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Subject-Honorific Markings in Imperatives: An OT-driven Dynamic Pragmatics

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Abstract. In Japanese, subject-honorifics and high-applicative suffixes have an interaction with an imperative sentence type in speech act assignment. Examining *nasar*-based subject-honorifics, Yamada (2020) proposes that this seemingly complex speech act assignment is easily accounted for by incorporating Optimality Theory (OT) into Dynamic Pragmatics (hence, OT-driven Dynamic Pragmatics, OT-DP). Unfortunately, however, the previous literature has two problems to solve. First, an imperative sentence with *kudasar*- (a high-applicative, subject-honorific expression) can be combined with a force which is not predicted by Yamada (2020). Second, the well-formedness of speech act assignment depends on the choice of a subject-honorific marking. The purpose of the current paper is to develop the OT-DP by proposing a solution to these problematic cases. To be more precise, we show that these apparently challenging cases are explained if we decompose of illocutionary forces, and incorporate morpheme/construction-specific pragmatic constraints.

Keywords: Imperatives · High-Applicatives · Subject Honorifics · Speech Act Assignment · Optimality Theory-Driven Dynamic Pragmatics · Morphology-Conditioned Pragmatics · Decomposition of Illocutionary Forces

1 Introduction

The mapping from a sentence type to an illocutionary force is not *one-to-one*. For example, despite sharing the same grammatical form/pattern — or the SENTENCE TYPE (i.e., the imperative form) — the following sentences have different ILLOCUTIONARY FORCES.

- | | |
|---|------------|
| (1) a. Help your brother's homework, right now! | [COMMAND] |
| b. Help yourself to some cookies! | [OFFER] |
| c. Help me, please! | [ENTREATY] |

At the same time, the relations are not *one-to-any*. For instance, none of the sentences in (1) can be associated with an illocutionary force of information-seeking, or state-description. We are, thus, in a dilemma: our theory must be parsimonious enough to correctly rule out the ill-formed illocutionary forces but flexibly enough to predict the diversity.

Such complex *one-to-many* mapping relations are seen as a big challenge to rule-based approaches to the force. If one assumes that there is a morpheme/feature/operator (covertly) present in sentence periphery for each illocutionary force (Rizzi 1997), one has to admit that there are a feature for COMMAND, a feature for OFFER, a feature for ENTREATY, and some more, to capture the possible range of

meanings associated with the imperative sentence, resulting in a lengthy list of homonymous morphemes/features just reiterating the descriptive generalization, whose independent conceptual justification is not easy to defend.

Thinking this way, it seems more fruitful to assume that a force is not determined solely by the semantics of such features, but is determined by pragmatic principles in addition to — and on the basis of — the syntax and/or semantics of the sentence. This assumption is nowadays widely accepted in Dynamic Pragmatics (Portner 2018; Stalnaker 2018; Yamada 2019).

The goal of the current paper is to elucidate the ‘pragmatic principles’ regulating the way an imperative sentence is associated with an illocutionary force (which is then used to update/affect the context). To be more precise, the present paper develops a constraint-based algorithm to the speech act assignment (aka the OT-driven Dynamic Pragmatics), as proposed in Yamada (2020), by examining interactions among an high applicative (HA) suffix, a subject-honorific (SH) suffix, and an imperative (IMP) marking in Japanese. As will we see in Section 2, the original analysis of Yamada (2020) has two problems to solve. However, after reviewing the fundamentals of the OT-driven Dynamic Pragmatics in Section 3, we will see in Section 4 that these challenging cases are in fact easily accounted for if we (i) decompose illocutionary forces, as has been done in the traditional Speech Act Theory, and (ii) propose lexically-conditioned constraints, as has been proposed in the work of phonology-morphology interface.

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2 Data

To demarcate sentence types from seemingly-related expressions, Sadock & Zwicky (1985: 161) use mutual exclusivity: an imperative marker and an interrogative marker are seen as distinct sentence types, because they are complementarily distributed, whereas a politeness particle does not count as a sentence type, because it can be “freely combined with a sentence type except where the meaning would be contradictory (ibid. 161).”

