoken language was recorded from the six to eight tasks given to the participants. These tasks were decided upon after pilot studies confirmed that they were well-structured to elicit clinically significant indications of behaviors directly related to a diagnosis of ASD. Interview tasks from among those tasks were selected for this study.

Interview transcripts are from the administration of module 3 and 4 of ADOS-2. ADOS is a standardized measure commonly used in autism diagnosis, and ADOS-2 is the revision of its predecessor, ADOS. ADOS is highly evaluated as the gold standard demonstrating strong predictive validity. Measurement is based on observation and interaction, with the individual suspected of having ASD being assessed for reciprocal social interaction, communication, and imagination in a semistructured setting. Coding the observed behavior through scoring algorithm aids gives diagnostic measurement of the autism symptoms. Five types of modules are used for assessment according to the language level and age. Module 3 and 4, whose interview tasks were used for this study, are for adolescents and adults with fluent speech.

The interview setting is one-to-one (participant and examiner). The examiner is required to make a deliberate effort to take a conversational approach, avoiding a question-and-answer style, and to try to develop the topics further by commenting on what the client says and showing interest and involvement. It is often the case that individuals with ASD become inhibited when they encounter unstructured situations. The examiner, therefore, is required to provide sufficient conversational leads and prompts on the topics so that the participant can take a full role in back-and-forth conversation.

The interview questions are constructed to assess clients' insights into personal difficulties, social situations, sense of responsibility, understanding of social relationships such as friendship, the idea of getting married or building a long-term relationship as well as relationships with their own family, imaginary-world creation, objective description of self, and the participants' ability to describe their own emotions.

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5. The author established research reliability, which is required for research use of the results of ADOS-2 administration.

4.2 Procedure

From the corpus data, the frequency of use of modal expressions according to each category of modality shown in Figure 3 was calculated for two groups. Group 2 were individuals with high-functioning ASD, and Group 1 were their TD counterparts. The following statistical question was investigated: Are there modal categories which, by their frequency of use, differentiate individuals with ASD from TD individuals?

Continuous variables with non-parametric distribution were expressed as median and interquartile range (IQR) [25%, 75%]. Univariate and stepwise multivariate logistic regression analyses were performed to predict the classification of groups by modal expressions. Odds ratios (ORs) and 95% confidence intervals (CIs) were expressed. The best model was selected based on the lowest Akaike's information criterion (AIC). All tests were 2-tailed, and statistical significance was defined by a p-value < 0.05. All statistical analyses were performed with R version 3.2.4.

5. Results

This study analyzed data from 113 participants (Group 1: $n = 42$, Group 2: $n = 39$). The median and IQR of the frequency for each grammatical expression in each group are shown in Table 1. Univariate and stepwise multivariate logistic regression analyses for the classification of Group 1 and Group 2 are shown in Table 2. The following variables were retained in the final regression model: PROBABILITY (OR 0.95; 95% CI 0.90–1.01; $p = 0.088$), EVIDENTIALITY (OR 0.86; 95% CI 0.75–0.98; $p = 0.025$), INCLINATION (OR 1.16; 95% CI 1.00–1.34; $p = 0.052$), EXPECTATION (OR 1.45; 95% CI 0.99–2.11; $p = 0.056$) and USUALITY (OR 1.12; 95% CI 0.98–1.29; $p = 0.103$).

Concerning MLU, although the significant effect was not observed ($p = 0.243$), the statistical data in univariate analysis shows an effect closer to significant value. MLU, Mean Length of Utterance, is a scale of linguistic productivity originally used in studies of children. It is the average number of morphemes per utterance, and it is calculated by dividing the number of morphemes by the number of utterances. Although MLU does not directly reflect the complexity of syntactic structure, it is regarded as an indicator of a child's language developmental proficiency. This study applied this measurement method to adolescents and adults to estimate their linguistic developmental level. The higher the MLU is, the more proficient his/her language proficiency is regarded to be. The MLU measurement scale was invented by Brown (1973) for English-speaking children. Owing to the differences between English and Japanese language structures, several related measurement methods

were considered in the present research. These were MLUm and MLUw, which specify what should be measured and not be measured among the various kinds of morphemes and words. This study adopted MLUm including all the morphemes displayed by the morphological analysis tool, UniDic-MeCab. It was found that higher MLU showed Group 1 (TD) affinity.

Table 1. The median and IQR of the frequency for each grammatical expression in each group

	Group 1 (*n* = 42)	**Group 2 (*n* = 39)**
total no. of words	2252.5 [1354.0, 3832.8]	1871.0 [1298.0, 2783.0]
total no. of sentences	96.5 [79.8, 195.5]	116.0 [87.0, 147.0]
MLU	19.3 [16.3, 22.7]	14.9 [10.0, 19.6]
Probability	24.0 [14.8, 42.0]	14.0 [8.0, 28.0]
Ability	5.5 [3.0, 10.0]	3.0 [1.0, 9.0]
Evidentiality	8.0 [2.0, 15.0]	3.0 [1.0, 6.0]
Inclination	7.0 [3.8, 12.3]	6.0 [3.0, 10.0]
Permission	1.0 [0.0, 2.3]	1.0 [0.0, 2.0]
Expectation	0.0 [0.0, 1.0]	1.0 [0.0, 2.0]
Usuality	8.5 [4.0, 15.0]	8.0 [3.0, 12.0]
Obligation & Necessity	2.0 [1.0, 4.0]	1.0 [0.0, 3.0]

Table 2. Logistic regression analysis for the classification of Group 1 and Group 2

	Model 1			**Model 2**		
	OR	**95%CI**	***p* value**	**OR**	**95%CI**	***p* value**
total no. of words	1.00	1.00 , 1.00	**0.043**	–		
total no. of sentences	1.00	0.99 , 1.00	0.505	–		
MLU	0.94	0.88 , 1.01	0.092	0.95	0.87 , 1.04	0.243
Probability	0.97	0.95 , 1.00	**0.023**	0.95	0.90 , 1.01	0.088
Ability	0.93	0.85 , 1.01	0.077			
Evidentiality	0.89	0.82 , 0.98	**0.012**	0.86	0.75 , 0.98	**0.025**
Inclination	0.96	0.89 , 1.03	0.242	1.16	1.00 , 1.34	0.052
Permission	0.87	0.68 , 1.12	0.277			
Expectation	1.10	0.87 , 1.38	0.441	1.45	0.99 , 2.11	0.056
Usualty	0.97	0.91 , 1.03	0.358	1.12	0.98 , 1.29	0.103
Obligation & Necessity	0.81	0.65 , 1.01	0.057			

Mode1 1, no adjustment; Model 2, selected based on lowest AIC.
OR, odds ratio; 95%CI, 95% confidence interval.

