機能言語学研究

第 11 巻　　2021 年 12 月

論文

日本機能言語学会

Foreword

It is with great pleasure that we provide Volume 11 of *The Japanese Journal of Systemic Functional Linguistics* this year. Due to an extraordinary event, this volume will be different from previous years.

The novel coronavirus (Covid-19) greatly impacted life in 2020 and its effects continue. Face to face interactions were greatly modified with restrictions on physical distance, mandatory facial masks and reduction of any crowds. Work and social activities were limited or cancelled for periods and then reactivated for periods causing confusion and frustration. Within universities and school, more time was spent on adjusting class styles, modifying materials, and teaching new technology.

It was in this context that major decisions were made for two JASFL activities. For the first time, JASFL held its first online conference, the 28th Autumn Conference, October 17-23, 2020. While linguists persevered with research during this tumultuous year, fewer articles were submitted to the journal. Three articles are normally required to publish the journal in paper form. However, to provide the opportunity for members to publish, Volume 11 will be initially published online and available to members. Then it will be combined with Volume 12 in 2023 as a paper publication for members.

In this volume, it is with great pride that we provide two articles by researchers. The article by Prof. Sumi Kato examines language development in "How Neurodevelopment and Joint Attention Affects the Use of the Negotiating Particles *ne* and *yo*". The second article by Prof. Masamichi Washitake delves further into clarifying the examination of nominalizations in his article, "Problems with Determining Nominalization".

We trust that this volume will provide further insight for linguists in their research and lead to more exploration in language development and nominalization.

President of JASFL
Virginia Peng

機能言語学研究

Japanese Journal of Systemic Functional Linguistics

第 11 巻　　2021 年 12 月　目次

論文

Japan Association of Systemic Functional Linguistics

Problems with Determining Nominalization

WASHITAKE, Masamichi
Aichi Gakuin University

Abstract

The aim of this paper is to suggest a solution to determining nominalization. While a large number of studies have been conducted on nominalization in the theoretical framework of Systemic Functional Linguistics, little attention has been given to how to determine whether or not a given wording is nominalization (a metaphorical thing). In this paper, I first examine the nature of nominalization, which includes reviewing previous research. Then, I discuss criteria for determining nominalization that is to be unpacked by exploring three texts from different fields. Finally, I suggest a provisional solution to determining nominalization: 1) If a given metaphorical thing has become a 'systemic thing' (Halliday, 2004: 39) and is established as a technical expression, its metaphor is 'dead' and analyzed as a congruent form (Halliday, 2004); 2) if a metaphorical thing is an unmarked choice in a register or language system, or it consists of one or more unmarked choices and technical expressions, it is reasonable to leave it 'as it is' (although its metaphor is not 'dead'.); and 3) if it is reconstrued from a congruent expression at the demand of the development of text, its metaphor is not 'dead' and can be unpacked.

1. Introduction

This paper is a preliminary attempt to determine nominalization. There are quite a few research papers illustrating nominalization, a dominant phenomenon in grammatical metaphor from the Systemic Functional perspective (e.g. Martin, 1992; Halliday, 1994; Halliday and Matthiessen, 1999; Halliday, 2004; Eggins, 2004). There is no disagreement that this metaphorical variation of wording is a key phenomenon in everyday, educational and technical discourse. Some studies even take nominalization for granted and give little explanation for it. However, at the present, it is difficult to find its clear definition: although a large number of studies have been made on nominalization, little has been done to determine its parameters. While nominalization is a rich resource for language use and a useful tool in analyzing texts, it is sometimes hard to decide what is nominalization (a metaphorical thing) to be unpacked and what is not.

In this paper, I begin with a brief review of the nature of nominalization, which includes sketching its characteristics and reviewing previous research. Then, I observe nominalized expressions from three sample texts to discuss which nominalized expressions cannot be analyzed (i.e. cannot be unpacked), can reasonably be left as they are, or can be analyzed further. Finally, I conclude the discussion by suggesting a provisional solution to this problem.

2. Reviewing Nominalization

In this section I outline some of the characteristics of nominalization. Then, I review some of the major explanations of it in the field of Systemic Functional Linguistics. However, since the main concern of this paper is to draw lines among various nominalized expressions, I leave aside how nominalization works in text and how it has developed.

2.1 An Overview of Nominalization

Since nominalization is a major resource in grammatical metaphor, it can be characterized with the same concepts, view and scale as grammatical metaphor (but they are not equivalent): shift and fusion, stratification and congruent/ metaphorical. The following is a general overview of nominalization.

Nominalization is a shift to 'thing' within the experiential metafunction: a process or a quality in semantics are realized as a thing. For example, *quick* (quality) is congruently realized as adjective, but it can be metaphorically realized as noun, *speed* (Halliday and Matthiessen, 1999: 246). A metaphorical instance has two statuses; its original status fuses with its metaphoric status. For example, *quick* is a 'quality + thing', not just a 'thing'.

Such shift can happen in class (usually downward): sequence in semantics can be realized as a clause instead of a clause complex in lexicogrammar; figure can be realized as a nominal group instead of a clause. For example, the congruent form *The plane leaves at 9.00* can be metaphorically realized as *the plane's 9.00 departure* (Butt, et.al., 2012: 98). This metaphorical realization is possible because our language is organized into three strata: semantics, lexicogrammar and phonology.

Agnate expressions can be related along a scale of congruent to metaphorical. Studies in Systemic Functional Linguistics use the term congruent since they look at grammatical metaphor 'from above' i.e., 'how the meanings are construed' (Halliday, 2004: 36). A choice in semantics is congruently realized in that of lexicogrammar, but the congruent pattern is not the only one that construes experience into meaning. As already illustrated, quality can be metaphorically realized as noun instead of adjective, and figure can be metaphorically realized as a nominal group instead of a clause.

2.2 Major Explanations of Nominalization

There have been many studies on nominalization. In this section, I review major explanations of nominalization, occasionally alongside those of grammatical metaphor.

Martin (1992: 406) simply says that nominalization is 'the predominant semantic drift of grammatical metaphor in modern English' with a significant volume of explanations, while Butt et al. (2012: 97-99) carefully illustrates what happens in nominalization using substantial examples.

Some studies attempt to define nominalization. In exploring nominalization with the concept of agnation, Heyvaert (2003: 69) proposes a definition of nominalization as follows: 'Nominalization can be defined as the process by which non-nominal structural elements are made to function as nominal elements'. Eggins's work (2004: 94-99) explains nominalization in the context of spoken and written language. It defines nominalization as 'turning things that are not normally nouns into nouns, with

consequences for other parts of sentences', and discusses the effect of this on language use such as rhetorical organization and lexical density. However, these definitions do not necessarily determine whether a wording is a metaphorical thing to be analyzed or not.

Thompson (2014: 233-252) proposes a provisional definition of grammatical metaphor: 'the expression of a meaning through a lexico-grammatical form that originally evolved to express a different kind of meaning', and simply explains that nominalization is 'the use of a nominal form to express a process meaning'. Meanwhile, it expresses a dilemma about deciding whether a wording is metaphorical or not, and confesses that '(t)here is no answer to this dilemma'.

Banks (2019: 96-99) identifies grammatical metaphor as: '(w)hen we step outside this system of congruent expression and use a non-congruent form, we call it a "grammatical metaphor"'. This study is unique in that it uses the terms 'nominalized process' and 'nominalized quality' instead of 'nominalization'. It also discusses that 'unpacked versions do not sound very natural, and it is often difficult to produce them with any sort of elegance' and that '(t)his shows that grammatical metaphor is an essential resource of language, which we use constantly'.

Matthiessen (1995: 98-105) states that the grammatical potential is extended by rankshift and transcategorization.

Bloor and Bloor (2013: 129-133) point out that congruent or metaphorical has nothing to do with frequency, and explain nominalization as follows: 'One way of looking at nominalization is to say that it involves an alternation within the experiential metafunction: instead of being realized by a verb (*bathe*, *think*, *explain*, *destroy*), a process is realized as a thing (*bath*, *thought*, *explanation*, *destruction*)'.

According to Halliday (1994: 352-353), '(n)ominalizing is the single most powerful resource for creating grammatical metaphor'. He also discusses how far it should be analyzed, saying 'however far one may choose to go in unpacking ideational metaphor, it is important also to analyze each instance as it is' because '(a) significant feature of our present-day world is that it consists so largely of metaphorically constructed entities, like *access*, *advances*, *allocation*, *impairment* and *appeal*'. Halliday (1994: 348-349) also points out that a metaphorical form can be the unmarked form of expression (e.g. *have a bath*, *she has brown eyes*, *we sell bargains*).

Halliday and Matthiessen (1999: 242-244) and Halliday (2004) discuss grammatical metaphor in terms of transcategorization (metaphoric shift) and (semantic) junction: when a word that inherently belongs to a major class is transferred to another class and two semantic elemental categories are fused, grammatical metaphor happens. (Thus, rankshift itself is not inherently metaphorical.) For example, by transcategorization, the process *develop* is construed as if it were a thing *development*, but it is still a process (Halliday and Matthiessen, 1999: 243). It is noteworthy that both of them discuss "dead metaphors". Nominalization is an incongruent variant where semantic junction and transcategorization take place. Thus, for example, *heat* (a quality construed as a thing) is originally metaphorical. However, once the term has become a systemic option within the meaning potential of a given register, in this case, scientific theory, the metaphor is "dead" and cannot be unpacked. (The term is congruent.) On the other

hand, if instances of nominalization do not become systemic, the metaphor is NOT dead and can be unpacked.

