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What Makes *Mizen* and *Izen* Conditionals Distinct? —In the Case of in Late Middle Japanese—

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1. Introduction

The distinction of *mizen* (irrealis) and *izen* (realis) conjugational form of a predicate in the subordinate clause of a conditional sentence in Classical Japanese is considered to exhibit similar but distinct meanings as in (1ab):

- (1) a. Hana saka-ba mi-mu.

flower bloom.mizen-BA see-VOL

‘If cherry blossom blooms, I will go see them.’

- b. Sake-o nome-ba you.

alcohol-ACC drink.izen-BA get drunk

‘Whenever a person drinks alcohol, he gets drunk.’ (Matsushita 1928:545)

Each of them expresses a conditional causal relationship between the event expressed in the subordinate and main clause. On the other hand, we can see their semantic difference as expressed in English equivalent of ‘if’ in the former and ‘whenever’ in the latter example. Previous investigations of conditionals in Classical Japanese have considered that the predicative conjugational difference is a distinctive feature of the semantic differences and categorized them into two different types of conditionals. The purpose of this study is to examine the validation of the distinction in the case of Late Middle Japanese and argue for their distinct status.

The organization of this study is as follows. In section 2, we will look at previous studies on functional differences of the two conditionals and point out that a detailed examination is essential to substantiate their distinction. Section 3 will look at the data from quantitative perspectives and the result of the analysis. The last section concludes the study.

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2. *Mizen* and *izen* Conditionals

In Classical Japanese, typical conditionals are expressed with a combination of either *mizen* or *izen* form of a predicate and a clause linkage marker, ‘*ba*’ in their subordinate clauses. The semantics of the conditionals depends on the conjugational form of the predicate as we already saw in (1a). Example (1a) expresses a specific hypothetical causal relationship in which the cherry blossom viewing by the speaker is triggered by the realization of the main clause event, namely, the blooming of cherry blossoms. Example (1b), on the other hand, expresses a generic conditional relationship between the events expressed in its protasis and apodosis; any person who drinks alcohol will have the experience of drunkenness. These two examples are distinct from each other with respect to the specificity of time and space expressed in their subordinate and main clause. Many attempts have been given on the classification of Japanese conditionals, and the correspondence of *mizen* conditionals with hypothetical conditional meaning and *izen* conditionals with generic conditional meaning has been proposed (e.g. Matsushita 1928; Sakakura 1958; Kobayashi 1997).

As a result of diachronic changes, the function of *mizen* conditionals was taken over by *izen* conditionals during Early Modern Japanese. This convergence in conditional form is one of significant changes in Japanese conditionals. Sakakura (1958) argues that the formal shift from *mizen* to *izen* form entailed a conceptual change in the meaning of hypothetical conditionals. Hypothetical conditionals with *mizen* form as in (1a) had not always expressed causal meaning before the change, which *izen* conditionals with a generic meaning always did. However, hypothetical conditionals with *izen* form also started to entail the meaning according with the formal change. Hence, the meaning of hypothetical conditionals with *izen* form inherited the specificity expressed with *mizen* conditionals and generic causal meaning that *izen* conditionals originally contained as its meaning. Although Sakakura’s claim sounds convincing, it requires more examination of *izen* and *mizen* conditionals. For example, Sakakura does not discuss in detail what factor composes each conditionals. For example, it is not so obvious whether there is any other feature than a conjugational form of a predicate that differentiates one from the other conditionals. This paper will examine components of the two conditionals in more detail and describe how they are distinct from each other. In the course of the study, we will look at data from 16th century in which the change of the conditionals started to appear.

3. Data collection and analysis

3.1. Data Collection

We used the Corpus of Historical Japanese (NINJAL 2018) for the sentences with a collocation of a predicate in *mizen* or *izen* form and ‘*ba*’. After we retrieved the exhaustive cases of those cases, we identified *mizen* and *izen* conditionals through manual inspection, yielding 220 cases with 160 cases of *mizen* conditionals and 60 *izen* conditionals.