Under this criterion, we can reasonably conclude that attitude markers, such as an honorific marking and a high-applicative (HA) marking, are not a sentence type; as in (2), they can cooccur with an interrogative particle.

- (2) *hasit-tekure-mas-u no?*
run-HA-AH-PRS Q
‘Will you run for me?’

In speech act assignment, however, these elements do have an interaction with a sentence type (Yamada 2020). First, consider an interaction between an imperative and an HA. Unlike in English, the standard imperative sentence in Japanese (i.e., a sentence with the imperative suffix *-e/o*) cannot be used as a REQUEST (= (3)a). To make a REQUEST, an HA suffix *-tekure* (n.b., this is not a sentence-type marker; see (2)) needs to be present and the imperative suffix is suppressed, as shown in (3)b.

- (3) a. *hasir-e*.
run-IMP
‘Run! (*please run!)’ [COMMAND/*REQUEST]
b. *hasit-tekure-Ø*.
run-HA-IMP
‘Please run! (*run!)’ [REQUEST]

Second, the imperative sentence also interacts with subject-honorific (SH) markers. When the SH marking *nasar-* is present in a declarative (= (4)a), the speaker must have a social status lower than the referent. However, the hierarchical relation is reversed when used in an imperative; (4)b is acceptable only when uttered by someone who has a social status higher than Prof. A (e.g., the president). The sentence is used as a COMMAND but not as a REQUEST.

- (4) a. *A sensei-wa hasiri-nasar-u*.
A prof.-TOP run-SH-PRS
‘Prof. A runs.’
b. *{#A sensei}, hasiri-nasai*.
A prof. run-SH.IMP
‘Prof. A, run!’ [COMMAND/*REQUEST]

To explain this, one might propose a conditional rule in (5) but such a conditional denotation introduces an unnecessary conceptual complexity, raising the question of why human language allows opposite meanings to be expressed by the same honorific morpheme; n.b., here the bullet is used to indicate an expressive dimension of the meaning.

- (5) $\llbracket nasar \rrbracket^c = \begin{cases} \lambda p. p \bullet \text{subj} \prec \text{sp}^c & (\text{in an imperative}) \\ \lambda p. p \bullet \text{sp}^c \prec \text{subj} & (\text{otherwise}) \end{cases}$

Likewise, one could propose rules for the speech act assignment, as in (6).

- (6) a. COMMAND is assigned to an imperative, if the verb is immediately adjacent to an imperative suffix.
b. REQUEST is assigned to an imperative, if the verb is immediately adjacent to an imperative form of *tekudasai-*.
c. COMMAND is assigned to an imperative, if the verb is followed by a SH, when the SH-marking is *nasar-*.

Again, accurate as they are, such rules are nothing more than the restatement of the descriptive generalization, and are thus useless in making a precise prediction about the acceptability of a new sentence. The question still remains why such conditions are present in human language, making little contribution to developing our understanding of the speech act theory.

In place of such a rule-based approach, a constraint-based, OT-driven explanation has been developed in the literature, as we will closely examine in the next section, but there are, at least, two challenging cases for the existing analysis (Yamada 2020). First, the choice of an SH marking affects the speech act assignment. In addition to *nasar-*, the circumfix *o-...-ni nar-* is also frequently used to encode the SH-meaning in a declarative, as in (7)a, but unlike in (4)b, it cannot be used in an imperative sentence (= (7)b).

- (7) a. *A sensei-wa o-hasiri-ni nar-u*.
A prof.-TOP o-run-ni nar-PRS
‘Prof. A runs.’
b. **A sensei, o-hasiri-ni nar-e*.
A prof. o-run-ni nar-IMP
‘Prof. A, run! (intended)’

However, this does not mean that *o-...-ni nar-* is categorically ruled out in an imperative; as shown in (8), the sentence is perfectly acceptable when there is an HA marker, which is not explained by the original analysis of Yamada (2020).