Halliday (1993a) discusses a difference between 'a new technical abstraction forming part of a scientific theory' (dead metaphor) and 'a temporary construct set up to meet the needs of the discourse' (nominalization). In the former, 'its original semantic status (as process or property) is replaced by that of an abstract theoretical entity'. In the latter, a congruent expression is reconstrued metaphorically as noun in the development of text.

But how do we recognize whether or not a given (originally) metaphorical thing is 'dead'? How do we decide which instance should be left 'as it is'? As Thomson (2014: 252) confesses, '(t)here is no answer to this dilemma'?

3. Analyzing Nominalizations

Previous studies have widely illustrated characteristics of nominalization, but it does not seem that the ambiguity in determining metaphorical things has been cleared up. In this section, I will explore three examples and suggest a tentative solution to the problem. The first example is extracted from a biology textbook for university freshmen.

Example 1
Individuals of a species that are better adapted to their environment tend to live longer and produce more offspring than other individuals. *This differential reproductive success*, called **natural selection**, results in *changes in the characteristics of a population* (all the members of a species within a particular area) *through time*. That is, *adaptations* that result in *higher reproductive success* tend to increase in *frequency in a population from one generation to the next*. *This change in the frequency of traits in populations and species* is called **evolution**.

[bold in original, italics mine]
(Mader, S.S. et al. 2014: 5)

Here *This differential reproductive success* is a metaphorical thing, which can be unpacked as *better adapted individuals of a species reproduce more successfully*; the previous clause is packed so as to serve as Theme/ a participant in the clause.

The term, *natural selection* (it is originally in bold) has 'become systemic options within the meaning potential in a given register' (Halliday, 2004: 39) and has been established as a technical expression; this metaphor is 'dead' and cannot be unpacked (Halliday, 2004).

In *changes in the characteristics of a population (...) through time*, although *change* itself is a common word in everyday discourse and is considered an unmarked choice, the metaphor is not 'dead'. In addition, the nominal group as a whole is not frequently used in the register of biology textbooks and everyday discourse; therefore, this metaphor is not 'dead' and the metaphorical thing can be unpacked as *as time goes by, the characteristics of a population change*.

The term, *adaptations* is a technical expression and thus a 'dead' metaphor.

The wordings, *higher reproductive success*, *frequency in a population from one generation to the next* and *This change in the frequency of traits in populations and species* are all metaphorical things: The first clause *Individuals of a species that are better adapted to their environment tend to live longer and produce more offspring than other individuals* is packed as *higher reproductive success*; *This differential reproductive success, called natural selection, results in changes in the characteristics of a population (…) through time* is packed as *frequency in a population from one generation to the next*; and *adaptations that result in higher reproductive success tend to increase in frequency in a population from one generation to the next* is packed as *This change in the frequency of traits in populations and species* respectively in the development of text.

Finally, *evolution* (originally in bold) is a technical expression whose metaphor is 'dead'.

In Example 1, all 'dead' metaphors are technical expressions in biology, and other metaphorical things can be identified with comparative ease.

Example 2 is extracted from a history book written for beginners.

Example 2

The cultural glories of the Renaissance ebbed even as *different kinds of discoveries by Europeans* opened up *new possibilities* for mankind. *Columbus's transatlantic voyages* were signs that *the economic and cultural vitality of Europe* was shifting away from the Mediterranean to Spain and, to a lesser extent, England. *The economic interests of these states* would increasingly be across the Atlantic Ocean. The mood of optimism associated with the Renaissance seemed to have moved to central and northern Europe as Italy lapsed into a considerably less happy period. Many humanists and artists began to emigrate north of the Alps to lands considered by most cultured Italians to have been barbarian only a century earlier. Now new universities in northern Europe beckoned them.

[italics mine]
(Merriman, J. 2010: 79)

At the beginning of Example 2, *The cultural glories of the Renaissance* is a metaphorical expression even though *the Renaissance* is a technical expression in historical science; the wording *cultural glories of the Renaissance* is not an unmarked choice and thus has not had enough impact on the system of historical science. This metaphorical thing serves as Theme of this clause, and can be unpacked as *culture thrived during the Renaissance*.

The wording *different kinds of discoveries by Europeans* is also metaphorical, which can be unpacked as *Europeans discovered different kinds of things*.

The following metaphorical thing, *new possibilities* is construed as Epithet + Thing in the nominal group. Here metaphor is not 'dead' but *possibilities* is a choice that is commonly used in a wide range of registers, even in combination with *new*; following Halliday's (1994: 348-349) discussion, although it is a metaphorical form, it is an unmarked choice. Hence, unless the aim of analysis is to show the diversity of nominalization or to unpack every metaphorical thing, this wording does not need analyzing further; in respect of unpacking, one can reasonably leave it 'as it is'.

In *Columbus's transatlantic voyages*, three components are found: *voyage* as Thing, *Columbus's* as Deictic and *transatlantic* as Classifier. The nominal group *transatlantic voyages* seems an unmarked choice (cf. *transpacific voyage*) in the system of (present-day) English. However, since it is constructed with Deictic *Columbus's*, it seems reasonable not to leave this metaphorical thing 'as it is', but to analyze as a nominalization. It should be noted that it seems that *Columbus* can be identified as Actor relatively easily when the wording is unpacked, but it can be identified as Goal as well. As Hita (2003: 109-110) discusses using the example, *Peter's invitation*, unpacking may have ambiguity concerning participant role.

Finally, both *the economic and cultural vitality of Europe* and *The economic interests of these states* are metaphorical things and can be unpacked as *economy and culture were vigorous in Europe* and *these states were interested in economics*, respectively.

Example 2 includes not only technical expressions but also ambiguous expressions in terms of nominalization. These are ambiguous in that they are metaphorical things and they are unmarked choices; in addition, they are not technical expressions. Since their metaphors are not 'dead', one can unpack these things. However, such analysis seems unnecessary unless one would like to show the thorough anatomy of text. Taking a half step from Halliday's (1994: 353) discussion, I suggest one can reasonably leave this type of nominalized expression 'as it is' and tentatively call it an 'as it is' metaphor.

Example 3, from an introductory textbook of physics for college students shows a different pattern:

Example 3
A **projectile** is any body that is given an *initial velocity* and then follows a path determined entirely by *the effects of gravitational acceleration and air resistance*. A batted baseball, a thrown football, and a bullet shot from a rifle are all projectiles. The path followed by a projectile is called its **trajectory**.

To analyze *the motion of a projectile*, we'll use an idealized model. We'll represent the projectile as a particle with an *acceleration* (due to gravity) that is constant in both magnitude and direction. We'll ignore *the effects of air resistance and the curvature and rotation of the earth*. This model has limitations, however: We have to consider the earth's curvature when we study *the flight of long-range missiles*, and *air resistance* is of *crucial importance to a sky diver*. Nevertheless, we can learn a lot from *analysis of this simple model*. For the remainder of this chapter the phrase "*projectile motion*" will imply that we're ignoring *air resistance*. In Chapter 5 we'll see what happens when *air resistance* cannot be ignored.

[bold in original, italics mine]
(Young, H.D. and Freedman, R.A. 2016: 99)

Here, *initial velocity* is a technical expression in the register of physics.

Next, two technical terms, *gravitational acceleration* and *air resistance* are found in *the effects of gravitational acceleration and air resistance*. The wording *effects* is a metaphorical thing but an unmarked choice in everyday discourse. Thus,

the nominal group *the effects of gravitational acceleration and air resistance* is construed as Deictic + Thing (metaphorical thing as an unmarked choice) + Qualifier (technical expressions). Since all of the components do not need analyzing further, it seems reasonable to regard the nominal group as an 'as it is' metaphor.

For the same reason, *the effects of air resistance and the curvature and rotation of the earth* is also an 'as it is' metaphor.

The terms *acceleration* and *air resistance* are technical expressions.

The wordings *the flight of long-range missiles*, *crucial importance to a sky diver* and *analysis of this simple model* are metaphorical things, which can be unpacked as *(when) long-range missiles fly*, *(be) crucially important to a sky diver* and *analyze this simple model* respectively.

It has to be noted that *projectile motion* is not equivalent with *motion of a projectile*. The structure Classifier + Thing means 'a subclass of the thing'; so *projectile* in *projectile motion* indicates a kind of motion, not Actor of the motion as in *motion of a projectile*. Thus, while in the nominal group *motion of a projectile* metaphor is not 'dead', in the one *projectile motion* metaphor is 'dead' and it is a technical expression.

It may also be worth mentioning in passing that different combinations of things in different registers can result in different analysis: To give an example from outside of the extracts, *effects of gradual acceleration* is interpreted as a metaphorical thing, where *effect* is still interpreted as an 'as it is' metaphor but *acceleration* is interpreted as a metaphorical thing to be analyzed and it can be unpacked as *because something accelerated gradually*.