3.2. Variables for the Analysis

It is important to understand what features functions as a distinctive feature of each conditionals to know how the two conditionals are different from each other. Also, it lets us similarity of each conditionals. In other words, the schema for the two conditionals will be uncovered. It will be a clue to comprehend the onset context for the convergence of the forms in later stage. In order to analyze the distinctive feature for the two types of conditionals, we performed an annotation for each example with respect to the following factors: the nature of the subordinate clause and mood of the main predicate and the conjugational form of the subordinate predicate. We now will discuss the reason why we chose them as explanatory variables for this study.

It is not obvious from previous studies whether there are some distinctive features between mizen and izen conditionals with respect to the nature of their subordinate clause. This study will take into consideration the stativity of the event described in the subordinate clause of a conditional sentence. The feature is known to have effect on the behavior of conditional sentences in Modern Japanese. For example, a non-stative event cannot be expressed in the subordinate clause in a conditional sentence with a conditional marker, 'ba', and a main predicate in imperative mood (e.g. Suzuki 1978). In terms of Classical Japanese, it is pointed out that conditional sentences with a main predicate in imperative mood and a conditional marker, 'ba', contains higher proportion of stative verbs in mizen form in its subordinate clause than that of non-stative verbs (Seto 2017). However, it is not known whether the overall mizen conditionals with a mood other than imperative exhibits the same characteristics. Also, it is also unclear whether mizen and izen conditionals have the similar tendency regarding the stativity of the event of the subordinate clause. Uncovering this aspect will let us understand the nature of the two conditionals.

The second variable concerns the types of the mood of the predicate in the main clause of mizen and izen conditionals. The mood of the main clause of a conditional sentence has effect on the behavior of the conditional sentences with the stativity of the subordinate predicate as mentioned above. The mood of the main predicate is considered to be a distinct feature of izen conditionals as well. For example, they often contain conclusive form (i.e. without any modal auxiliary and particle) in its main clause and it reflects high presupposition of the causal relationship between the subordinate and main clause. The mood of the main predicate, therefore, has a potential to be a distinctive feature of each conditional. Each case was annotated according with the following mood types: negative conjectural (e.g. *-mazi*), copula (e.g. *-da*), desire (e.g. *-tashi*), exhortative (e.g. *-u*), imperatives, interrogatives, negation (e.g. *-zu*), conclusive, past (e.g. *-ta*), prohibitive (e.g. *na-so*), and volitive (e.g. first person subject and *-u*). Third variable, the conjugational form of the subordinate predicate, is the distinction of mizen and izen form.

Following is an example of annotated data:

(2) Kono fumi Kantou-ni mie-ba hito-mo ushinawa-uzu.

this letter East-DAT show.izen-BA person-too perish-CONJ

‘If I give this letter to a person in the East, some people are going to die, too.’

- stativity of the event expressed in the subordinate clause: non-stative (the act of giving)
- mood type of the predicate in the main clause: conjecture (ushinawa-uzu)
- conjugational form of the subordinate predicate: izen (*mie-ba*)

3.3. Mizen/izen Conditionals and Variables

In this section, we will briefly look at how each variable mentioned in section 3.2. is observed for each conditional. Figure 1 shows the relationship among the types of conditionals, types of predicative mood and stativity of the event expressed in the subordinate clause.

According to Figure 1, there appears to be some tendencies for each type conditionals. Firstly, mizen conditionals have more cases in which stative event is expressed in the subordinate clause and izen conditionals shows the opposite tendency. Secondly, mizen conditionals are more productive with respect to the types of main predicative mood than in the case of izen conditionals. On the other hand, izen conditionals appears to be tied strongly with predicates with conclusive form, copula, and negative particle.