USUALITY is Halliday's unique codification term, which is not related to the generally agreed upon traditional modal categories, either epistemic or deontic. The discussion for this category, therefore, is saved for another opportunity.

6. Discussion

This study compared the use of modal expressions in spoken language by TD individuals and those with ASD and found that there were several modal categories which differentiated between the two groups. The succeeding discussion concerns how brain functions associated with modal expressions reflect on cognition and how those cognitive functions are realized by the choice of lexicogrammar on the system network. In order to explain this, cognitive impairment must be taken into account. Three relevant explanations are: (1) theory of mind (ToM), (2) executive function (EF), and (3) central coherence (CC). The subsequent Sections (6.1, 6.2, and 6.3) discuss these three cognitive explanations, focusing primarily on ASD.

6.1 Theory of Mind (ToM)

Cognitive impairment was once regarded as the most likely primary impairment of ASD, but this explanation is not persuasive now that the existence of high-functioning ASD individuals with high intelligence and linguistic competence have been acknowledged. Baron-Cohen et al. (1985) presented "the impairment of theory of mind" hypothesis from their empirical study. The subjects of their experiment were 20 autistic children, 14 Down syndrome individuals, and 27 TD (TD) preschool children. Two dolls named Sally and Anne were used. The following is the description of the experiment:

> Sally first placed a marble into her basket. Then she left the scene, and the marble was transferred by Anne and hidden in her box. Then, when Sally returned, the experimenter asked the critical Belief Question: "Where will Sally look for her marble?." If the children point to the previous location of the marble, then they pass the Belief Question by appreciating the doll's now false belief. If however, they point to the marble's current location, then they fail the question by not taking into account the doll's belief. These conclusions are warranted if two control questions are answered correctly (Baron-Cohen et al., 1985: 41)

The experiment described above employed a false belief task. (Similar tasks include the Maxi task (Wimmer and Perner, 1983), the Smarties task (Gopnik and Aslington, 1988), and so on.) The results show that while 85% of both Down syndrome and TD children passed the belief question, only 20% of ASD children did. From this empirical study, Baron-Cohen et al. (1985) concluded that the autistic children failed to employ ToM. Such failure means an inability to represent mental states and the concomitant inability to impute beliefs to others, both of which put ASD individuals at grave disadvantage in predicting other people's behavior. The insights gained through this research have been considered an important breakthrough by many in the field of ASD studies.

ToM is the ability to attribute mental states such as belief, intention, and feeling to others, from which behavior to predict, explain, and reason are thought to be derived. This is the ability to mentalize or "read" the mind states of others.

TD children began talking about desires at approximately the age of two, and by the age of three about cognitive mental states (Bartsch & Wellman, 1995).[6] At approximately the age of four, children acquire the ability to "interpret human action within a causal-explanatory framework, understanding that the mind does not simply copy reality but provides a representation of the world" (Tager-Flusberg, 1997: 135). This representational theory accounts for a four-year-old child's understanding that "beliefs do not necessarily match reality and that different people may hold different beliefs about the world" (Tager-Flusberg, 1997: 135). These studies show that children develop ToM at an early age. Perner (1993) argues that children acquire understanding of false belief, which comes with "a new view of representation," at the approximate age of four. They are able to understand "things like pictures and mind as representation" (Perner, 1993: 128), which suggests that the children who fail in false belief tasks are impaired in cognitive ability to understand the relationship between mind and representation.

Deficits in metarepresentational ability necessarily restrict the use of lexicogrammar representing mental state. Tager-Flusberg (1992) investigated if language used by the children with ASD is limited to refer to behavior or action. In this study, search of the lexicogrammar was made according to a list of words grouped into four categories; desire, perception, emotion, and cognition. Among these words, the modal expressions of grammatical metaphor signifying "probability" in the theoretical framework of SFL correspond to cognition. Words in this category are *believe, dream, figure, forget, guess, idea, know, make believe, mean, pretend, remember, think, trick, understand*, and *wonder*, among which *believe, guess, think*, and *wonder* are the metaphorical modal expressions in the constructs of SFL. The major findings from this study revealed the relative lack of language referring to cognitive or epistemic states by children with ASD, which evidenced deficient ToM, while in the other three categories significant differences were not observed. Concerning individuals with ASD, Hobson and Lee (1989) reported their limited understanding and use of terms expressing mental states, and Roth and Leslie (1991), and Wilson and McAnulty (2000) reported their infrequent use of terms expressing belief. Nuyts and Roeck (1997) and Perkins and Firth (1991) report from their story-narrating experiment the limited understanding and use of epistemic modal expressions by individuals with ASD.

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6. Shatz et al. (1983) warned that mental terms are mostly used in idiomatic and conversational fashion by those young children, which suggests that children do not refer to the actual mental states.

Baron-Cohen (1986) reported that the majority of individuals with ASD, in comparison with TD counterparts, made less use of terms referring to mental states in order to express psychological intention even though they did employ terms referring to causal relationship and action in their story narrations. This is indicative of their problem with relating the intentions of fictional characters. In other words, they have difficulty in understanding and narrating the story characters' intentions, motives, cognition and psychological state in the explanatory framework of a causal relationship. Tager-Flusberg (1995) argues this finding is suggestive of their deficit in ToM.

What is the lexicogrammar used to attribute mental state to others then? This entails understanding the grammatical operation of embedding or projecting one propositional clause in another propositional clause or mental process.[7] In the case of probability (the mental process expressing uncertainty), *omou* (think) projects the targeted proposition. To say this, one needs to understand the critical phrase, the syntax of projection, and the representational quality of mind (as evidenced by the ability to pass the false belief task). This syntactic operational procedure is at the heart of a ToM (Pinker & Bloom, 1990). The false belief task tests the ability to understand another person's internal state: 'Sally thinks her marble is in her basket.'

At the syntactic level, the mental process projects the content of sensing as an idea. For example, in the sentence, *John thinks Mary is coming to tea*, the projected clause is not optional but obligatory. One cannot simply say *John thinks*. Tager-Flusberg (1997: 150) argues that "Other mental state verbs could easily be inserted in this embedded sentence (e.g., know, believes, forgot), illustrating the point that complementation is an important entry for the child into talk about the mental life of people."

These studies concern the language development of children with ASD. It is reported that findings of these studies hold true even for high-functioning adults with ASD in that they have subtle difficulty in understanding another's mental state (Tager-Flusberg, 1997). Abell, Happe, and Frith (2000), and Castelli, Frith, Happe, and Frith (2002), as well as Klin (2000) reported that high-functioning ASD adults still retained subtle ToM deficits. Happe (1994) reports that individuals with ASD who had passed all the ToM tests still showed impairments in his more naturalistic experiments requiring them to provide context-appropriate mental state explanations for story characters' nonliteral utterances. Abell, Happe, and Frith (2000) found in their experiment using animation descriptions that description accuracy did not improve from age eight to adulthood in spite of an increase in use of

7. Mental process is one of the clause structures or process types of transitivity, referring to mental states.

mentalizing language. What matters is "whether this reflects increasing ToM skills or simply increasing linguistic competence" (Abell et al., 2000: 12). Roth and Leslie (1991) reported that adolescents with ASD were not able to precisely understand the meaning of *think* and *pretend*.