In these three examples, three kinds of nominal groups that are metaphorically nominalized were found:

(1) **technical expression ('dead' metaphor)**: it is an originally metaphorical thing that has become a 'systemic thing' (Halliday, 2004: 39) and is established as a technical expression; its metaphor is 'dead' and cannot be unpacked and is analyzed as a congruent form (Halliday, 2004).

(2) **'as it is' metaphor**: it is a metaphorical thing that is frequently used and represents an unmarked choice in a given register or in the system of a language; its metaphor is not 'dead' but one can reasonably leave it 'as it is' unless the aim of analysis is to show the diversity of nominalization or to unpack every metaphorical thing.

(3) **(ordinary) nominalization**: it is reconstrued from a congruent expression to meet the demand of the development of text; its metaphor is not 'dead' and can be unpacked.

4. Conclusion

So far, I have discussed three kinds of metaphorically nominalized expressions and their characteristics. To conclude the discussion, I suggest a tentative solution to the problem of determining nominalization. As already discussed, 1) if a given metaphorical thing has become a 'systemic thing' (Halliday, 2004: 39) and is

established as a technical expression, its metaphor is 'dead' and it is analyzed as a congruent form (Halliday, 2004). To become systemic means to 'become systemic options within the meaning potential in a given register' (Halliday, 2004: 39). While whether a wording is congruent or metaphorical has nothing to do with frequency, whether or not a metaphor should be analyzed further can be determined by marked/ unmarked opposition. Therefore, 2) if a metaphorical thing is frequently used in a register, or permeates through our everyday discourse, we can reasonably leave it 'as it is' (but its metaphor is not 'dead'). In this paper, when a nominalized expression consists of an 'as it is' metaphor and a 'dead' metaphor, it is considered an 'as it is' metaphor. Finally, 3) if a metaphorical thing is reconstrued from a congruent expression at the demand of the development of text, its metaphor is not 'dead', and can be unpacked.

It is almost impossible to remove all ambiguity when we conduct text analysis. Since Systemic Functional Linguistics regards both language and its theory as indeterminate (Halliday, 2003), sometimes it is preferable to leave such ambiguous instances as they are. However, when we attempt to provide a comprehensive description of a language, we will probably need a picture of it with higher resolution.

Acknowledgements

References
Banks, D. (2019) *A Systemic Functional Grammar of English: A Simple Introduction*. London and New York: Routledge.

Bloor, T. and Bloor, M. (2013) *The Functional Analysis of English: A Hallidayan Approach* (3rd edition). London and New York: Routledge.

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

Eggins, S. (2004) *An Introduction to Systemic Functional Linguistics* (2nd edition). London and New York: Continuum.

Halliday, M.A.K. (1993a) 'Chapter 1: General Orientation: The Discursive Technology of Science'. In Halliday, M.A.K. and Martin, J.R. (eds) *Writing Science: Literacy and Discursive Power* 2-21. London: Falmer Press.

Halliday, M.A.K. (1993b) 'Chapter 4: Some Grammatical Problems in Scientific English'. In Halliday, M.A.K. and Martin, J.R. (eds) *Writing Science: Literacy and Discursive Power* 69-85. London: Falmer Press.

Halliday, M.A.K. (1998) 'Things and Relations: Regrammaticising Experience as Technical Knowledge'. In Martin, J.R and Veel, R. (eds) *Reading Science: Critical and Functional Perspectives on Discourses of Science* 185-235. London and New York: Routledge.

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

Halliday, M.A.K. (2003) 'Linguistics as Metaphor'. In Webster, J.J. (ed.) *On Language and Linguistics* (Volume 3 in the Collected Works of M.A.K. Halliday) 246-270. London and New York: Continuum.

Halliday, M.A.K. (2004) 'Language and Knowledge: the 'Unpacking' of Text'. In Webster, J.J. (ed.) *The Language of Science* (Volume 5 in the Collected Works of M.A.K. Halliday) 24-48. London and New York: Continuum.

Halliday, M.A.K and Matthiessen, C.M.I.M. (1999) *Construing Experience through Meaning: A Language-based Approach to Cognition*. New York: Continuum.

Heyvaert, L. (2003) 'Nominalization as grammatical metaphor: On the Need for a Radically Systemic and Metafunctional Approach'. In Ravelli, L (ed.) *Grammatical Metaphor: Views from Systemic functional Linguistics* 65-99. Amsterdam and Philadelphia: John Benjamins.

Hita, J.A. (2003) 'Ambiguity in Grammatical Metaphor: One More Reason Why the Distinction Transitive/Ergative Pays off'. In Ravelli, L (ed.) *Grammatical Metaphor: Views from Systemic Functional Linguistics* 101-126. Amsterdam and Philadelphia: John Benjamins.

Martin, J.R. (1992) *English Text: System and Structure*. Philadelphia and Amsterdam: John Benjamins.

Matthiessen, C.M.I.M. (1995) *Lexicogrammatical Cartography: English Systems*. Tokyo: International Language Sciences Publishers.

Merriman, J. (2010) *A History of Modern Europe: from the Renaissance to the Present* (3rd edition). New York and London: W.W. Norton & Company.

Mader, S.S. et al. (2014) *Inquiry into Life* (4th edition). New York: McGraw Hill.

Thompson, G. (2014) *Introducing Functional Grammar* (3rd edition). London and New York: Routledge.

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

How Neurodevelopment and Joint Attention Affects the Use of the Negotiating particles, *ne* and *yo*
-From the Perspective of Pragmatic Impairment-

KATO, Sumi
Aomori Chuo Gakuin Univerisity

Abstract

The inability of individuals with autism spectrum disorder (ASD) to use negotiating particles appropriately should be viewed as pragmatic impairment. This study explores the use of negotiating particles, *ne* and *yo,* by ASD individuals, viewing it as pragmatic impairment to be examined from a neurocognitive as well as linguistic pragmatic perspective. Analysis was made of interview texts of 50 autistic subjects, aged from late adolescence to adult, and 56 typically developed (TD) counterparts from the corpus we constructed for comparison between these two groups. The statistical results showed that the ASD subjects made significantly less use of the negotiating particles *ne* and *yo* compared to the TD counterparts.

In everyday social discourse, these negotiating particles are chosen from an individual's system network for tactical interactional purposes, such as assessing the hearer's information, confirming the hearer's thoughts and opinions, and indicating the speaker's agreeing attitude to the hearer. From the neurocognitive perspective, the proper use of negotiating particles is associated with joint attention. The negotiating particles *ne* and *yo* are regarded as non-visual (i.e., verbal) manifestations of joint attention.

The aim of this paper is to investigate pragmatic impairment, verifying how neurocognitive factors significantly affect pragmatically appropriate language use, through an analysis of the linguistic functions of *ne* and *yo* in relation to joint attention impairment in ASD.

1. Introduction

The central symptom of autism spectrum disorder (ASD) is pragmatic impairment. A simple definition of pragmatic impairment is difficulty in language comprehension and production with regards to using language appropriately in social situations.

In the domain of linguistics, pragmatic impairment is perceived as centered solely on language (Verschueren, 1999; Grundy, 2000; Levinson, 1983; Leech, 1983). Studies in clinical fields, however, have confirmed that pragmatic impairment is the result of neurological, cognitive, symbolic, and sensorimotor dysfunctions. Neurology-based research, especially, has become a major focus of studies of pragmatic impairment (Stemmer, 1999). This impairment involves various intricately intertwined factors, and in order to fully understand it, an approach from a multifaceted perspective which gives due consideration to neurocognitive matters is necessary.

Perkins (2010) lists and prioritizes four elements as relevant background factors of pragmatics. These are semiotic, cognitive, motor, and sensory elements. As shown in Table 1, with regard to the factors of pragmatic impairment, cognitive dysfunction is the primary background factor, while linguistic and sensorimotor dysfunction are listed as secondary.

Table 1. A classification scheme for pragmatic impairment (Perkins, 2010:108)

Type of pragmatic impairment	Primary pragmatic impairment	Secondary pragmatic impairment	Complex pragmatic impairment
Underlying cause	*Cognitive dysfunction* -inference -theory of mind -executive function -memory -emotion and attitude + -joint attention (the author added) -central coherence (the author added)	*i) Linguistic dysfunction* -phonology -morphology -syntax -lexis -prosody -discourse *ii) Sensorimotor dysfunction* -auditory perception -visual perception -motor/articulatory ability	*Multiple sources*

Although Perkins did not include *joint attention* and *central coherence* under *cognitive dysfunction*, these two have been added to Table 1 for this study by the author. This current study investigates whether there are statistical differences in the use of negotiating particles by ASD individuals and typically developed individuals (TD). It is an investigation of *lexis*, which is listed under *linguistic dysfunction* in Table 1. This study discusses those statistical differences from a cognitive perspective correlated to their pragmatic linguistic functions.

Systemic functional linguistics (SFL) is advantageous for investigating pragmatic impairment in that SFL views language as choices available to the speaker when the speaker engages in social activity. Focus is thus placed on what speakers tend to do or would possibly do in situations of language use (Martin, 1992). A nuclear concept of SFL is the speaker's choice of lexicogrammatical resources available in the system network, and therefore SFL is an all-encompassing tool in pragmatic assessment.