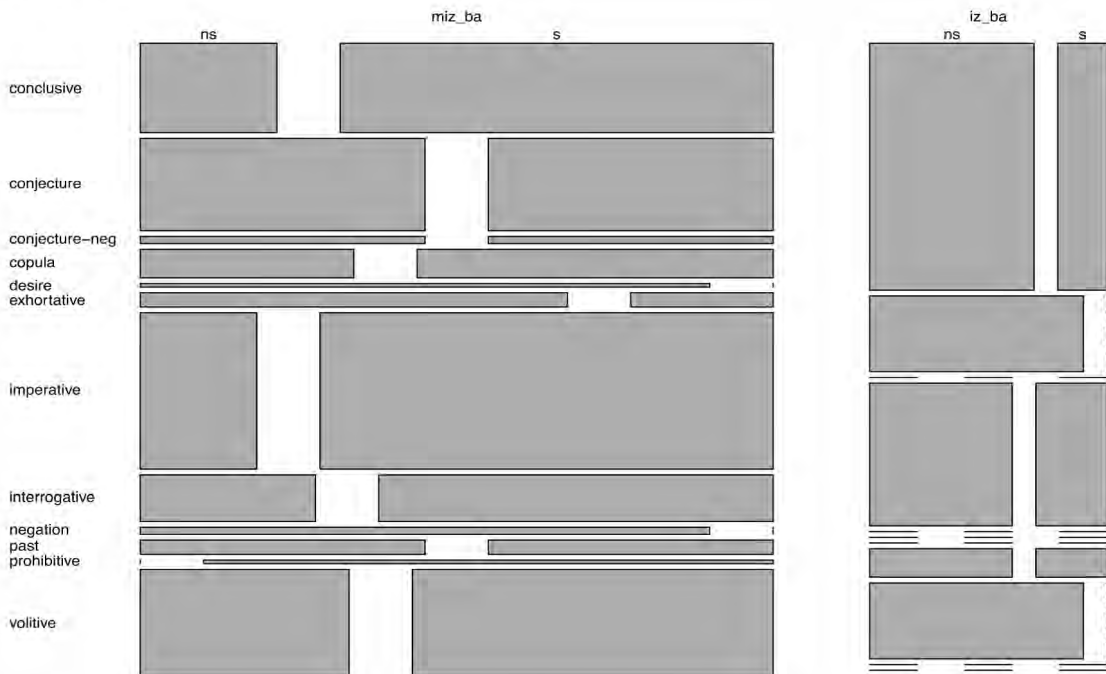


Figure 1: Mood types and stativity of the subordinate clause for each conditionals

3.4. Binomial logistic regression analysis

In the following analysis, we will make use of binomial logistic regression to identify factors at work to differentiate the use of mizen and izen conditionals. Binary logistic regression analysis uses an annotated data and generates a model that shows the effect of each explanatory factor for the choice of response variable (cf. Speelman 2014; Levshina 2015). Hilpert (2013:75-109), for example, identifies factors that has influence on the diachronic choice of *'thy/thine'* and *'my/mine'*.

3.5. Result

To understand the effect of each factor with respect to the stativity of the subordinate event and mood types of the predicate in the main clause as mentioned in section 3.3., we performed binary logistic regression analysis³ using an annotated data. The result of the analysis shows that both the stativity of the subordinate event and the mood type of the main predicate are significant factors to differentiate the use of the two conditionals.

In binomial regression analysis, one variable of each category is set as a reference level (i.e. basis of comparison) and the output shows the degree of the effect of the other variables than reference level in choosing a response category (izen/mizen form in this study). For example, when mizen conjugational form, conclusive form and stativity are set as reference levels, the output shows how much more/less likely the other variables are expected to boost the probability of the occurrence of the other response level (i.e. izen conditional in this case).

In the following analysis, the levels of stative subordinate event and conclusive form of the main predicate are set as reference levels. The result is shown in Table 1. The first column shows the levels of each variable other than ones set as reference levels. Intercept refers to the set of reference levels. Coefficient in the second column shows the effect contributing to the choice of mizen conditional, and each coefficient shows the log odds ratio of each variable to the reference variable. For example, the coefficient of 1.9518 for stative subordinate predicate means that the probability of the choice of mizen is approximately 7.04 times (converted from log) greater than that of izen form when stativity is observed in the event expressed in the subordinate clause. A positive value in the coefficient column means that the chance of occurrence of a level of the response variable (i.e. mizen conditional in this case), which is compared against reference level, has higher chance to be selected than the other level. On the contrary, negative value signifies that the variable set as reference level has greater probability to be of choice (i.e. izen conditional in this study). The estimate of the intercept in the first row shows the log odd ratio when each variable is set as reference level. Its value is negative, so the probability of the choice of izen form is greater than that of mizen form. The third column shows whether there