These studies support the finding of this study that usage of modal expressions in the probability category is where differences between TD individuals and those with ASD are clearly seen. The difference is less use of grammatical metaphor signifying probability by ASD individuals. This type of metaphor, as illustrated in Figure 5, occurs in expressions such as 'I think' shown in Example 6, which is equated with expressing mental state.

Example 6

Tyotto yarisugi da to omoimasu
A bit did too much (I) think.
I think (you) did a bit too much.

Social inferences are essential for explaining or predicting thoughts, intentions, and others' behavior; i.e., the ability to infer the mental states of others (ToM). ToM is the ability to form and to use representations of the mental states of others, and "is considered pivotal to one's ability to engage in effective communication and has been much studied in relation to both autism and right-hemisphere damage" (Martin & McDonald, 2003: 454).

Some studies argue that ToM false belief tasks concern linguistic competency since children with ASD at ages above 11 or 12 come to pass those tasks, but the fact that those children still retain interpersonal communication problems leads us to think there exist some other causative cognitive factors to be considered in addition to ToM (Senju, 2014). These studies suggest that other cognitive problems affecting linguistic behavior should be considered. We will move on to other affecting factors.

6.2 Executive function (EF)

Some studies of ASD have indicated that pragmatic impairment is associated with EF deficiency. EF is the term collectively referring to higher cognitive processes such as (1) planning, (2) goal setting, (3) monitoring, (4) evaluating, (5) controlling, (6) inhibiting, (7) sustaining, (8) sequencing, (9) organizing, (10) reasoning, (11) synthesizing, (12) abstracting, (13) problem solving, (14) decision making, (15) multi-tasking, and (16) overall cognitive flexibility (Perkins, 2010). In other words, EF encompasses higher-order cognitive functions, including (1) goal-setting (to set the goal to be achieved with clear motives and intention while predicting uncertain factors), (2) planning (to formulate, evaluate, and choose the steps to be

taken), (3) implementation of the plan (to adjust the plan or method in view of progress in the direction of the goal), (4) effective accomplishment (to choose the most effective strategy while conjecturing the probability of accomplishment and always bearing the goal in mind) (Fukui, 2010: 156–157).

The research results point to probability and evidentiality as the categories of modality usage that discriminate between ASD and TD subjects. Among the cognitive processes above, these two categories are most closely associated with the reasoning process. McDonald (1999) argues that the executive processes are superordinate to all other cognitive functions, and EF and inference generation are similar processes. As McDonald (1999) states, "it is clear that increasing degrees of impairment in the executive system correspond to greater and greater impairment of inferential reasoning." Perkins (1991) argues that the reason why autistic children often do not succeed in situations where contextual information is not explicit and they have to utilize their general or social knowledge is that "they are far better at deductive reasoning than inductive reasoning" (Perkins, 1991).

Perkins (1991) points out autistic children's occasional inability to interpret ambiguous modal auxiliaries. For example, the utterance, "you must be tired," would be interpreted deontically (i.e., as a request (or as modulation in the constructs of SFL)) by autistic children who are unable to ascribe mental states to others because of deficits in ToM. TD children, on the other hand, are able to work out the meaning epistemically by making an inference on the basis of evidence available to them.

Perkins (1991) argued dual interpretation occurs for the sentence, 'Mary must try very hard'. The semantic meaning of *must* is realized indicating a relationship of entailment between circumstances and the proposition, which is formulated as 'circumstance entails proposition'.

1. Deontic interpretation: This could be 'I insist that Mary try very hard.' "Circumstance will include a source of obligation; the speaker has sufficient authority to require Mary to try very hard and wishes to implement such authority by means of his/her utterance." This proposition concerns the actual causing to happen of the truth of the proposition.
2. Epistemic interpretation: This could be 'I infer that Mary tries very hard.' "Circumstance will include evidence available to the speaker which is sufficient for him to infer the truth of the proposition." This proposition concerns only the propositional truth.

What matters the most is that the set of circumstances is barely linguistically explicit, and the pragmatic task lies in establishing the identity of *circumstance*. "One of the main ways in which modal expressions vary is in the extent to which information about *circumstance* is lexically explicit, as opposed to being pragmatically

implicit (Perkins, 1991: 1988)." Thus Perkins (1991) claims that it is likely that an individual who is not good at inductive reasoning will have problems with modal expressions, especially with the ambiguous modal auxiliaries such as *must*. This is suggestive of the pragmatic impairment of ASD. This problem, however, is specifically associated with English modal expressions. As mentioned earlier, Japanese modality is realized by several sets of grammatical components other than single modal auxiliary verbs, which allows for various degrees of delicacy in Japanese. This type of confusion, therefore, hardly occurs in the Japanese language. If anything, 'dekiru' (can) has the dual semantic meanings of ability and permission. This is an example which illustrates that cognitively and linguistically significant features become hidden in one language and explicit in another. For instance, pronoun reversal, which is typically seen in English-speaking children with ASD, is scarcely identifiable among Japanese children since the omission of the subject of the clause habitually occurs in Japanese. From the clinical perspective, this is the reason why comparative language study is needed in order to identify all symptoms.

The findings of this study, that probability and evidentiality (epistemic modal expressions in general terms) are the discriminating lexicogrammar between ASD and TD individuals, support Perkins's claim above. Those two categories are the speaker's evaluation of the truth of the proposition based on inductive inferential reasoning, the use of which is restricted in individuals such as those with ASD because of neurocognitive dysfunction. This is reflected by the quantitative data.

Russell (1997) claims that mentalizing ability and EF are muddled in tasks used for assessing ToM and that both ToM and EF should be considered as common dysfunctions behind failure of false belief tests. There has been controversy over the relationship between EF and ToM. It has been argued that EF and ToM overlap in their functions in some respects. Fine et al. (2001: 295) claim there are two perspectives: one is that the development of EF allows the child's theory of mind to develop or show its full potential (Ozonoff et al., 1991; Russell, 1995, 1996, 1997; Ozonoff, 1997), and the other is that "there are no specific systems for processing mental states and that performance on ToM tasks can be reduced to EF ability (Frye et al., 1996)." Fine et al. (2001: 287) asserted that EF can develop independently of ToM; similarly, ToM is not simply a function of more general EF. Martin and McDonald (2003) argue that it has been difficult to get a convergence of two perspectives partly because this is the matter of different research paradigms: one focusing on pragmatic language production, the other on language comprehension.