What does the mapping of choices on the system network tell us? One is that once the choices the speaker makes are delineated, we are able to determine the speaker's preferences for specific lexicogrammar, which in turn implicates the speaker's deflected or tendentious perspective of his/her experiential world. If the speaker is a person with a neuro-developmental disorder such as ASD, we will find his/her preponderant choice, less choice, or lack of choice of a certain lexicogrammar, which is suggestive of neurocognitive dysfunction.

People make choices from the system network of lexicogrammar second-to-second in their utterances. In psychotherapy, by tracing a client's choices within the system network, we are able to determine 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. If we discover contextually deviant choices made by individuals with congenital anomalies such as ASD in comparison with TD or normal

individuals, their deviancy is suggestive of pragmatic impairment. The search for such a connection has impelled this current study, which is grounded on the thesis that the choice of lexicogrammar is intertwined with cognition, although Halliday did not explore the cognitive dimension of meaning making except to a limited extent in Halliday and Matthiessen (1999). Kato (2021) restructured the social model of language, prioritizing neurocognition over social context and language. The standpoint of this study is that such pragmatic impairment is the result of cognitive deviation. The research described herein endeavors to verify this position.

This study focuses on negotiating particles as an exemplifying lexicogrammar and compares choices of negotiating particles made by two groups, individuals with ASD and TD individuals. The interview text analyzed was taken from *The Corpus of ASD/Schizophrenia + Typically Developed Spoken Language*, which the author constructed.

It is almost impossible (or at least inappropriate) to engage in interpersonal interaction in the Japanese language without the use of negotiating particles, or *shujoshi*. Teruya (2006) introduced the term "negotiator"as a replacement for the traditional term *shujoshi* in accordance with the transition from traditional Japanese linguistics to Japanese-based SFL. However, this study uses the term, 'negotiating particles' instead of 'negotiators' so that researchers or readers outside the field of SFL can avoid any misunderstanding (as "negotiator" could be mistaken to mean a person who is negotiating discussion).

Negotiating particles are the particles, such as *ne* and *yo*, placed at the end of a clause, which serve to perform interpersonal functions. For instance, if the speaker says, '…shimasu' (do), the sentence is a declarative (statement-type) clause. However, if the final word is changed to '…shimasu-*ne*' by placing a negotiating particle at the end of the clause, the same clause becomes interpersonal. At the early stage of research on *shujoshi*, Tokieda (1961) postulated that the functions of *shujoshi* would be fully explained when captured from the interpersonal perspective, contrary to the view of traditional Japanese linguistics which placed *shujoshi* in the domain of syntactic structure, particles, or auxiliary verbs. In this sense, Teruya's use of the term 'negotiator' is to the point.

Maynard (1997) quantified end-of-sentence expressions used by 20 pairs of subjects in 60-minute daily conversations. Particles predominated among the sentence-ending expressions, constituting 35% of the total. Maynard also reported that *ne* and *yo* were the most frequently used negotiating particles. In the Japanese socio-cultural context, the use of negotiating particles depends on how the speaker intends to build an interpersonal relationship with his/her interlocutor; that is, whether the speaker intends to be close or to maintain distance.

The current study, based on corpus data, investigates whether there is any difference in the usage of negotiating particles between individuals with ASD and TD subjects, and it discusses what neurocognitive mechanisms are involved in choices of lexicogrammar when negotiating particles are utilized, correlating linguistic functions with the corresponding negotiating particles.

2．Method

2.1 Corpus data

The data used for this research is from *The Corpus of ASD/Schizophrenia + Typically Developed Spoken Language* the author constructed for the spoken language of Japanese individuals with ASD and schizophrenia, and their TD counterparts, in which the semantic annotation was made based on the system network of SFL. This corpus is annotated based on two metafunctions, interpersonal and ideational, of SFL. The target of this current study is negotiating particles from the interpersonal metafunction. Table 2 shows the negotiating particles and particles annotated in this corpus. Negotiating particles are among the 159 kinds of semantically annotated resources. In addition to being used alone, some negotiating particles are often used in combination with other negotiating particles shown in Table 2.

Table 2. Negotiating particles and particles annotated in *The Corpus of ASD/Schizophrenia + Typically Developed Spoken Language*

kana	combined negotiator
kane	combined negotiator
sa	negotiator
ne	negotiator
yo	negotiator
yona	combined negotiator
yone	combined negotiator
kane	combined particle placed at any place except at the end of the clause
sa	particle placed at any place except at the end of the clause
ne	particle placed at any place except at the end of the clause
yo	particle placed at any place except at the end of the clause

2.2 Participants

This corpus contains spoken language samples from ASD individuals aged three years to adults. Among them, the use of negotiating particles in interview conversations by late juveniles and adults (n=50) diagnosed as high-functioning autistic matched to TD counterparts (n=56) was studied. Diagnosis was clinically determined based on DSM-5 while using the Autism Diagnostic Observation Schedule (ADOS-2) as a diagnostic aid[1]. 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 semi-structured setting. Coding the observed behavior through scoring algorithms results in diagnostic measurement of the autism symptoms.

2.3 Interview task

The text of the interview task was selected from the corpus described in Section 2.1

above. The interview questions were mostly from Modules 3 and 4 of ADOS-2. ADOS-2 uses five types of modules for assessment according to language level and age. Modules 3 and 4, which were used to elicit interview responses in this study, are mainly for adolescents and adults with fluent speech. Those with high-functioning autism had reasonably good linguistic ability.

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. 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.

2.4 Procedure

From the corpus data, the frequency of use of negotiating particles according to each category of negotiating particle shown in Table 2 was calculated for two groups. Group 1 were TD individuals, and Group 2 were individuals with high-functioning ASD. The following statistical question was investigated: Are there negotiating particles 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 negotiating particles. Odds ratios (ORs) and 95% confidence intervals (CIs) were expressed. The best model was selected based on the lowest Akaike 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.

3. Results

This study analyzed data from 106 participants (Group 1: n=56, Group 2: n=50). The median and IQR of the frequency for each grammatical expression in each group are shown in Table 3. Univariate and stepwise multivariate logistic regression analyses for the classification of Group 1 and Group 2 are shown in Table 4. The following variables were retained in the final regression model: *ne* (OR 0.94; 95% CI 0.89−0.99; p=0.034). At the univariate analysis level it could be said individuals with a low frequency of appearance of *kane*, *yo*, *yone* are likely to be in Group 2. In the multivariate analysis, however, only *ne* was extracted as a significant factor, which means *kane*, *yo*, and *yone* move in conjunction with the frequency of appearance either of *ne* or total number of words, and there is no influence on group discrimination independently.

Table 3. The median and IQR of the frequency for each category in each group

	Group 1 (n=56)			Group 2 (n=50)		
	median	IQR	range	median	IQR	range
		25% , 75%	min , max		25% , 75%	min , max
total no. of words	2147.5	1202.0 , 3263.5	381.0 , 5835.0	1425.0	992.3 , 2148.3	285.0 , 4622.0
total no. of sentences	128.5	79.3 , 213.0	58.0 , 363.0	125.5	92.8 , 158.0	43.0 , 322.0
MLU	15.4	12.7 , 18.3	5.0 , 31.3	12.2	8.2 , 17.3	3.8 , 31.6
kana	6.0	3.3 , 11.0	0.0 , 35.0	4.0	2.0 , 7.0	0.0 , 31.0
kane	5.0	1.0 , 7.8	0.0 , 37.0	0.0	0.0 , 2.0	0.0 , 22.0
sa	0.0	0.0 , 0.0	0.0 , 0.0	0.0	0.0 , 0.0	0.0 , 1.0
ne	15.0	3.0 , 46.5	0.0 , 108.0	4.0	1.8 , 12.0	0.0 , 72.0
yo	2.0	0.0 , 9.8	0.0 , 36.0	0.0	0.0 , 2.0	0.0 , 25.0
yona	0.0	0.0 , 0.0	0.0 , 1.0	0.0	0.0 , 0.0	0.0 , 1.0
yone	1.0	0.0 , 4.0	0.0 , 28.0	0.0	0.0 , 1.0	0.0 , 6.0
non-clause-end 'kane'	0.0	0.0 , 0.0	0.0 , 8.0	0.0	0.0 , 0.0	0.0 , 1.0
non-clause-end 'sa'	0.0	0.0 , 0.0	0.0 , 6.0	0.0	0.0 , 0.0	0.0 , 5.0
non-clause-end 'ne'	1.5	0.0 , 8.8	0.0 , 19.0	0.0	0.0 , 1.0	0.0 , 56.0
non-clause-end 'yo'	0.0	0.0 , 0.0	0.0 , 1.0	0.0	0.0 , 0.0	0.0 , 0.0
single form of 'sa'	0.0	0.0 , 0.0	0.0 , 1.0	0.0	0.0 , 0.0	0.0 , 0.0
single form of 'ne'	0.0	0.0 , 0.0	0.0 , 1.0	0.0	0.0 , 0.0	0.0 , 0.0

Table 4. Logistic regression analysis for the classification of Group 1 and Group 2