- (8) *A sensei, o-hasiri-ni nat-tekudasai*.
A prof. o-run-ni nar-HA.SH.IMP
‘Prof. A, please run!’ [*COMMAND/REQUEST]

Second, in Yamada (2020), the ill-formedness of COMMAND for an *tekudasai*-sentence is discussed, and the unacceptability is attributed to the fact that the speaker is in authority. But there are some illocutionary forces in which the speaker is in authority in which the use of *-tekudasai* is accepted (e.g., in an ADVICE from a teacher to a student):

- (9) (If you want to study linguistics)
kono hon-o yon-demi-tekudasai.
this book-ACC read-try-HA.SH.IMP
‘Try reading this book.’ [ADVICE]

3 The OT-driven Dynamic Pragmatics

In building a falsifiable theory explaining and predicting the complex speech act assignment system in Japanese imperatives, Yamada (2020) proposes the OT-driven Dynamic Pragmatics (OT-DP), in which the speech act assignment is regulated by an interaction of several pragmatic constraints.

3.1 Sign: a form-meaning pair

Let us firstly consider an intuitive implementation of this constraint-based approach before introducing the formal algorithm, using the aforementioned example in (3)a. This sentence can be felicitously uttered when used as a COMMAND, while it is illicit when used as a REQUEST. How does the selection work?

An important assumption in Yamada (2020) is the sign-based approach to language. At the initial stage of the analysis, an imperative (form) is coupled with as many illocutionary forces (meanings) as one wishes, as in (10): for explanatory purposes, angular brackets are used to refer to a form-meaning pair.

- (10) a. $\langle (3)a, \text{COMMAND} \rangle$
 b. $\langle (3)a, \text{ADVICE} \rangle$
 c. $\langle (3)a, \text{REQUEST} \rangle$

However, not all the combinations are permitted. Ill-formed form-meaning pairs are filtered out by certain pragmatic constraints, thus ruling out the combination in (10)c. This ensures the **one-to-any* relation of the speech act assignment. In contrast, the two other pairs are perfectly permitted w.r.t. the constraints. Hence, the sentence can be used as a COMMAND or ADVICE; a *one-to-many* relation.

3.2 Constraints

With this in mind, let us consider how to set up constraints on the form-meaning pair. As a working hypothesis, let us assume the following principles:

- (11) a. The constraints are learnable from detectable (socio-)linguistic cues.
 b. Denotations of linguistic forms/features that concern discourse participants (i.e., the speaker and the addressee) act as faithfulness constraints.

First, the point in (11)a reflects a variation among languages. Given that English and Japanese differ in the range of possible illocutionary acts for an imperative, it is reasonable to assume that the speech act assignment depends on a particular language — that is, the set of constraints differs from language to language, and a new born child must learn what constraints are active in the given language, in interaction with the surrounding E-language (their language experience).

Second, the principle in (11)b concerns the semantics-pragmatics interface, making constraints on the basis of the semantics of the sentence. For example, the sentence in (3)a can be analyzed as having the following denotation: c repre-

sents the context of utterance, w^* is the world of evaluation, à la Portner (2004).

$$(12) \llbracket \text{IMP}(\text{run}) \rrbracket^{w^*,c} = [\lambda w. \lambda x : x = \text{addr}^c. \text{RUN}(x, w) \bullet \text{AUT} : \text{sp}^c].$$

Here, in addition to the property denoted by the at-issue meaning of the sentence, we have the secondary information regarding the hierarchical status among the participants (AUT:sp^c meaning ‘the speaker is in authority’; cf., Portner et al. 2019). This expressive meaning is translated into a constraint.

In Yamada (2020), the constraints in (13) are proposed, in which the notion of authority plays an important role (cf., Portner et al. 2019); here, for the sake of simplicity, 1 is used to refer to the speaker of the relevant context.