McDonald (1999) points out that EF and inference concern paying attention to information from several sources at the same time and integrating that information. We will discuss this in the next section.

6.3 Central coherence (CC)

Sugiyama (2004) points out that the reason why individuals with ASD often fall short in conversation is that there are considerable amounts of information to process in interpersonal interaction (such as facial expressions changing on a moment-to-moment basis), which easily exceed the processing capacity of an individual with ASD. For example, when they see others, they tend to focus their attention on one part of the other's clothing or face (such as the mouth), instead of reading the other's facial expression holistically. In other words, they have difficulty cognizing the whole entity of others. They seem to lack the psychological distance required for cognitive representation (Sugiyama, 2004). This problem is caused by weak CC, or failure of a central system whose job is to integrate sources of information. Weak CC precludes individuals with ASD from integrating information, such as non-verbal information gathered from others' gestures as well as comprehension of the amount of information and knowledge others possess, all of which are necessary for interpersonal interaction. This cognitive deficit brings about unusually intense, focused attention to specific, concrete things and events, and the lack of general versatility. Such cognitive uniqueness is the ground for the pragmatic impairment of ASD individuals (Sugiyama, 2004).

In contrast, Senju (2014) points out that children with ASD fail to show preferential sensitivity to social cues. Cognitive empathy entails the act of directing attention to others and, in particular, to those facial features where emotions (which are suggestive of others' mental states) become most apparent. The act of making no eye contact, which is one of the features of individuals with ASD, has been explained from two perspectives: one is that they intentionally avoid eye contact, and the other is that their attention is not simply attracted. Various studies support the latter view rather than the former (Senju, 2014). Kikuchi et al. (2009) reported that two experiments to investigate the attention behavior of children with ASD to faces and objects showed that children with ASD were equally fast in detecting changes in both faces and objects, while children in the control group detected changes in faces faster than in objects. The results suggest that children with ASD lack an attentional bias toward others' faces which could contribute to their atypical social orienting (Kikuchi et al., 2009: 1421).

Senju (2014) argued that one of the necessary conditions for empathy-arousing is to cognize those displayed acts which give clues to read the mental states of other people. Human beings mainly rely on visual information as clues to read others' mental state. So information concerning where and what others are looking at could be useful for reading mental states, such as what others know, what others are going to do, and so on. Senju (2004) reported an experiment to investigate the degree to which another person's social attention triggered an interlocutor's

reflexive orientation. The stimuli were the direction of the person's eye gaze (a social cue) and an arrow (a nonsocial directional cue). The results showed that children with ASD shifted their attention equally in response to eye gaze and arrow direction, while the control group were attracted more by eye gaze than by arrow direction. These findings suggest that ASD individuals fail to show preferential sensitivity to social cues.

Senju (2004) argued that such deficits in cognitive empathy do not derive from the inability to represent others' mental states in essence, but from weak detecting and cognizing of the cues necessary for forming mental representation by individuals with ASD.

One explanation for the pragmatic impairment apparent in ASD involves not only social inference difficulties but also a more pervasive inability to utilize context to make meaning. Frith (1989) argues that such dysfunction is owing to weak central coherence, a failure to integrate sources of information. (In contrast, as has often been pointed out, some of those with ASD indicate superior ability at recalling and processing information which appears arbitrary and random to normal people.)

From the studies of CC reviewed above, we can understand that individuals with ASD cannot adequately cognize others' facial expressions nor comprehend gaze direction. The problem is that they are unable to integrate multi-contextual information, and (in addition to this) they have impaired ability to show preferential sensitivity to social cues. Both probability and evidentiality are expressed via modal expressions related to the speaker's inferential reasoning. The difference between them is that evidentiality resorts to more audio-visual or perceptual cognition

Impairment in audio-visual or perceptual cognition (which evidentiality is based on) is one of the reasons the use of modal expressions categorized as evidentiality is significantly less in the case of individuals with ASD (Kato, 2019). As the empirical studies show, dysfunction in the CC system and in the processing of preferential contextual information hinders individuals with ASD from using this category of expressions.

One indication of this cognitive dysfunction appears in their syntax, since (in general) low complexity and paucity of verbalization are features of the utterances of poor-prognosis schizophrenics (Thomas et al., 1990: 209). As discussed in 6.1, normal individuals indicate their inference of the mental states of others syntactically by the use of embedded clauses as seen in *John thinks Mary is coming to tea*. Because of their problems in making inferences, those with ASD tend to reduce sentence complexity by reducing the number of levels of embedding (Thomas et al., 1996). In assessing the syntactic structure, other aspects of cognition such as attention and working memory also need to be considered (Thomas et al., 1996: 339).

From the foregoing discussion it seems clear that the study of mental disorders as a whole possesses great potential for contributing to clarification of the role of cognition in pragmatic functioning.

6.4 Preference for expectation and inclination

Here we will seek for the reasons for ASD individuals' preference for expressions of expectation and inclination. Expectation and inclination have their origins in deontic modality, which is a general category that concerns intention, desire, and will and "involves a reference to a future world-state" (Litowitz, 2005: 255). Lyons (1977) suggests that the origins of deontic modality can be traced back to the desiderative and instrumental functions of language. The former is the indication of wants and desires, the latter of getting "things done by imposing one's will on other agents" (Lyons, 1977: 826). Contrastive studies between deontic and epistemic modal expressions found that deontic modality precedes epistemic in children's language acquisition. Traced further back, imperatives or commands come before deontic expressions (Tomasello, 2003).

Tager-Flusberg (1997) reported that epistemic modal expressions were rarely used by either group after investigating the language corpus of ASD children and Down syndrome children. Only a few utterances were found implying possibility, and no utterances were found for expressing uncertainty. Tager-Flusberg (1997) found that there are different usages of modal expressions, especially of CAN and WILL, between the two groups. Children with ASD tend to use WILL to predict the future (i.e., future tense) or require permission, while children with Down syndrome made significant use of it for expressing mental states such as volition and intention. This group also made significant use of CAN to signify ability, often mentioning their inability to carry out some activity.

Perkins (1983b: 153) argues that "modal expressions are first used at the beginning of the pre-operational period, which is the period associated with egocentrism." He exemplifies a child's usage of only the modal expressions, CAN and WILL, at the very rudimentary stage to express willingness, inability, request for permission, and "to allow or prohibit an action by his addressee." In addition, these expressions are only used on a first-person-singular-subject-oriented basis; they are not used to "refer to the willingness or ability of third person." These usage traits, however, decline dramatically when children are 8 to 12 years old. He points out that "a change from an individualistic to a cooperative attitude towards rules should be reflected in the type of subject used with modal expressions" (Perkins 1983b: 154).