	Model 1: Univariate logistic regression (dependent variable：Group 2 (vs. Group 1))					Model 2: Stepwise multivariate logistic regeression				
	Regression coefficient	OR	95% CI	P-value	AIC	Regression coefficient	OR	95% CI	P-value	AIC
Total no. of words (per 1)	-0.001	0.999	0.999 , 1.000	**0.004**	141.1	0.000	1.000	0.999 , 1.000	**0.025**	136.2
MLU (per 1)	-0.118	0.889	0.816 , 0.968	**0.007**	142.2		n.e.			
kana(per 1 / 1000words)	0.045	1.047	0.911 , 1.202	0.520	150.2		n.e.			
kane (per 1 / 1000words)	-0.210	0.811	0.662 , 0.993	**0.042**	144.7		n.e.			
sa (per 1 / 1000words)		n.c.					n.e.			
ne (per 1 / 1000words)	-0.079	0.924	0.874 , 0.977	**0.006**	141.8	-0.061	0.941	0.890 , 0.995	**0.034**	136.2
yo (per 1 / 1000words)	-0.285	0.752	0.597 , 0.946	**0.015**	143.2		n.e.			
yona (per 1 / 1000words)	-1.221	0.295	0.012 , 7.186	0.453	150.0		n.e.			
yone (per 1 / 1000words)	-0.622	0.537	0.331 , 0.871	**0.012**	141.6		n.e.			
no-clause-end 'kane' (per 1 / 1000words)	-5.594	0.004	0.000 , 1.545	0.069	141.9		n.e.			
no-clause-end 'sa' (per 1 / 1000words)	0.971	2.641	0.805 , 8.660	0.109	147.3		n.e.			
no-clause-end 'ne' (per 1 / 1000words)	-0.125	0.883	0.753 , 1.035	0.125	147.7		n.e.			
no-clause-end 'yo' (per 1 / 1000words)		n.c.					n.e.			
single form of 'sa' (per 1 / 1000words)		n.c.					n.e.			
single form of 'ne' (per 1 / 1000words)		n.c.					n.e.			

Model 1, no adjustment; Model 2, selected based on lowest AIC.

OR, odds ratio; 95%CI, 95% confidence interval.

MLU (mean length of utterance), in which the significant effect was observed (p=0.024), is a scale of linguistic productivity originally used in studies of children. It is the average number of morphemes per utterance 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 (Mean Length of Utterance in Morphemes) and MLUw (Mean Length of Utterance in Words), which specify what should be measured and not be measured among the various kinds of morphemes. This study included all the morphemes displayed by the morphological analysis tool, UniDic-MeCab. It was found that higher MLU showed Group 1 (TD) affinity in Model 1, univariate logistic regression.

This study will regard this difference found in the use of *ne, yo, yone,* and *kane* as pragmatic impairment. The discussion will focus on *ne* and *yo* since *yone* is simply a combination of *yo* and *ne,* while *kane* is that of *ka*, the interrogative sentence-ending particle, and *ne,* from the perspective of pragmatic impairment in relation to both linguistic and neurocognitive abilities.

4. Discussion

4.1 Functional and pragmatic aspects of the negotiating particles *ne* and *yo*

Here we will examine the linguistic functions of the negotiating particles *ne*, which showed statistical significance in Model 2, the multivariate logistic regression analysis, and *yo, yone,* and *kane* which are significant in Model 1, the univariate logistic regression analysis.

Teruya (2007) defines "negotiator" as lexicogrammar appearing at the end of the clause to indicate the speaker's attitudinal stance towards the proposition or proposal. Table 5 shows the negotiating particles and the speech functions they work in combination with. We see at a glance that *ne* realizes (i.e., works in combination with) the speech function of confirmation/friendliness, and *yo* that of insistence/emphasis. We will probe much further into the functions of *ne* and *yo* in order to elicit neurocognitive reasoning through microanalysis in later sections.

Table 5. Combinations of negotiating particles with speech functions (Teruya, 2007)

speech function		confirmation/ friendliness	confirmation	insistence/ emphasis	mild insistence	assertion	strong insistence	empathy	question	question	projection
	negotiatory markers	ne	na	yo	wa	sa	ze	no	ka	no	to
confirmation/ friendliness	ne										
confirmation	ne										
insistence/ emphasis	yo	yo-ne	yo-na								
mild insistence	wa	wa-ne		wayo/ wayone							
assertion	sa										
strong insistence	ze										
empathy	no	no-ne		no-yo/ no-yo-ne		no-sa					
question	ka	ka-ne	ka-na	ka-yo				no/ ka (kai)			
question	no		(na)no								
projection	to										

The Nihon-kijutsubunpo-kenkyukai (2009:40) defines *ne* as having the function of exhibiting the speaker's cognition while internally confirming what the speaker intends to say. Below are the functions of *ne,* as defined by Nihon-kijutsubunpo-kenkyukai (2009:40):

(1) confirmation of the hearer's personal information;
  e.g. *Shitsurei-desu-ga, Akiyama Yoko-san-de irasshaimasu-ne.*
     Excuse me-POL-CONJ Akiyama Yoko Miss-LOC POL-NEGOT

Excuse me, but you are Miss Yoko Akiyama, aren't you?

(2) giving the impression of being uncertain about information that belongs to the hearer rather than the speaker;

   e.g. *kare-no-shooshin, moo dame da-ne*.
       He-GEN promotion no more good-AST-NEGOT
       (I think) his promotion is hopeless.

(3) in the case of the *noda*+*ne* combination, confirmation of the speaker's construal derived from the circumstance or what the hearer said;

   e.g. *tashikani kare 'kuru'-tte itta-n-da-ne*.
       Surely   he 'come' say-PERF-EXPL-AST-NEGOT
       Surely he said he would come, didn't he?

(4) when *ne* appears in a clause describing a general matter, the request for the hearer's confirmation is toned down and the speaker's exhibition of knowledge is emphasized;

   e.g. *Gorin-de Tokyo-mo nigiyaka-ni nari-so-desu-ne*.
       Olympic-LOC by Tokyo lively-LOC become-likely-POL-NEGOT
       The Olympics are likely to make Tokyo even more lively.

(5) display of common cognition of the experiential world or empathic remarks;

   e.g. A: *Hiete kimashi-ta-ne*.
       cold become-POL-PERF-NEGOT
       It became cold.
    B: *so desu-ne*.
       So POL-NEGOT
       It does.

The definition above generally concerns call for attention to the measurement of ownership of information. Concerning the measurement of ownership of information, Kamio (2002) postulates in a more rigorous manner from the viewpoint of territory of information that (as illustrated in Table 6) *ne* is used in cases of (1=)H>S and H>S. (The integer 1 indicates complete information of the topic.) Kamio (1990:77) argued *ne* as an indispensable sign indicating that the information held by the speaker and that held by the listener are the same with respect to the current utterance content and defined *ne* as a sign indicating "responsive attitude" toward the listener. "Responsive attitude" is a positive request by the speaker for confirmation that s/he has the same cognitive state as the listener in relation to the given information, as shown in [1].

[1]   *Kore-wa mondai ari masen-ne*.
      This-TOP problem exist-not-POL-NEGOT
      This is no problem, is it?

Thus the following are provided as conditions for defining the usage of *ne* as a necessary element.

(1) If the speaker assumes that the speaker and the listener have the same information as acquired information, the speaker's utterance must be accompanied by *ne*.

Furthermore, if (1) is not met, and if the following condition (2) is met, *ne* is given as an optional element.

(2) If the speaker wants to express a particularly responsive attitude in his own utterance, the speaker's utterance can be accompanied by *ne*.

Some utterances are unnatural without *ne*, while others are natural with or without *ne* (Kamio, 2000). Kamio distinguishes the former usage, as compulsory *ne*, from the latter, as voluntary *ne*. Voluntary *ne* is used when the speaker implies uncertainty or hesitation, as shown in the following:

（1）optional / emphasizing
    e.g. *raishu kitto iku desho-ne*. (convincing each other to go)
        next week surely go-POL-MOD-NEGOT
        We will surely go, won't we?
（2）optional / questioning
    e.g. *furi masu-ka-ne*.
        rain-POL-Q-NEGOT
        Will it rain?
（3）optional
    e.g. a. *chotto ginko-made itte-kimasu-ne*.
        for a moment bank to go-POL-NEGOT
        I am going to the bank for a moment.
    e.g. b. *zuibun hidoi yatsu rashii-ne*.（Talking as though the speaker knew that the
                      hearer did not know this information）
        very terrible the guy seem-NEGOT
        I heard he was very terrible guy.

Table 6 summarizes Kamio's theoretical basis. (The variable *n* signifies a threshold value or minimum amount of information.)

Table 6. *Ne* and its information structure   (Kamio, 2002:75)

the usage of 'ne'	the territory of information
compulsory 'ne'	H=1, and a given piece of information falls within S's territory
voluntary, interrogatory 'ne'	H>n&S>n, and S assumes 1 falls within H's territory
voluntary 'ne'	H<n&S≅H, and 1 does not fall within S's territory, yet S holds more information or the same as H does.