- (13) a. $\text{IMP} \Leftrightarrow \text{AUT}:1$
 b. $\text{SH} \Leftrightarrow \text{AUT}:\text{the referent of the subj.}$
 c. $\text{HA}(\text{kudasar-}) \Leftrightarrow * \text{AUT}:1$

The first constraint is the generalization that the imperative form is associated with the meaning of AUT:1 (the speaker is in authority). If a sentence with the feature IMP is not associated with a force where the speaker is not in authority, the form-meaning pair gets a penalty.

Emphasis should be placed on the fact (i) that this is a faithfulness condition, and (ii) that constraints are violable. We will pick sentence-force pairs in such a way that constraints are maximally respected; thus, in a simple case, a sentence with an imperative suffix can be associated with any force where the speaker is in authority. In other words, faithfulness constraints specify the prototypical function of the imperative suffix.

In OT, however, a (faithfulness) constraint can be violated if there are more important constraints to respect. The other two constraints in (13) are those interacting with the IMP constraint. The one in (13)b concerns the semantics of an SH that requires the referent of the subject to be a person who has a status higher than the speaker: they are in authority, and the one in (13)c is about the meaning of an HA, which states that the social status of the speaker of the *kudasar*-construction is lower than the referent expressed by the applied argument. These three conditions are all concerned with the status of the discourse participants, and thus are in competition.

3.3 Ranking among constraints

To see how the constraints interact, let us examine a few examples. First, consider the tableau in (14) and the sentence in (4)b, which contains an IMP suffix, and an SH marking.

(14)

	HA *AUT:1	IMP AUT:1	SH AUT:2
$\models \langle (4)b, \text{COMMAND} \rangle$			*
$\langle (4)b, \text{REQUEST} \rangle$		*!	
$\langle (3)b, \text{COMMAND} \rangle$	*!		
$\models \langle (3)b, \text{REQUEST} \rangle$		*	

Here the three constraints are ordered in importance; the observance of the IMP constraint is more important than that of the SH constraint, and HA is the most important. For (4)b, COMMAND is seen as an appropriate illocutionary force, despite its apparent violation of the SH constraint, because this assignment circumvents the violation of the more fatal violation of the IMP constraint. Likewise, for (3)b, $\langle(3)b, \text{REQUEST}\rangle$ survives, because it does not have the fatal violation of the most important constraint of HA.

In this way, the OT-driven Dynamic Pragmatics explains and predicts the well-formedness of a sentence-force pair, without proposing a conditional denotation or a conditional speech act assignment as seen in (5) and (6).

4 Solving the problems

While successfully explaining the data in (3)a through (4)b, Yamada's (2020) analysis gives the wrong predictions for the data in (7)b and (9) (at least as it stands). Consider the tableau below.

(15)

	HA *AUT:1	IMP AUT:1	SH AUT:2
$\models \langle(7)b, \text{COMMAND}\rangle$ $\langle(7)b, \text{ENTREATY}\rangle$		*!	*
$\langle(9), \text{COMMAND}\rangle$ $\langle(9), \text{ADVICE from a superior}\rangle$ $\models \langle(9), \text{ENTREATY}\rangle$	*! *!	 *	* *

First, the sentence in (7)b contains an imperative suffix and a SH marker, and the tableau predicts that a form-meaning pair is permitted as long as the authority is on the speaker's side. However, none of the speech act assignment patterns is possible with this sentence, contrary to the prediction. Second, in (9), IMP, SH, and HA are all used. Thus, the analysis in (15) predicts that, for example, ADVICE from a teacher to a student should not be a good assignment, contrary to the fact.

These apparent challenges, however, do not undermine the spirit of OT-DP. In what follows, we show that the data are, in fact, easily explained (i) if we decompose illocutionary forces and (ii) propose morphologically-conditioned pragmatic constraints.

4.1 Compositional structure

Before we propose an elaborate analysis, it is useful to articulate and more formally define illocutionary forces. For example, what do we mean by ADVICE and how does it differ from COMMAND? Unfortunately, in Yamada (2020), the distinction among illocutionary forces is not formally provided, but without a formal definition, no fruitful discussion could be made due to the disagreement of the terminology.