Kandabashi (1990) draws analysts' attention to the possibility that 'tai (want)' and 'beki (should)' could be the rough standard for diagnosis in psychiatric interviews. The former is the expression for inclination and the latter for obligation. 'tai' is a modal expression that reflects one's raw egotism, while 'beki' reveals recognition

and appreciation of one's social milieu and cultural background. Figure 6 shows that 'tai' was the expression of inclination chosen most often (76%) by ASD individuals in this study. Because individuals with ASD use 'tai' more frequently than TD persons do (as shown in Figure 7), they reveal their social immaturity because excessive use of expressions of desire in social settings incurs low social acceptance. On the other hand, TD persons restrain their use of expressions of desire in order to incur favorable social acceptance. The current study's statistical data indicate that the more expressions of inclination and expectation occur, the more probable it is that the speaker is an ASD person.

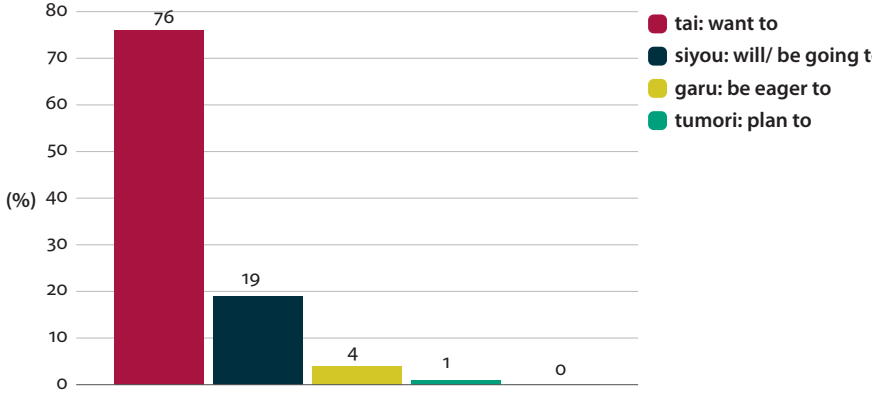

Figure 6. The ratio of expression of inclination

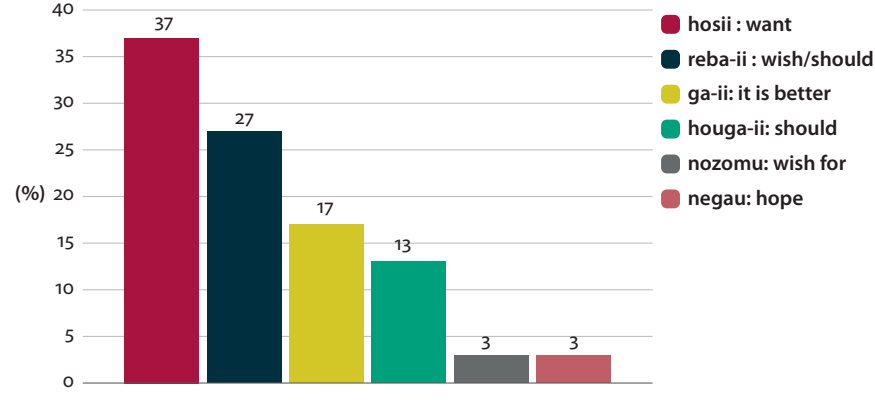

Figure 7. The ratio of expressions of expectation

From the developmental perspective, therefore, as discussed in the previous sections, epistemic types of modal expressions such as probability and evidentiality require a somewhat higher level of cognitive and social development. Perkins (1983a)

points out that concerning the acquisition of modality, "one's level of cognitive and social development will be a determining factor"(1983a: 7).

Perkins (1983b) noted that the use of modal expressions is determined by a speaker's knowledge of the world, which suggests that as the children grow older, their usage and comprehension of modal expressions will change. These changes occur between infancy and adulthood. The social skills of individuals with ASD, whether high-functioning or low-functioning, also keep developing from childhood through adulthood. However, they seem destined to remain in a state of the under-development: even in the highest-functioning still there exists residual social impairment. Their preference for the deontic side of modal expressions is observable evidence for this, as is their scarce use of epistemic modal expressions.

Thus it is said that individuals with ASD stay at the rudimentary level in their cognitive and social development even in adolescence and adulthood because they continue to make excessive use of deontic modal expressions, inclination and expectation, owing to cognitive disability. For the same reason, such individuals rarely make use of epistemic modalization, such as probability and evidentiality expressions.

Inferential disability stemming from deficits in ToM, EF, and CC hinders ASD persons from an appropriate use of epistemic modal expressions, while their distinctive symptoms of desire for sameness, restricted interests, remarkable focus and persistence contribute to the excessive use of modal expression for desire. Their rudimentary social development is an additional contributing factor.

Oi (2006) points out that young adults with ASD tend to be unable to negotiate even simple matters, to be too straightforward, to monopolize turns, to make abrupt changes of topic, to use unpleasant language to others, to be unable to make inferences of others' meaning making, and to be unable to understand jokes, metaphor, and irony. He argues that such deficiencies are not necessarily unimprovable, but unconquerable problems still remain. Volkmar and Klin (1993) point out that while social skills develop until adulthood, considerable deficits persist even among high-functioning ASD individuals.

7. The process leading to pragmatic impairment

The findings discussed in the previous sections, which show that significant differences in the use of modal expressions are observable, are regarded as evidence of pragmatic impairment. Pragmatic impairment is defined as difficulty in language comprehension and production with regards to using language appropriately in social situations. How does such pragmatic impairment occur? Attempting to answer

this question, we will consider some sociolinguistic activities exemplifying Japanese pragmatic traits. In order to utilize holistic reasoning, we refer back to the systemic model of language activity shown in Figure 1 and start at the outer stratum before continuing down to lower strata.

Procedure 1: Consideration of contexts of culture and situation

Here we broaden the scope of context of culture and apply SFL theory to the collective linguistic behavior specific to Japanese. To understand linguistic activities, it is important to start by capturing the upper-most outer stratum, context of culture. Hill et al. (1986) introduced the notion of *wakimae*, which "refers to the almost automatic observation of socially agreed-upon rules and applies to both verbal and non-verbal behavior" (Hill et al., 1986: 348). Ide (1992) argues that:

> *Wakimae* is sets of social norms of appropriate behavior people have to observe in order to be considered polite in the society they live in. One is polite only if he or she behaves in congruence with the expected norms in a certain situation, in a certain culture and society. …Thus, speaking within the confines of *wakimae* is not an act of expressing the speaker's intention, but rather of complying with socially expected norms. The speaker's attention is paid not to what he or she intends to express, but rather to what is expected of him or her by social norms…. the prototypical observation of *wakimae* is intrinsically obligatory and situation bound, as we see in the choice of proper honorific forms and speech formulas.
>
> (Ide, 1992: 299)

According to Ide, the two ways of realizing *wakimae* are micro- and macro-level *wakimae*. The micro-level of *wakimae* is 'register-determined' realization according to situational factors, and the macro-level is 'social dialect' in which "the speaker indexes his/her own place in each situation in the society" (Ide, 1992: 299). Modal expressions are one of the means to realize this social norm.