Nitta and Masuoka (1989) also argued from the perspective of information ownership that the use of *ne* indicates that the hearer possesses the information or is supposed to possess the information. There exists an expectation that the speaker is going to have the hearer share the information. By using *ne*, the speaker is assuming that the hearer can understand and empathize, and that the hearer possesses the information pertinent to the speaker's utterance.

Izuhara (1992) discussed pragmatic functions of *ne* from the calling-attention

19

perspective and proposed the functions below:

(1) When the speaker intends to unfold the interaction, s/he firstly brings up the topic and then involves the hearer by using *ne.*
(2) When the speaker desires conversational bonding with the hearer, *ne* indicates that the speaker is going to share the topic and information given by the hearer.
(3) When the topic or information is already shared, the speaker seeks the hearer's agreement or confirmation by using *ne*.

Maynard (1993) refers to the differences in usage between *ne* and *yo* from the perspective of ownership of information, stating that these two negotiating particles are used differently depending on how the speaker gauges ownership of the related information. Maynard's discussion is summarized in the Table 7. Although *yo* is the particle that focuses on the information itself, there are cases where the simple *yo* is avoided, even by speakers who possess more information (i.e., when S's amount of information is more than H's). In such cases, the *yone* combination may be preferred, as shown in the middle row of the table.

Table 7. The use of *shujoshi*, *ne* and *yo* according to possession of information by speaker and hearer   (Maynard, 1993:106)

the relative degree of possession of the information	particle chosen
S exclusively holds the information; H does not have any	yo
H exclusively holds the information; S does not have any	ne
S's amount of information > H's amount of information	yo (ne)
H's amount of information > S's amount of information	ne
S's amount of information = H's amount of information	ne

Yo is in frequent use as a negotiating particle as well as *ne*. *Yo* calls the hearer's attention to what the hearer has not understood or taken proper notice of during the interaction or what s/he does not know and should do (Nihon-kijutsubunpo-kenkyukai, 2009). Depending on the context, *yo* may also convey an oppressive nuance or an attitude of saying something from on high to the hearer. In that case, it gives the impression that the speaker is supposed to be in a higher position or to be more knowledgeable than the hearer.

Tokieda (1951) argues that particles and auxiliary verbs play an indispensable role in building interpersonal relationships, among which *ne* and *yo* are of central importance. He postulated that *ne* is the principal expression for placing the hearer in the position of a fellow interlocutor, while *yo* tends to forcefully push the speaker's idea or judgment toward the hearer (Tokieda, 1951). Kitagawa (1984) concluded from the viewpoint of old/new information that *ne* functions interpersonally by indicating that an ongoing utterance constitutes a shared, two-person matter. On the other hand, *yo*, draws attention to the content of what is being said by indicating that the speaker's utterance is concerned with new information.

Izuhara (2001) argues that *yo* is an expression with which the speaker's

utterance is unilaterally transmitted to the listener, encouraging change and action, while Shirakawa (1992) points out that an utterance ending in *yo* is strongly directed to the hearer, congruent with its function to draw the hearer's attention so that the utterance can surely come into the hearer's ears. This means that when *yo* is placed at the end of the sentence, the degree of sense of addressing the hearer increases (Imamura, 2011). Although *ne* also functions to address the hearer, it can be understood as a request for confirmation and attunement rather than increasing 'the degree of sense of addressing oneself to others'. In other words, since *yo* is a one-sided proposition-bringing lexiogrammatical item, it is less catering to the hearer. On the other hand, *ne* is more responsive because it is premised on seeking empathy and understanding from the hearer.

The two negotiating particles, *ne* and *yo*, both of which are frequently used in Japanese spoken language, are chosen for use in the system network based on the pragmatic rule that *yo* or *ne* is selected only after judging whether or not the hearer has the information concerned. Comparing these two negotiating particles, *yo* is functionally stronger than *ne* in calling for attention.

Nihon-kijutsubunpo-kenkyukai (2009) postulates that the combination of *yo* and *ne*, *yone*, has the function of indicating that the speaker believes his/her cognition is acceptable to the hearer. In this regard, the following two points are pertinent:

(1) While giving prominence to the speaker's cognition, *yone* acknowledges shared cognition with the hearer and seeks the hearer's acceptance.
   e.g. <u>*Ano eiga yokatta-desu-yone*</u>.
       That movie good-PERF- POL-NEGOT
       That movie was good, wasn't it?

(2) While hinting that the hearer may have more detailed information or be in a more advantageous position than the speaker, *yone* works to seek the hearer's confirmation of the topic.
   e.g. *S-san tashika kyonen nakunari-mashita-yone*.
       Mr. S sure   last year die-POL-PERF-NEGOT
       If I remember correctly, Mr. S died last year, didn't he?

From the view point of politeness, Usami (1997:254) gives the following five points as the most basic communication function of *ne*. (Note that Usami made no distinction made between sentence-end *ne* and interjectory *ne*.)

(1) Promoting conversation: It functions as positive politeness because the speaker assumes that the hearer generally has the same thoughts as s/he does.
(2) Calling for attention: It emphasizes utterances so that the speaker can engage the hearer with his or her topic. By calling for the hearer's attention, it has a conversation-promoting function; nevertheless, by emphasizing one's own utterance, it is speaker-centered usage. Therefore, as long as the frequency of use stays at the appropriate level, there is no problem. Otherwise, it will be an FTA (Face Threatening Act).
(3) Negative politeness: It softens the utterance.

(4) Confirming the content of the utterance: It is neutral because it is the means for the speaker to confirm his/her utterance.

(5) Compensation of utterances: It always takes the form of *desu-ne*, which is the polite form of *ne*, serving as a call for attention, and thus functioning as negative politeness.

In many cases, one *ne* simultaneously performs multiple functions among the above five functions (Usami, 1997). Here, also, the calling-attention function is generally aroused, especially in functions (2), (4), and (5).

To sum up all the functions discussed above, *ne* and *yo* including *yone* generally serve to call for the hearer's attention while measuring the degree of ownership of information. In view of this, what does it mean when we note less use of *ne* and *yo* by individuals with ASD compared to TD individuals? This study discusses the less use of *ne* and *yo* by ASD individuals as pragmatic impairment while associating the function of calling for attention with the developmental psychological concept, joint attention (JA).

4.2 Neurocognitive reasoning

Among the cognitive functions of *ne* described above, call-for-attention is the central pragmatic function. Call-for-attention entails JA from the neurocognitive perspective. The measurement of the ownership of information, which is one of the factors governing the use of *ne*, is associated with executive function, a term which refers 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) multitasking, and (16) overall cognitive flexibility (Perkins, 2010). McDonald (1999) argues that the executive processes are superordinate to all other cognitive functions, and executive function and inference generation are similar processes. Here, therefore, this study will develop a more specific discussion centering on JA.

4.2.1 JA and negotiating particles

The symptoms of ASD are caused by neurocognitive impairments, such as impaired (1) theory of mind[2], (2) executive function, (3) central coherence (CC), and (4) JA. Among these, the significantly less use of negotiating particles by individuals with ASD is most closely related to deficits in JA and CC. Here the relationship between the use of negotiating particles and these two neurocognitive impairments is discussed.

JA is social-cognitive ability to follow and direct others' attention. JA is an elemental cognitive ability that underpins daily interpersonal relationships and communication (Mundy et al., 1990). In terms of neurocognitive psychology, the problem of JA in autism is commonly stated in the sense that gaze-following, pointing, and showing objects to others are absent or rare in individuals with ASD. What is the fundamental psychological impairment that prevents these behaviors from appearing?

The central reason is initial difficulty in the child's interpersonal involvement. The key behavioral indicators of this disorder are not only problems with triadic exchange (child-other-object exchanges such as pointing, showing to others, and gaze-

following), but also face-to-face interaction, mutuality of gaze, and behavior patterns within interactions (Leekam, 2005). Leekam (2005:206) argued that the root cause of this difficulty is that children with ASD lack the ability to engage in affective (rather than cognitive) and inter-subjective experiences with others, which is why they cannot perceive the directedness of another's attitude and cannot relate to events as shared experience. The same author found that not all children with ASD have difficulty in gaze-following, but very young children and/or children with low IQs tend to be affected by the difficulty. Still, it is noticeable that those children who fail in gaze-following are successful in reflexively orienting to a non-social target object, even while they have difficulties with cues involving meaning or information. Leekam (2005) points out that while those children have difficulty in responding to an adult's eye gaze or name call, they do not have difficulty in responding to non-social objects. This suggests that their problem is in orienting to social stimuli.

JA is related to the social motivation of children (Mundy and Sigman, 2006). It is self-evident that children who orient more to other people have more chances to learn social communication skills. Such children have more opportunities to observe and participate in social interaction. This orientation is likely to be reflected in a social preference "to look at people, and to prefer social stimuli like voices and faces over nonsocial stimuli" (Schietecatte and Warreyn, 2012:2). Children with ASD do not show such orientation towards social stimuli. Concerning facial information, for instance, individuals with ASD make use of different visual scanning patterns and judge emotions differently from TD persons (Dawson et al., 2004; Sasson et al., 2007). They fail to orient to faces based on the presence of facial information (Sasson et al. 2007). Evidence from previous research suggests that individuals with ASD have social motivational deficiencies, which explains why children with ASD have difficulties with JA that often persist into adolescence and adulthood. Their lack of social orienting makes them less interested in social engagement, as result of which they lose opportunities to learn social skills.