In the traditional theories of Speech Act, researchers have proposed that an illocutionary force is composed of several properties. For example, Searle & Vanderveken (1985) propose the following compositional structure:

- (16) a. Illocutionary point (the purpose of the act)
 b. Degree of strength of its illocutionary point
 c. Mode of achievement
 d. Preparatory conditions
 e. Propositional content conditions
 f. Sincerity conditions
 g. Degree of strength of its sincerity conditions

Once these conditions are specified, an illocutionary force is uniquely identified.¹ Similar attempts have been made in the literature of Japanese traditional linguistics (Kashizaki 1993; Himeno 1997). There has been variations in the literature with respect to the criteria used for the classification, but for our purposes, it suffices to consider authority (= (16)c) and strength in illocutionary point (= (16)b), which leads to the four-way classification, as given in (17):²

- (17) a. DIRECTING₁ \Leftrightarrow [AUT:1, DEG:strong]
 b. DIRECTING₂ \Leftrightarrow [AUT:1, DEG:weak]
 c. DIRECTING₃ \Leftrightarrow [AUT:2, DEG:strong]
 d. DIRECTING₄ \Leftrightarrow [AUT:2, DEG:weak]

The authority describes the social hierarchy between the discourse participants (Portner et al. 2019). The strength in illocutionary point is concerned with the addressee's free will. If it is strong, the addressee must take the action. If it is weak, the addressee's free will is respected. To empirically see the strength of a given sentence, we can use an adverbial test, as shown below: adverbial clauses that assume the addressee's free will are felicitously used in a sentence where DEG:weak.

- (18) a. **tugoo-ga ae-ba, hasir-e!*
 convenience-NOM if run-IMP
 'If it is convenient for you, run! (intended)'
 b. *tugoo-ga ae-ba, hasit-tekudasai!*
 convenience-NOM if run-HA.IMP.SH
 'If it is convenient for you, please run!'

With this classification in mind, we can revise the tableau as follows, which can now successfully explain what appears to be the problematic form-meaning pair of $\langle(9), \text{ADVICE from a superior}\rangle$. This pair is well-formed, because the addressee's free will is respected when an advice is made even if the speaker is in authority: this is an example of $\langle(9), D_2\rangle$.

(19)

	HA $\neg(\text{AUT:1} \wedge \text{DEG:s})$	IMP AUT:1	SH AUT:2
$\langle(9), D_1\rangle$ $\models \langle(9), D_2\rangle$ $\models \langle(9), D_3\rangle$ $\models \langle(9), D_4\rangle$	*! 	 * * *	* *

4.2 Morphologically-conditioned pragmatics

Let us now turn to the second problem: the variation among SH markers. To this end, we need to differentiate allomorphs among imperative suffixes and honorific suffixes.

So far, the discussion has proceeded as if there were a single imperative morpheme present in contemporary Japanese. But in fact, three distinct allomorphs are identified: (i) *-e* (when preceded by a consonant; e.g., *hasir-e*); (ii) *-ro* (when preceded by a vowel; e.g., *oki-ro*); and (iii) \emptyset (when preceded by a certain honorific predicates; i.e., *irassyar-*, *kudasar-*, *ossyar-*, *gozar-*, *nasar-*; e.g., *kudasai* \emptyset). While the former two are phonologically-conditioned allomorphs, the last one is a lexically-conditioned allomorph, and is the most marked choice in terms of its type frequency. This also indicates the need to classify SH-markings into those that take the \emptyset -form and those that take the regular *e/ro*-suffix.