It is obvious that in a *wakimae*-oriented linguistic culture, negative politeness which maintains interpersonal distance is a central interactional strategy. Fukuda (2013) states that negative politeness (a strategy to maintain interpersonal distance) is situated at the highest level in the Japanese language, and that the reason for this is largely because of the existence of sets of honorific expressions.

Japanese has an interactional culture which places value on realizing what others want to say without language. This could be traced to the nation's historical and geographical background. Japan is an island country that closed itself to the rest of the world for a certain period of time in the past. These circumstances fostered a homogenous or uniform lifestyle, way of thinking, and sense of value among the

nation's people. These shared traits have enabled (forced) the Japanese to share the context of every situation they are placed in. In this type of society people are rarely placed in a situation to negotiate a solution to a problem or persuade others who have different opinions. In a society where the social context is culturally shared, people do not have to rely on language when communicating with others. (Rather, an atmosphere exists that uttering words is almost a kind of wet blanket!) Language is exchanged for the purpose of establishing and reassuring good social relationships with others; therefore, linguistic interaction stays within ritualistic frameworks. Ide (2006) argues that people accept others as they are and exert their energy in sending reassuring messages of culturally shared norms to each other. Language is used in order to fixate interpersonal relationships with others and accommodate oneself to others. As a result, language generally takes ritualistic forms. The Japanese language has developed this pragmatic orientation. Without the need to explain because of social homogeneity, effective exchange of communication is realized by the use of elliptical or omissive language and implicative meaning-making processes. Ide (2006) calls this type of communication 'phatic communication'.

The discussion above indicates that Japanese culture is a high-context culture; indeed, one which Hall (1976) described as proto-typical. Hall pointed out that where a population enjoys a great deal of commonality in knowledge, culture, and societal values, complex meanings tend to be attached to conventional language patterns and social protocols. Priority is not placed on innovative expressions and originality; instead, the correct use of contextually bound honorifics, donatory verbs, and set expressions is prized. In contrast to Japan, Hall points to the U.S.A. as a prototypically low-context culture. The American population is controlled more by an explicit legal system and less by implicit social norms. There is a feeling that everyone is equal under the law, so people need not pay so much attention to social status and other contextual factors when dealing with interpersonal matters. In such a culture, there is less need for communicators to understand and follow the fine nuances of shared cultural norms; instead, innovative, frank, and creative verbal behavior is valued.

The linguistic means to tactfully realize the type of exchange required in a high-context culture (like Japan's) is complicated to learn, and speakers may experience stressful states of mind. If they do not observe the social norms and fail to meet culture-specific interactional standards, they will receive negative social evaluation and impair their interpersonal relationships with others. At the worst, they will be isolated from the rest of the group or community for failing to accommodate themselves to others, while speakers who successfully deal with interpersonal language will be evaluated as competent persons. In this type of socio-cultural setting,

linguistic exchange is stressful for everyone at times, and much more so for individuals with cognitive dysfunctions such as ASD. The ability to reason inductively is relevant in this type of socio-linguistic society. Individuals with ASD are at a disadvantage because of their deficient inductive reasoning skills.

It could be assumed that the social survival of individuals with cognitive disability is less secure for those in Japan than for those in the United States. Individuals with ASD in Japan would seem to incur more social damage than their counterparts in the United States since their neurocognitive deficits hinder them from inferring the contextual information needed to survive in their high-context society.

According to SFL theory, appropriate understanding of both cultural and situational context enables a speaker to make the appropriate choice of lexicogrammar; however, from the very start, ASD individuals face insurmountable hurdles which result in inappropriate lexicogrammatical choices from the system network.

Procedure 2: Text-making processes in semantics, choices of lexicogrammar, and actual utterances

The failure of ASD individuals to appropriately read the two contexts (cultural and situational) necessarily affects their choices of lexicogrammar.

Frith (1989) posits two types of linguistic exchange. One is to relate the proposition to mental states and evaluate the information conveyed. The other is to convey the bare proposition. The former is prioritized by normal individuals and the other is commonly observed among individuals with ASD.

In normal exchange, the speaker's language takes on some kind of evaluation of the proposition through various lexicogrammatical choices. Modal expressions are among the available resources to choose from. "By doing this they can achieve different degrees of understanding from the deliberate vagueness of the allusion to the sharp precision of the *mot juste*" (Frith, 1989: 133). The normal hearer pays more attention to what the speaker intends (with the aid of lexicogrammatical inferences of the speaker's evaluation as well as through non-verbal means) rather than to the proposition itself. To this end, lexicogrammatically multitiered expressions are chosen from the system network. Expressions, such as modal expressions, to wrap the bare proposition and realize evaluative intention abound in the Japanese language.

The use of modal expressions in situational settings as well as the social functions of modality are refered to here. Two functions are discussed: (1) the use of modal expressions as face-redressive strategies, and (2) subjective/objective orientations as a means of interpersonal distancing.

1. **Use of modal expressions as face-redressive strategies**
Placing the proposition in the meaning area between *yes* and *no* by the use of modal expressions alleviates face-threatening acts (FTA) by mitigating the proposition's assertiveness. The ambiguity brought about by placing the proposition between *yes* and *no* generates negotiability in interpersonal settings, which results in alleviating FTA. It is equated with negative politeness, which is defined as "redressive action addressed to the addressee's negative face: his want to have his freedom of action unhindered and his attention unimpeded" (Brown & Levinson, 1987: 134). Why do modal expressions work as face-redressive strategies? In order to appreciate this, consider the negative correlative relationship between the number of modal expressions and face-threatening impact. Modal expressions can be combined with one another in a sentence to alter the level of politeness (which depends on the number of modal expressions used). Example 6 illustrates how the FTA of a statement can be alleviated by degrees (adapted from Perkins, 1983b: 121).

Example 6.

less polite

(1) *Huan-ni omou koto-o hanasite kudasai.*
anxious feel TNG-ACC tell-BEN-POL
Tell me what you feel anxious about.

(2) H*uan-ni omou koto-o hanasu koto-ga <u>hituyo</u> desu.*
anxious feel TNG-ACC tell -TNG-NOM nesessary POL
It's necessary for you to tell me what you feel anxious about.
(necessity)

(3) *Huan-ni omou koto-o hanasu koto-ga <u>hituyo</u>*
Anxious feel TNG-ACC tell TNG-NOM necessary
<u>kamo</u> <u>siremasen</u>. (necessity+probability)
may-MOD:PROB POL
It may be necessary for you to tell what you feel anxious about.