The theoretical model postulates two functionally and developmentally distinct JAs. One is responding to JA (RJA) and the other is initiating JA (IJA) (Bruinsma et al., 2004). A behavioral definition of the first type is as follows: "When an individual interprets the eye gaze of a social partner to determine their focus of attention, and then attends to the same thing, they are said to have responded to their partner's JA bid, achieving RJA" (Caruana, 2014:34). In TD children, RJA is said to emerge at the age of around six months, while in children with ASD, it tends to emerge when their cognitive development is commensurate with the age of around 30-36 months (Mundy et al., 1990). The following is a behavioral definition of the second type: "Individuals engage in IJA when they use their eye gaze to intentionally guide the attention of their social partner, thus initiating a bid for JA" (Caruana, 2014:34). IJA develops at the age of around 12 months in TD children（Bates et al., 1979). In ASD individuals, the impairments of IJA are often carried over to their adolescence and adulthood (Mundy and Jarrold, 2010; Mundy et al., 1990).

The parallel and distributed-process model (PDPM) of JA postulates that these two patterns of JA are implemented "within two partially independent yet parallel networks" (Caruana, 2014: 34). In addition, observation of TD children suggests that IJA and RJA are skills that develop independently (Mundy et al. 2009; Striano et al.

2009). Neurological evidence suggests that IJA skills are more related to social motivational processes than RJA skills (Schilbach et al., 2010), and that social preference is related to IJA skills, not to RJA skills (Schietcatte and Warreyn, 2012).

Analogous to the use of eye gaze and pointing by very young children, the use of the negotiating particles, *ne* and *yo*, in older individuals is regarded as verbal IJA since these lexicogrammatical items function as calling-for-attention in interpersonal interaction. In this sense, the significantly less use of *ne* and *yo* by individuals with ASD is indicative of low social motivation and social preference. Why do individuals with ASD have such deficiencies?　Their impairment is associated with CC.

4.2.2 Factors causing low social motivation

The CC system works to integrate local details into a global entity. Evidence from research suggests that individuals with ASD have weak CC, which leads to processing information in parts rather than as a whole. Social information processing requires integration of various types of contextual information, such as the meaning of context-dependent language and facial expressions (Happe, 1997). Individuals with ASD lack such capability, which hinders them from being fully engaged in interpersonal interaction.

Sugiyama (2004) points out that the reason why individuals with ASD frequently fall short in social interaction is that there are great quantities of information to be processed in interpersonal interaction (such as facial expressions changing on a second-to-second basis) which easily exceed the processing capacity of an individual with ASD. For instance, when they see others, they have an inclination to focus their attention on a part of the other's apparel 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 appear to lack the psychological distance needed for cognitive representation (Sugiyama, 2004). This drawback is due to weak CC, or failure of a central system whose task is to integrate sources of information. Weak CC precludes individuals with ASD from integrating information, including non-verbal information, as well as comprehending the quantity of information and knowledge others possess, all of which are essential for smooth social 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).

Moreover, Senju (2014) maintains that children with ASD fail to exhibit preferential sensitivity to social cues. Cognitive empathy entails the act of directing attention to others, and (in particular) to those facial features where emotions (that 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 deliberately keep away from eye contact, and the other is that their attention is simply not attracted. Various studies support the latter view in place of 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 rapid in detecting changes in both faces and objects, while children in the control group detected changes in faces

more quickly than in objects. The results suggest that children with ASD lack an attentional bias toward others' faces, and this deficiency may contribute to their atypical social orienting (Kikuchi et al, 2009: 1421).

Senju (2004) reported an experiment to investigate the degree to which another person's social attention brought about 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 exhibit preferential attention to social cues. Senju (2004) argued that such deficits in cognitive empathy derive from weak detecting and cognizing of the cues necessary for forming mental representation by individuals with ASD.

From the studies of CC reviewed above, it is clear that individuals with ASD cannot appropriately cognize others' facial expressions nor recognize gaze direction. The problem is that they are unable to integrate multi-contextual information, and (in addition to this) they have impaired capacity to grant preferential attention to social cues.

The pragmatic impairment apparent in ASD includes a more pervasive incapacity to utilize context to make meaning. Frith (1989) argues that such dysfunction is due to weak CC, a failure to integrate sources of information. Weak CC hinders individuals with ASD from gauging the ownership of the pertinent information which the use of *ne* requires. Gauging ownership of information requires the use of contextual information gained from face-to-face interaction, mutuality of gaze, and so on, and then global information processing follows. Due to weak CC, however, individuals with ASD have difficulty with such processing.

The basic method used to ascertain JA is triadic (child-other-object) exchange, which includes pointing, showing, and gaze-following to assess the child's JA ability. In Toddler Module, Module 1, and Module 2 of ADOS-2, the examiner uses gaze and/or pointing to direct the child's attention to a distant object. The examiner assesses if the child follows the examiner's gaze and turns his or her face or eyes in the direction of the target after he watches the examiner do so. The child's response to JA is then coded. In the interview tasks of the higher ADOS-2 modules (Modules 3 and 4), the target is the content of verbal expressions rather than real objects. The information being processed itself matters.

The negotiating particles *ne* and *yo* treated in the interview text of this study can be regarded as non-visual JA. Although the language is non-visual, it still implies a sense of visual posture. Imamura (2011:43-44) maintains that *yo* has a sense of directness which is like experiencing the action of 'holding out' or 'holding forth' vicariously, while *ne* has a sense of addressing the hearer so that the speaker holds the content of the sentence together with the hearer instead of holding forth like *yo*. The rising tone of *ne* is like the posture that, from the position where the speaker is conversing with the hearer, s/he is leaning to the side of the hearer and looking toward the same direction so that s/he can establish the content of the sentence (Imamura, 2011). The smiling face, tilted slightly upward, could be a facial expression that confirms the intention of the other person. Both *ne* and *yo* are capable of various

posture implications depending on intonation. This intuitive sense of posture accompanying *ne* implies visual JA.

The use of *ne*, *yo*, and the combined form *yone* requires the neurodevelopment of a global processing ability to integrate such information as the hearer's gestures, facial expressions, and other non-linguistic feedback necessary to make appropriate choices from the system network. Such global processing ability is lacking or underdeveloped in individuals with ASD. Collaterally, such early social information processing impairment leads to subsequent impairment in the development of social knowledge and social cognitive skills (Mundy and Neal, 2001). Consequently, individuals with ASD generally continue to suffer from, not necessarily unimprovable but still unconquerable, social interaction problems in adulthood.

Honda (2005:202) argues that from the perspective of ecological psychology, language has the function of establishing 'joint attention'. Honda claims that language has the function of (1a), and that the basic function of verbal expression resides in (1b):

(1a) Language has the function of having the hearer pay attention to what the speaker is paying attention to.
(1b) The speaker directs the hearer's attention to the object the speaker is paying attention to in the same way that the speaker perceives (recognizes) the object.

Although Honda did not point to any specific lexicogrammar, this study agrees with his claim.

5. Conclusion

This is one part of a study mapping pragmatic impairment in ASD using *The Corpus of ASD/Schizophrenia + Typically Developed Spoken Language*, which the author constructed. The premise of this research is that each feature of lexicogrammar has a function, and that each function, in turn, is associated with a certain neurocognition that is required to use it. Therefore, the inability to use a given lexicogrammatical element properly in a social situation means that its associated neurocognition is flawed (i.e., defective).

This study examined whether there was any observable difference in the frequency of use of negotiating particles between individuals with ASD and TD subjects, and found that there was a statistically significant difference in the use of *ne*. The research finding is that individuals with ASD make less choice of *ne*. In social interaction by normal people, *ne* is an indispensable element of lexicogrammar to make the flow of interaction smooth in the Japanese socio-cultural context. Why do individuals with ASD make less choice of *ne*?   This study ascribed the cause to neurocognitive impairments in two important system abilities, JA and CC, and discussed how they influence the use of *ne* and *yo*.

The study dealt with late adolescents and adults with ASD whose age exceeded the language learning critical period. Understanding the similarities and differences in JA between ASD and TD individuals is crucial for early education intervention. ASD individuals often have difficulties interacting smoothly with others. In order to mitigate this social difficulty, linguistic research from the neurocognitive perspective,

such as this current study, contributes to improved early intervention. Moreover, previous studies have found that early intervention leads to a good prognosis in acquiring language skills.

We saw how neurocognitive factors significantly influence the choices of lexicogrammar in social interaction. Conversely, normal pragmatic choices of lexicogrammar are grounded on the normal functioning of neurocognitive elements. Analysis of ASD individuals' deficient usage of the negotiating particles, *ne* and *yo* 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 pragmatic theory with insight into how these functions affect normal linguistic behavior. The current research is significant in this respect.

Notes

1 The author established research reliability, which is required for research use of the results of ADOS-2 administration.
2 In recent studies this theoretical model has received critical evaluations although it was once a dominant theory. Instead, an increasing number of recent studies have adopted phenomenological explanations.