³ Some features attested in the case of mizen conditional was unattested in the case of izen conditional. This would cause a problem called separation (cf. Levshina 2015: 273). I used an R package 'bayesglm' (Gelman et al. 2008) to deal with the problem.

is a significant difference between the reference level and the level in comparison listed in each row. The value smaller than 0.05 shows that there is a significant difference between the feature set as reference level and each level of variables in comparison with the reference level.

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-0.7639	0.3446	-2.217	0.02664	*
SUB_PRED_STATs	1.9158	0.4299	4.456	0.0000	***
MOODconjunctural	1.3777	0.51	2.702	0.0069	**
MOODconjunctural-NEG	1.8376	1.5917	1.154	0.24832	
MOODcopula	-0.7785	0.5447	-1.429	0.15291	
MOODdesire	1.6815	1.6468	1.021	0.30723	
MOODexhortative	2.8792	1.5559	1.851	0.06423	.
MOODimperatives	4.5532	1.6433	2.771	0.00559	**
MOODinterrogatives	1.2059	0.6807	1.771	0.07649	.
MOODneg	-0.5326	0.7718	-0.69	0.49012	
MOODpast	2.4645	1.5547	1.585	0.11292	
MOODprohibitive	0.6784	1.7664	0.384	0.70095	
MOODvolitive	4.5318	1.6522	2.743	0.00609	**

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 1: The result of regression analysis (reference level: conclusive form, stative subordinate event)

The result supports the informal observation about the relationship between each variable and the conjugational form we saw in section 3.3, and it also lets us know how much effect each level has to distinguish mizen and izen conditionals.

First of all, stativity of the event expressed in the subordinate clause boost the probability of mizen conditionals; in other words, the feature decreases the probability of the occurrence of izen conditionals. Its effect is significant compared with the case where non-stative event is expressed in the subordinate clause, which boost the probability of the occurrence of izen conditionals.

Secondly, the degree of effect of conjunctural, imperative and volitive mood in the main clause is significantly different from conclusive form with respect to their odd ratio. The former three increase the probability of the choice of mizen conditionals, while the latter prefers izen conditionals. Exhortative mood is marginally different from conclusive form and boost the chance of mizen conditional. We can see that mizen conditional is more productive with respect to its mood types.

Binary logistic regression has a function to classify each case into one of the binary response

variables. Figure 2 shows the probability of each case to be a case of mizen conditionals in the annotated data set. Each point corresponds to attested cases, and those in the lower part show high possibility to be the case of izen conditionals and those in the higher area show high possibility to be the cases of a mizen conditionals. Each column shows the cases of izen and mizen conditionals. We will now look at cases with high probability of izen conditionals (i.e. low probability to be mizen conditionals; ≤ 0.25).