Thinking this way, we can attribute the difference between (4)b and (7)b to the type of IMP suffix and SH suffix. In the literature on phonology-morphology interface, morphologically-conditioned phonology has been an important issue. For example, a stress shift in English words (e.g., *párent*, *áctive* and *président*) is not always triggered, but is conditioned by the morphological environment: some suffixes shift the stress of the base (e.g., *parént-al*, *actív-ity* and *présidént-ial*), whereas other do not (e.g., *párent-ing*, *áctiv-ist* and *présidenc-y*) (Allen 1978; Chomsky & Halle 1968). Various theories have been developed to model such morpheme/construction-specific phonological phenomena, including Indexed Constraint Theory (McCarthy & Prince 1995; Itô & Mester 1999; Alderete 2001), Stratal Optimality Theory (Kiparsky 2003), and Cophonology Theory (Orgun 1996; Inkelas et al. 1997; Anttila 2002).

Inheriting the practice of such studies, let us relativize the pragmatic constraint with respect to the morphology: here let us use a subscript to distinguish a marked, construction (morpheme)-specific pragmatic constraint from the general constraint. For example, consider the constraints in (20). The one in (20)b must be respected only when there is a \emptyset -imperative suffix, and does not apply to an imperative with *-e/ro*. That is, this is a lexically-conditioned faithfulness constraint, in contrast to the general faithfulness constraint, as given in (20)a.

- (20) a. IMP \Leftrightarrow AUT:1 Unmarked faithfulness
b. IMP \emptyset \Leftrightarrow AUT:1 Lexically-conditioned faith.

In the same vein, we identify those that trigger the irregular \emptyset -imperative suffix as marked SH-constructions, and propose a lexically-conditioned pragmatic constraint, as in (21) (SH_M stands for a marked SH).

- (21) a. SH \Leftrightarrow AUT:the referent of the subj.
b. SH_M \Leftrightarrow AUT:the referent of the subj.

Putting them together, we propose the ranking in (22), where the marked and unmarked faithfulness constraints are assigned different rankings: n.b., the comma between IMP and SH indicates that their rankings are tied.

- (22) HA << IMP \emptyset << SH_M << IMP, SH

With this in mind, let us observe the tableau in (23) and confirm that our analysis as adequately explains the data discussed and analyzed by Yamada (2020).

(23)

	HA $\neg \left(\begin{smallmatrix} \text{AUT:1} \\ \wedge \text{DEG:s} \end{smallmatrix} \right)$	IMP \emptyset AUT:1	SH _M AUT:2	IMP AUT:1	SH AUT:2
$\models \langle (3)a, D_1 \rangle$ $\langle (3)a, D_3 \rangle$				*!	
$\langle (3)b, D_1 \rangle$ $\models \langle (3)b, D_2 \rangle$ $\models \langle (3)b, D_3 \rangle$	*!				
$\models \langle (4)b, D_1 \rangle$ $\langle (4)b, D_3 \rangle$		*!	*		

Then, let us turn to the challenging examples for the previous literature. The tableau in (24) shows that they are all correctly predicted.

(24)

	HA $\neg \left(\begin{smallmatrix} \text{AUT:1} \\ \wedge \text{DEG:s} \end{smallmatrix} \right)$	IMP \emptyset AUT:1	SH _M AUT:2	IMP AUT:1	SH AUT:2
$\langle (7)b, D_1 \rangle$ $\langle (7)b, D_2 \rangle$ $\langle (7)b, D_3 \rangle$ $\langle (7)b, D_4 \rangle$				*! *! *!	*! *!
$\langle (8), D_1 \rangle$ $\models \langle (8), D_2 \rangle$ $\models \langle (8), D_3 \rangle$ $\models \langle (8), D_4 \rangle$	*!		*		*
$\langle (9), D_1 \rangle$ $\models \langle (9), D_2 \rangle$	*!		*		*

First, the lack of any directing force in (7)b is a consequence of the lack of a ranking between IMP and SH. Since each row incurs a fatal error, and we cannot pick one over the other, none of the forces in (17) is felicitously assigned to the sentence.

Second, the second section of the tableau predicts that an asymmetry brought by an HA makes any directing forces but D₁ are permitted. This is exactly what the sentence in (8) shows.

Finally, the analysis in (19) is unaffected, and the faithfulness to the degree dimension correctly makes the sentence in (9) an acceptable speech act assignment.