Abbreviations for grammatical items

AST	assertive	MOD	modality
CONJ	conjunction	NEGOT	negotiator
EXPL	explanative	PERF	perfect aspect
GEN	genitive	POL	polite
LOC	locative	Q	question

Funding

References

American Psychiatric Association. (2013) *Diagnostic and statistical manual of mental disorders (DSM-5)*. 5th ed. Arlington, VA: American Psychiatric Association

Bates, E., Benigni, L., Bretherton, I., Csmaioni, L., and Volterra, V. (1979). *The Emergence of Symbols: Cognition and Communication in Infancy*. New York: Academic Press.

Bruinsma, Y., Koegel, R.L., and Koegel, L.K. (2004). 'Joint attention and children with autism: a review of the literature.' *Mental Retardation and Developmental Disabilities Research*, 10 (3), 169-175.

Caruana, N., Brock, J., and Woolgar, A. (2014). 'A frontotemporoparietal network common to initiating and responding to joint attention bids.' *NeuroImage*, 108. 34-46.

Dawson, G., Toth, K., Abbott, R., Osterling, J., Munson, J., Estes, A., and Liaw, J. (2004). 'Early social impairments in autism: Social orienting, joint attention, and attention to distress.' *Developmental Psychology*, 40(2), 271-283.

Frith, U. (1989). *Autism: Explaining the Enigma*. UK: Basil Blackwell Ltd.

Grundy, P. (2000). *Doing Pragmatics*, 2nd edition. London: Edward Arnold.

Halliday, M. A. K. and Matthiessen, M. I. M. (1999). *Construing Experience through Meaning: A Language-based Approach to Cognition.* London: Cassell.

Happe, F. (1997). 'Central coherence and theory of mind in autism: Reading homographs in context.' *British Journal of Developmental Psychology*, 15, 1-12.

Honda, K. (2005). *Afodansu no ninchi imiron: seitaishinrigaku kara mita bunpogensho.* [Cognitive semantics of affordance: grammatical phenomenon viewed from ecological psychology] Tokyo: University of Tokyo Press.

Imamura, K. (2011). 'Shujoshi, 'yo', 'ne' no 'katarikake taipu' to karada-no ugoki.' ['Addressing type' of sentence-ending particle, 'yo' and 'ne' and body movement] *Gengobunka*, 48, 37-51.

Izuhara, E. (1992). 'Ne no komyunikeishon kino.' [Communication function of *ne*] *nihongo kenkyu to nihongokyoiku*. [Japanese language study and Japanese language education] 159-172. Nagoya: University of Nagoya Press.

Izuhara, E. (2001). 'Shujoshi 'yo', 'yone', '*ne*' saiko.' [A Study of Ending Particles "yo" "yone" "ne"] *The Journal of Aichi Gakuin University, Humanities & Sciences*, Vol.2, 51.

Kamio, A. (1990). *Joho no nawabari riron.* [The territory of information]. Tokyo: Taishukan Publishing Co., Ltd.

Kamio, A. (2002). *Zoku joho no nawabari riron.* [A sequel to the territory of information]. Tokyo: Taishukan Publishing Co., Ltd.

Kato, S. (2021). 'The cognitive and linguistic reasoning process of the speaker's choice of modal expressions: Modality from the perspective of pragmatic impairment.' 133-178. In Kadooka, K. (Ed.), *Japanese Mood and Modality in Systemic Functional Linguistics* (2001). Amsterdam: John Benjamins Publishing Company.

Kikuchi, Y., Senju.A., Tojo, Y., Osanai, H., and Hasegawa, T. (2009). 'Faces do not capture special attention in children with autism spectrum disorder: a change blindness study.' *Child Development*, 80, 1421-1433.

Kitagawa, C. (1984). 'Hatsugen no kaisokozo to 'kotoba' no shutaisei.' [Hierarchical structure of speech and autonomy of 'language'] *Nihongogaku*, 4, 8, 31-42.

Leech, G.N. (1983). *Principles of Pragmatics*. London: Longman.

Leekam, S. (2005). 'Why do children with autism have a joint attention impairment?' In N. Eilan (Ed.) *Joint Attention-Communication and Other Minds: Issues in Philosophy and Psychology*. Oxford University Press.

Levinson, S.C. (1983). *Pragmatics*. Cambridge: Cambridge University Press.

McDonald, S. (1999). 'Exploring the process of inference generation in sarcasm: a review of normal and clinical studies.' *Brain and Language*, 68, 486-506.

Martin, J.R. (1992). *English Text*. Philadelphia/Amsterdam: John Benjamins Publishing Company.

Maynard, S. (1993). *Kaiwa bunseki.* [conversation analysis] Tokyo: Kuroshio Publishers.

Maynard, S. K. (1997). *Danwabunseki no kanosei*. [Possibility of discourse analysis] Tokyo: Kuroshio Publishers.

Mundy, P. and Neal, R. (2001). 'Neural plasticity, joint attention, and a transactional

social-orienting model of autism.' *International Review of Mental Retardation*, 23, 139-168.

Mundy, P., Sigman, M., and Kasari, C. (1990). 'A longitudinal study of joint attention and language development in autistic children.' *Journal of Autism and Developmental Disorders*, 20. 115-23.

Mundy, P. and Sigman, M. (2006) 'Joint attention, social competence, and developmental psychopathology.' In D. Cicchetti, D. Cohen (Eds.). *Developmental Psychopathology*, 2nd edition, Vol. 1: *Theory and Methods*. Hoboken, NJ: Wiley.

Mundy, P., Sullivan, L., and Mastergeorge, A. M. (2009). 'A parallel and distributed-processing model of joint attention, social cognition and autism.' *Autism Research*, 2, 2–21.

Mundy, P. and Jarrold, W. (2010). 'Infant joint attention, neural networks and social cognition.' *Neural Networks*. 23 (8), 985-997

Nihon-kijutsubunpo-kenkyukai (2009). *Gendainihongobunpo 7.* [Cntemporary Japanese grammar 7] Tokyo: Kuroshio Publishers.

Nitta, Y and Masuoka, T. (1989). *Nihongo no modariti*. [Japanese modality] Tokyo: Kuroshio Publishers.

Perkins, M. (2010). *Pragmatic Impairment*. Cambridge: Cambridge Univ. Press.

Sasson, N., Tsuchiya, N., Hurley, R., Couture, S. M., Penn, D. L., Adolphs, R., and Piven, J. (2007). 'Orienting to social stimuli differentiates social cognitive impairment in autism and schizophrenia'. *Neuropsychologia*, 45, 2580-2588.

Schietecatte, I., Roeyers, H., and Warreyn, P. (2012). 'Exploring the nature of joint attention impairments in young children with autism spectrum disorder: associated social and cognitive skills.' *Journal of Autism and Developmental Disorders*, 42:1-12

Schilbach, L., Wilms, M., Eickhoff, S. B., Romanzetti, S., Tepest, R., Bente, G., and Vogeley, K. (2010) Minds made for sharing: initiating joint attention recruits reward-related neurocircuitry. *Journal of Cognitive Neuroscience*. 22 (12), 2702–2715.

Senju, J. (2014). 'Kyoukan to jiheisho supekutoramusho.' [Empathy and autism spectrum symptoms] *Kyokan.* [empathy] Tokyo: Iwanami Shoten Publishers.

Senju, A., Tojo, Y., Dairoku, H., and Hasegawa, T. (2004). 'Reflexive orienting in response to eye gaze and an arrow in children with and without autism.' *Journal of Child Psychology and Psychiatry*, 45: 445-458.

Shirakawa, H. (1992). 'Shujoshi 'yo' no kino.' [The function of sentence-ending particle 'yo'] *Nihongo Kyoiku*, 77.

Stemmer, B. (1999). (Ed.). *Brain and Language* 68, 1. Special issue on Pragmatics. New York: Academic Press.

Striano, T., Stahl, D. and Cleveland, A. (2009) Taking a closer look at social and cognitive skills: A weekly longitudinal assessment between 7 and 10 months of age. *European Journal of Developmental Psychopathology*, 6(5), 567–591.

Sugiyama, T. (2004). 'Komyunikeishon shougai toshite no jiheishou.' [Autism as communication disorder] *Advances in Research on Autism and Developmental Disorder,* Vol.8, 3-23. Tokyo: Seiwa Shoten Publishers.

Teruya, K. (2007). *A Systemic Functional Grammar of Japanese*, Vol.1. New York.:

Continuum.

Tokieda, S. (1951). 'Taijinkannkei wo kousesuru joshi / jodoshi.' [Particles and auxiliary verbs that make up interpersonal relationships] *Kokugokokubun*, 20, 9, 1-10.

Usami, M. (1997). 'Ne no komyunikeshon kino to dhisukosu / poraitonesu.' [Communication function and discourse politeness of ne] *Josei no kotoba: shokubahen*. 241-268. Tokyo: Hituji Syobo Publishers.

Verschueren, J. (1999). *Understanding Pragmatics. London*: Arnold.

機能言語学研究

Japanese Journal of Systemic Functional Linguistics

Japanese Journal of Systemic Functional Linguistics

Vol. 11　December　2021

Articles

Japan Association of Systemic Functional Linguistics