(4) *<u>Tabun</u>, huan-ni omou koto-o hanasu koto-ga*
probably anxious feel TNG-ACC tell TNG-NOM
<u>hituyo</u> <u>kamo</u> <u>siremasen</u>.
necessary may-MOD:PROB POL
It may possibly be necessary for you to tell what you feel anxious about. (probability[a]+necessity+probability[b])

(5) *<u>Tabun</u> huan-ni omou koto-o hanasu koto-ga <u>hituyo</u>*
Probably anxious feel TNG-ACC tell TNG-NOM necessary
<u>kamosirenai</u>-to <u>omowaremasu</u>.
may seem
It seems that it may possibly be necessary for you to tell what you feel anxious about.
(probability[a]+necessity+probability[b]+probability[c])

more polite

The number of modal expressions can be an indicator of the level of a statement's indirectness. The more modal expressions included in a statement, the more the ambiguity of the directive increases until it become difficult to see the statement as a directive. This is equated with negative politeness. The interpretation of the statement is then left up to the addressee to judge. Therefore, even if the addressee sees the statement as a directive, s/he will still have a valid argument to disobey, arguing that it is not really a directive at all (due to the indirectness brought on by the use of several modal expressions in the statement) (Perkins 1983b: 122). These examples indicate that a rough determination of the relative politeness potential of a statement can be achieved by counting the number of modal expressions it contains.

2. **subjective/objective orientations as a means of interpersonal immediacy taking and distancing**

Subjective/objective orientations concern interpersonal immediacy and distancing: subjective for achieving immediacy and objective for distancing. We have seen the functions of objective/subjective orientation and how these expressions are realized in 2.5. As an example from probability (when in reality the speaker is expressing an opinion), saying *I think that* or *this is how I see it* entails immediacy, while stating the proposition as if it were not the speaker's point of view but an objective certainty by saying *it is certain that* entails the distancing effect. Achieving immediacy by using subjective-oriented expressions concerns positive politeness since immediacy tends to draw people together, while distancing by using objective-oriented expressions concerns negative politeness because of its impersonalizing effect.

Kamio (1997: 193) argues that positive politeness involves doing or saying something that reduces the distance between the speaker and the hearer, while negative politeness involves those things that widen the distance between the two. These linguistic acts of reducing or widening the distance are realized based on the rule of the territory of information by the use of lexicogrammatical devices, such as modal/non-modal or subjective/objective-oriented expressions. While Brown and Levinson (1987) did not single out modal expressions for any special attention, modal expressions figure prominently in the service of one strategy, specifically negative politeness (Perkins 1983b: 116).

Some ASD individuals, in their attempts to fit themselves into the social environment by using objectively oriented language, resort to over-reliance on formulaic expressions, often haphazardly and incongruously applied. This type of person is so inflexible in adjusting and encoding their language to achieve immediacy and distancing as occasion requires that they are regarded as socially awkward.

In their efforts to achieve appropriate immediacy and distancing, competent speakers of Japanese tend to choose those modal expressions that are epistemic more often than those that are deontic. Modal expressions of expectation and (especially) inclination tend to be avoided in a society (such as Japan's) where negative politeness is valued. In such a society, expressions of modalization (i.e., probability and evidentiality) are more acceptable choices than expressions of modulation (which are regarded as socially immature except when used in intimate interpersonal relationships). The proper degree of interpersonal immediacy and distancing for each social circumstance can only be achieved when speakers make appropriate choices of modality from the system network. Considering these social functions of modality, the inappropriate choices that ASD individuals make can be regarded as pragmatic impairment.

8. Determinant factor of making choices

The intertwined dysfunctions of three cognitive factors is reflected by the choices of lexicogrammar made on the system network by individuals with ASD. According to Sperber and Wilson (2005: 468), pragmatics is "the study of the use of language", and "the study of how contextual factors interact with linguistic meaning in the interpretation of utterances." This has been the generally accepted definition of pragmatics, and it assumes the centrality of language. As shown by the research on language use by individuals with ASD, however, pragmatics cannot be adequately discussed without considering neurocognitive factors. It is suggested here, and has been suggested by others, that pragmatics should be considered in a more integrated manner involving neurocognitive perspectives. Perkins (2010) argued that:

> Clinicians have thus tended to be far more aware than linguists of the role of cognition in pragmatic functioning. A further motivation for a semiotic view of pragmatics comes from neurolinguistics, which suggests that much of what is commonly understood as pragmatic competence is controlled by the right cerebral hemisphere, as opposed to linguistic competence, which is subserved to much greater extent by the left hemisphere (Paradis, 1998). This apparent double dissociation between language and pragmatics evident in clinical research suggests that, rather than focusing so exclusively on linguistic pragmatics, as linguists and pragmaticists have tended to do so far, it might be more fruitful to consider in a more integrated fashion the role of nonlinguistic as well as linguistic, and of nonverbal as well as verbal competencies in pragmatic functioning.
>
> (Perkins 2010: 10)

A TD person's ability to linguistically cope with pragmatic situations is due to the full functioning of neurocognitive capacities. Research on the pragmatic impairment so evident in individuals with ASD has had the added benefit of giving insights into how pragmatic processing is accomplished by TD (i.e., "normal") persons. The contributions of such insights to the study of pragmatics are considerable, and they warrant some revision of the synoptic view of context and language posited by SFL (refer back to Figure 1 above). The critical question is, 'what is the role of cognition in the stratified relationship between social context and language?' In other words, 'where should cognitive functioning be situated in Figure 1?' SFL sees language exclusively as a social phenomenon and Halliday did not explore the cognitive dimension of meaning making until Halliday and Matthiessen (1999) was published, as his following remarks indicate:

> I am not really interested in the boundaries between disciplines, but if you pressed me for one specific answer, I would have to say that for me linguistics is a branch of sociology. Language is a part of the social system, and there is no need to interpose a psychological level of interpretation. I am not saying this is not a relevant perspective, but it is not a necessary one for the exploration of language.
>
> (Halliday 1978: 38–39)

> The orientation is to language as social rather than as individual phenomenon, and the origin and development of the theory have aligned it with sociological rather than psychological modes of explanation. (Halliday, 1994: xxx)

Halliday and Matthiesesen (1999) refer to the cognitive side of language. Butler (2003: 46) suggests that "this is indicative both of Halliday's recognition of the need, in the current linguistic climate, to take account of cognitive aspects of language, and of his own approach." However, as their remarks below suggest, their theory is still primarily grounded on the language itself, with cognition placed in a derivative position. In other words, "the cognition is to be explained in terms of linguistic processes, rather than the other way round" (Butler 2003: 158).