4.3 Predictions

Not only can we account for the data in Section 2, but our model makes falsifiable predictions about speech act assignments of other imperative sentences. Here let us examine a few such cases and corroborate our analysis.

First, the tableau in (24) can predict the acceptability of the (*r*)*are*-SH marking. As shown below, this suffix cannot be used as an imperative, just as in the case of the *o...-ni nar*-construction.

- (25) a. *A sensei-ga hasir-are-ru.*
 A prof.-NOM run-SH-PRS
 ‘Prof. A runs.’
 b. **A sensei, hasir-are-ro!*
 A prof.-NOM run-SH-IMP
 ‘Prof. A., run! (intended).’ [*D_{1,2,3,4}]

Since this suffix contains the regular imperative suffix *-ro*, and does not take the \emptyset -form, this is an unmarked SH: our analysis makes the same prediction as that of (7)b, which is exactly what (25)b shows.

Second, just as the sentence in (8), our analysis predicts that, when used with an HA marker, a sentence can be felicitously associated with a directing force even if the (*r*)are is present. This prediction is borne out, as shown in (26).³

- (26) *tanosii yasumi-o sugos-are-tekudasai.*
 pleasant break-ACC spend-SH-SH.HA.IMP
 ‘Have a nice break!’ [*D₁/D_{2,3,4}]

Third, since the ill-formedness of (25)b is attributed to the conflict between SH and IMP, it is predicted that the sentence is ameliorated if the imperative suffix is taken away. This prediction is also borne out. Consider the sentence in (27), where no IMP-suffix is used: instead it has a sentence-final particle *-yo* ‘SFP.’⁴

- (27) *hasir-are-yo.*
 run-SH-SFP
 ‘Please run (archaic).’ [*D_{1,2}/D_{3,4}]

This sentence is rather archaic, and is typically used by an old personality to someone in a high social status (e.g., from an old wizard to the brave), as correctly predicted by the tableau in (28).

(28)

	HA $\neg \left(\begin{smallmatrix} \text{AUT:1} \\ \wedge \text{DEG:s} \end{smallmatrix} \right)$	IMP \emptyset AUT:1	SH _M AUT:2	IMP AUT:1	SH AUT:2
$\langle (27), D_1 \rangle$					*!
$\langle (27), D_2 \rangle$					*!
$\models \langle (27), D_3 \rangle$					
$\models \langle (27), D_4 \rangle$					

Finally, in addition to the \emptyset -form, *nasar-* can take the regular imperative suffix *-e*, as in (29).

- (29) *hasiri-nasar-e.*
 run-SH-IMP
 ‘(I advise you to) run!’ [*D_{1,2}/D_{3,4}]

As shown in (30), our analysis predicts that a force in which the addressee is in a higher status can be felicitously paired with this sentence. This prediction is borne out, although this sentence is no longer as productively used as in old days, and does sound archaic (similar to (27)): this sentence cannot be used from a superior to an inferior. Typically it is used as an advice from an old person to someone in a high social status, just as in the case of (27).⁵

(30)

	HA $\neg \left(\begin{smallmatrix} \text{AUT:1} \\ \wedge \text{DEG:s} \end{smallmatrix} \right)$	IMP \emptyset AUT:1	SH _M AUT:2	IMP AUT:1	SH AUT:2
$\langle (29), D_1 \rangle$			*!		
$\langle (29), D_2 \rangle$			*!		
$\models \langle (29), D_3 \rangle$				*	
$\models \langle (29), D_4 \rangle$				*	

5 Conclusion and implications

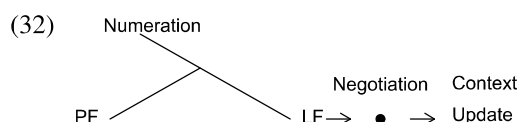
In the current paper, we have developed the OT-driven Dynamic Pragmatics, and have solved the two problems of Yamada (2020), by using (i) a detailed compositional structure of directing forces, and (ii) lexically-conditioned constraints. The main ideas are summarized below.