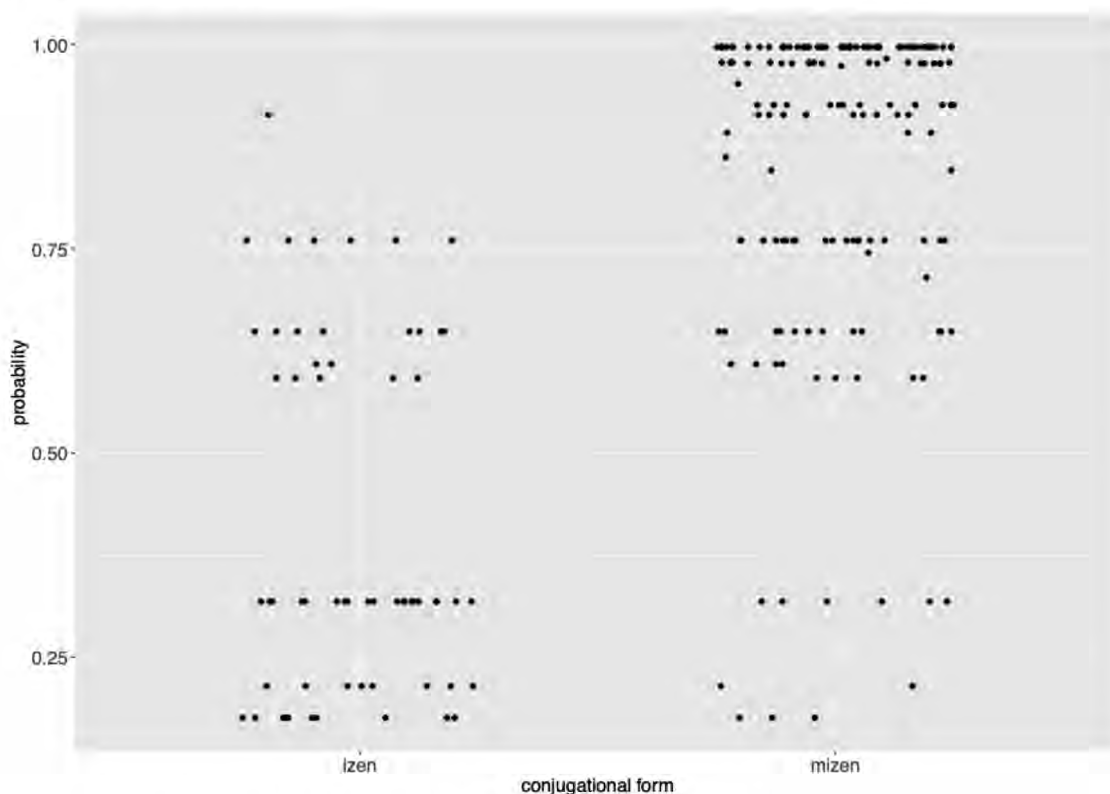


Figure 2: Probability of the choice of izen/mizen conditionals

- (3) a. Haru natsu mirai-no kakugo-o sure-ba aki fuyu-wa yutaka-ni hi-o
 spring summer future-GEN determination-ACC do.izen-BA fall winter-TOP well-DAT days-ACC
 okuru.
 spend.CONC
 ‘Whenever we make a determination about the future in spring and summer, we can spend
 good days in fall and winter.’ (subordinate clause: non-stative event; mood: conclusive form)
- b. Kayou-ni nare-ba kokoro-wa kawaru narai-zya.
 this-DAT become.izen-BA heart-TOP change rule-COP
 ‘It is a rule that a person’s heart will change when a situation becomes this way.’ (subordinate
 clause: non-stative event; mood: copula)
- c. Kono mushi-wa tetsu-o oke-ba saru koto-ga nai.

this bug-TOP iron-ACC put.izen-BA leave NMZ-NOM NEG

‘Whenever someone put iron (in front of the bug), the bug won’t leave.’ (subordinate clause: non-stative event; mood: negation)

Each of these *izen* conditionals contain a non-stative event in its subordinate clause. There is a variation with regard to their mood types: copula and negation. We can infer that these cases contain the most distinguishing features from *mizen* conditionals since the model is confident that these cases are not *mizen* conditionals with the probability higher than 75.0%. In order to confirm it, let us have a look at examples of cases of *mizen* conditionals with high probability to be the case of *mizen* conditional (≤ 0.90). With respect to these cases, both cases with stative and non-stative subordinate event in their subordinate clauses are attested; the mood of imperatives, conjectural, volitive, exhortative, conjectural-NEG, desire and past are attested. As we can see from Table 1, all of these cases contain features concerning mood types with a significant difference in their effect from that of the reference levels. This is because the coefficient estimate is calculated based on the ratio between the reference level and other levels. When the its gap is higher, its value is expected to be higher (in either positive or negative value). Each significant level shows that it is a significant feature concerning either one of the response variables under examination. The mood types above and the existence of stativity in the subordinate event are distinguishing features of *mizen* conditionals. Some attested examples of these *mizen* conditionals are in the following.