> According to this view, it is the grammar itself that construes experience, that constructs for us our world of events and objects.
>
> (Halliday & Matthiessen 1999: 17)

This standpoint has been consistent with their view of "the construing role of language with respect to 'reality'" (Butler, 2003: 158). Contrary to their view, Kato (2019) takes the position that cognition should be taken as primary and language as secondary.

On another front, Halliday (1978) acknowledged an intra-organism perspective on language, *language as knowledge*, which includes brain structure and the cerebral processes that are involved in speaking and understanding, as well as learning to speak and to understand. This view was in addition to an inter-organism perspective, *language as behavior*. Figure 8 illustrates how three different aspects of language can be envisioned as triangles surrounding the centrally placed *language as system*. The three aspects are *language as art*, the realm of literature, *language as behavior*, and *language as knowledge*.

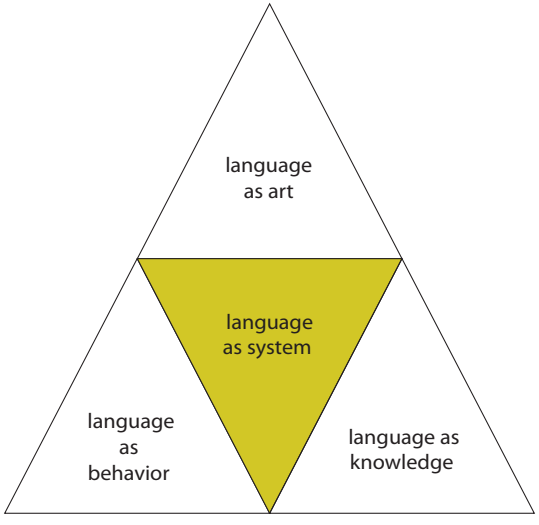

Figure 8. Adapted from Halliday, 1978: 11

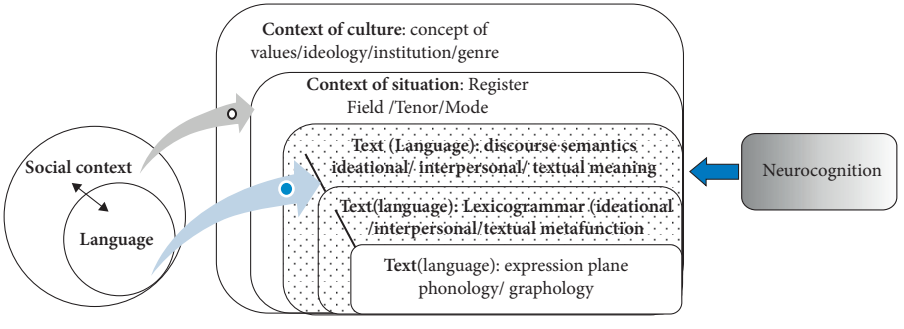

Figure 9. Adapted from Figure 1

The inter-organism perspective, *language as behavior*, is equated with the diagram illustrating the stratified relationships between social context and language, putting language into the context of 'language and social man'. The two perspectives, *language as knowledge* (intra-organism), and *language as behavior* (inter-organism) are complementary (Halliday, 1978). Kato (2019) illustrates the relationship between these two perspectives as shown in Figure 9.

Figure 9 depicts the social model of language on the left side and neurocognition on the right side; the two of them working in an inseparable fashion when lexicogrammatical choices are made. Kato (2019) argues that cognition primarily affects whatever choices the speaker makes according to the social model on the left. Whether the speaker makes socially appropriate choices or not depends on the cognitive functioning. For example, in cases of individuals with ASD, due to some cognitive dysfunction such as deficits in ToM, EF, or CC, they suffer restricted recognition of context of culture and context of situation, the result of which is pragmatic impairment. Which part of the social model of language is impaired depends on which cognitive functions are impaired.

9. Conclusion

This paper has explored the deficient usage of modal expressions by the individuals with ASD, viewing it as a pragmatic impairment to be examined from neurocognitive as well as linguistic perspectives. It presents an accumulation of research findings supporting the view that pragmatic incompetence stems from neurocognitive impairment leading to social cognitive abnormality. Special attention has been paid to the findings of clinicians since, as Perkins (2010) argues, clinicians (perhaps because of their empirical studies of pragmatic functioning) tend to be acutely aware of the role of neurocognitive factors as they analyze the communication difficulties that their clients experience.

The SFL representation of social context and language text has been constantly in view throughout this paper because it provides a cogent explanation of the lexicogrammatical resources (including modality) available to speakers. In addition, because SFL views language essentially as social behavior, it is an extremely useful theory for exploring the communication problems of those whose social cognition is impaired (e.g., ASD persons). In the case of modality, those choices are fraught with social consequences, and individuals who cannot consistently make appropriate choices are pragmatically impaired and socially disadvantaged. Analysis of their deficient usage of modal expressions leads to a greater appreciation of the role of neurocognitive functions. Furthermore, mapping the choices on the system

network by those populations with neurocognitive impairment provides insight into how these functions affect normal linguistic behavior. The current research is significant in this respect.

Although Halliday did not explore the cognitive side of language use in depth, it is the thesis of this paper that exploration of pragmatics from the perspective of neurocognitive functions is essential. The current discussion supports the view that pragmatic competency is primarily a neurocognitive function and secondarily a linguistic function. Evidence for this is found in empirical studies of lexicogrammatical choices made by individuals with developmental disorder such as ASD.

Abbreviations for grammatical items

ACC	accusative	OBLIG	obligation
AST	assertive	PERF	perfect aspect
BEN	benefactive	PERM	permission
CONJ	conjunction	POL	polite
EXPEC	expectation	PROB	probability
EXPL	explanative	PROJ	projection
LOC	locative	TNG	THING
MOD	modality	TOP	topic
NOM	nominative		

Funding

This study was supported by the grants from the JSPS (Japan Society for the Promotion of Science) KAKENHI (Grants-in-Aid for Scientific Research) JP26284060 (S Kato, PI) and JP26590161 (S Kato, PI).

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Index

This book is a cross-linguistic and interdisciplinary exploration of modality within systemic functional linguistics (SFL). Drawing upon the broad SFL notion of modality that refers to the intermediate degrees between the positive and negative poles, the individual papers probe into the modality systems in English and Japanese. The papers cover issues such as the conceptual nature of modality in both languages, the characterization of modulation in Japanese, the trans-grammatical aspects of modality in relation to mood and grammatical metaphor in both languages, and the modality uses and pragmatic impairment by individuals with a developmental disorder from a neurocognitive perspective.

The book demonstrates a functional account of Japanese within an SFL model of language with a fresh perspective to Japanese linguistics. It also refers to cross-linguistic issues concerning how the principles and theories of SFL serve to empirically elaborate descriptions of individual languages, which will lead to the enrichment of the theory and practice of linguistics and beyond.

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