- (31) a. An utterance is a form-meaning pair.
 b. Illocutionary forces are decomposed into several dimensions (e.g., authority and strength of the illocutionary point).
 c. Denotations of linguistic forms (e.g., IMP and SH) are translated as a faithfulness constraint.
 d. The well-formedness of a form-meaning pair is evaluated on the basis of whether/how a force violates the faithfulness constraint imposed by the linguistic form(s).
 e. In addition to general faithfulness constraints, lexically-conditioned faithfulness constraints must be taken into account.

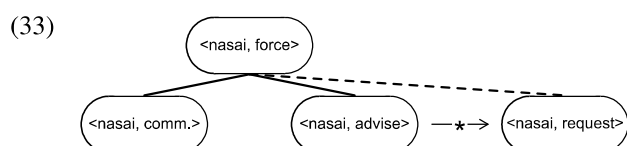
This framework potentially extends to other discourse/speech act-oriented phenomena. Here due to space limitations, we have zoomed in only on SHs and HAs in an imperative. But other possible candidates are: the prosody of the sentence, sentence-final particles, vocatives, and other honorific expressions (in particular, addressee-honorifics, Yamada 2019). Future research is required to elucidate the way such (morpho)syntactic/phonological information contributes to feed and/or block pragmatic constraints and speech act assignments.

Notice that the idea is not new that there exists a ‘negotiation’ in determining a pragmatic effect of an utterance. For example, attempts have been made to see conversational implicatures as a consequence of an interaction among pragmatic constraints. The collection in Blutner & Zeevat (2004) includes several insightful applications of OT in a different domains of pragmatics.

Beyond pragmatics, our analysis also has fruitful implications for the architecture of the human grammar. First, in the literature of Minimalist Program and the related (morpho)phonological studies, the lambda-model in (32) is assumed, and OT-based accounts have been proposed on the PF-side. The analysis of this paper extends this constraint-based negotiation to the LF side, resulting in symmetrical derivational processes in the grammatical architecture.



Second, in the tradition of Construction Grammar, a pairing of form and meaning (i.e., a construction) is the pivotal linguistic unit, and is modeled as forming a schematic network, as in (33).



In this scheme-based representation, there have been a lot of studies as to how one construction extends to another (e.g., metaphor/metonymy-based extensions), while less attention has been paid to the question of why a construction cannot extend to another when it seemingly could (e.g., how come a *nasai*-form cannot extend to obtain the REQUEST force despite the fact that it also has a directive sentence mood?). Our analysis here provides a testable analytic tool expected to fill the gap of the debate without contradicting the fundamental symbolic view of Construction Grammar.

Future research is expected to further develop OT-DP in tandem with these grammatical paradigms, contributing to a better understanding of human language.

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Notes

¹By decomposing forces, we can clearly articulate and identify what ingredient is responsible for the well-formeness of a given speech act assignment. Besides, we can dispense with synonymous terms unnecessary with respect to the goal of our analysis: ORDER and COMMAND are considered identical with respect to the two parameters, and we do not consider the difference as long as we are concerned with the two parameters.

²We could use labels such as COMMAND and ENTREATY for the forces: DIRECTING₁ roughly corresponds to COMMAND (from a superior whom the addressee must obligatorily obey). But such terms often have unintended extra nuances blurring the discussion. So we simply uses subscripts to distinguish directing forces.

³An issue left to future research is the choice of the verb. Although the sentence in (26) is perfectly acceptable, the judgment is worse when a different verb is used:

(i) ?*hasir-are-tekudasai*.
run-SH-SH.HA.IMP
'Run!'

⁴The meaning of *-yo* has nothing to do with the authority, and thus the meaning does not interact with the constraints in the tableau. The remaining issue is, however, that when *-yo* is absent, the sentence is illicit. At this moment, the treatment of an SFP within the OT-DP has not been developed yet and is left to future research.

⁵I thank Yuta Tatsumi for bringing up this issue.

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