(4) a. Sara-ba are kire kore kire.

to be thus.mizen-BA that cut.IMP this cut.IMP

‘If it is the case, cut them.’ (subordinate clause: stative; mood: imperative)

b. Kore-ga na-o sara-ba yagate *fukushou*-to yobou.

this-GEN name-ACC to be thus.mizen-BA just as *fukushou*-QUO call.VOL

‘If it is the case, I will call him *fukushou* just as my desire to let him be a vice general (*fukushou*).’
(subordinate clause: stative; mood: volitive)

c. Kono nan-o otasuke ara-ba mizu-to uo-no gotoku shitashimi-marase-u.

this difficulty-ACC help be.mizen-BA water-COM fish-GEN like harmonize.ADV-HON-CNJ

‘If you help me out of this difficult situation, we will harmonize like fish and water.’
(subordinate clause: stative; mood: conjectural)

d. kamaete naka-ba ookami-ni yaro-uzu.

definitely cry.mizen-BA wolf-DAT give.ADV-VOL

‘If you cry, I will definitely let a wolf eat you.’ (subordinate clause: non-stative; mood: volitive)

We have just looked at cases of mizen and izen conditionals with high possibility to be each case and argued that the examples exhibit distinctive features of mizen and izen conditional. Then, how about the cases with low possibility? Table 2 shows the set of features of those cases with the probability lower than 50.0% of each conditional and the probability is actually wrong. The leftmost column refers to the conditional type with low possibility to be the case. The second and third columns show the features they contain. The rightmost column shows the probability to be classified as the conditional in the first column. For example, a case of mizen conditionals with a non-stative event and conclusive main clause mood type has the possibility of 31.7% to be the case of mizen conditional. In other words, they have high possibility to be cases of izen conditional. Each case with the lowest probability is shown in (5ab).

conditional	mood type	subordinate	frequency	probability
mizen	conclusive	non-stative	6	31.7%
	negation	non-stative	2	21.4%
	copula	non-stative	3	17.6%
izen	conjunctural	non-stative	8	35.2%
	interrogatives	stative	1	8.7%
		non-stative	2	39.2%
	conjunctural	stative	5	40.8%
	conclusive	stative	6	24.1%

Table 2: Cases with low probability and their set of features

(5) a. Kono asa-ga ... ami-to nara-ba warera-ga hateguchi-zya.

this hemp-NOM ... net-QUOT become.mizen-BA 1PL-GEN ruin-COP

‘If this hemp (grows and) becomes nets (to catch us), we will perish.’

b. Shika gozare-ba soregashi-o-ba *daihyou*-to oboshimesaruru-ka?

thus be izen-BA 1SG-ACC-TOP *daihyou*-QUOT think.HON-INT

‘If you say so, do you think I am a *daihyou* (skillful arrow shooter)?’

The examples of (5ab) are peripheral cases of mizen and izen conditionals. For the former

case, we see non-stative subordinate event and the use of a copula in the main clause. The combination of these usually distinguishes *izen* conditionals from *mizen* ones. For that reason, (5a) is considered to be an outlier as an example of *mizen* conditional. This is the reason why the probability to be a *mizen* conditional is considered to be very low for a conditional in that linguistic context. Similarly, (5b) is a rare case as a case of *izen* conditionals since it contains a stative subordinate event and an interrogative marker in the main clause. This leads to quite a low possibility to be judged as a case of *izen* conditionals. These facts lead to the idea that the cases with low probability from the result of binomial regression cases of peripheral cases.

In summary, the analysis shows that stativity of the event in the subordinate clause and mood types of the main clause has to do with the distinction of *mizen* and *izen* conditionals. When the subordinate expresses a non-stative event and copula/negation/conclusive form in their main clause, the conditional has distinguishing features from *mizen* conditional. On the other hand, stativity in the subordinate clause and imperative/volitive mood shows distinguishing features from *izen* conditionals.

4. Conclusion

This paper has examined distinguishing features between *mizen* and *izen* conditionals (and vice versa) and showed that the stativity of the event in the subordinate clause and the types of mood in the main clause is of significant importance for that purpose. There has been little reference to the stativity of the subordinate event considering the difference of the two conditionals, but this study has succeeded in uncovering the dimension.

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