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FOREWORD

The first, summer issue of the seventh volume of the ALA journal comprises six academic articles, of which the first three share pragmatic concepts in discourse analysis in Japanese and Bangla, while the latter three deploy different language varieties of Japanese and Chinese to provide overviews of their linguistic characteristics.

Shinichi SHOJI is the author of the first article "Understanding Reference: Morphological Marking in Japanese", which investigated the anaphor-antecedent relationship in Japanese, particularly in cases with repeated-name anaphors. He has come to the conclusion that the topic postposition *wa* after an anaphora determines the anaphors' topic-hood and as such plays an important role in facilitates the realization of antecedents.

Another conversational discourse was used by **Soumya Sankar GHOSH**, **Samir KARMAKAR** and **Arka BANERJEE** to explore the occurance and role of indeclinable *ar* in Bangla. Authors point out that multiple interpretations of *ar*, which in addition have a large semantic and pragmatic scope, can be systematized by the use of phonological context.

Hironori NISHI in his article was interested in the use of the Japanese past form *n deshita/n datta* in a discourse. His results, based on the analyses of a large corpus, show that approximately two-thirds of the *n deshita/n datta* cases are not grammatically constrained, and that those cases exhibit either the speaker's recollection of previously held knowledge, or confirmation-seeking utterances for their previously held knowledge.

Andrei A. AVRAM explored phonological, morphological, syntactic and lexical aspects of Yokohama Pidgin Japanese and Japanese Pidgin English to find out that the bi-directional approach detected several common features typical of pre-pidgins though the two languages differ considerably in the circumstances of their emergence and the context of use.

Yet another language variety, namely the legal Chinese sociolect, was analyzed quantitatively by **Ľuboš GAJDOŠ**. Referring to the Chinese monolingual corpus *Hanku*, the author touched several statistical parameters, including the length of sentences and the proportion of parts of speech, and additionally discussed the issues on statistical data processing.

Last but not least, **Tereza SLAMĚNÍKOVÁ** turned to Czech speakers of Chinese to search on and discuss the L1 influences on the L2 perception at the early stages of the learning process. The author focused on segmental and suprasegmental features, and found out that while some perceptional mistakes are language-independent, others are language-specific, and stressed the importance of the latter.

Editors and Editorial Board thank all the contributors to this volume, and wish the regular and new readers of the ALA journal a pleasant read full of inspiration.

Nina Golob

RESEARCH ARTICLES

UNDERSTANDING REFERENCE: MORPHOLOGICAL MARKING IN JAPANESE

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Abstract

This study investigates reference resolution with repeated-name anaphors in Japanese, particularly focusing on (i) subject anaphor with the nominative postposition *ga,* (ii) topic-subject anaphor with the topic postposition *wa*, (iii) scrambled object anaphor with the accusative postposition *o*, and (iv) topic-object anaphor with the topic postposition *wa*. A self-paced sentence-by-sentence reading experiment was conducted using two-sentence discourse items followed by comprehension questions, aiming to examine which type of anaphor would trigger a faster realization of the anaphor-antecedent relationship. The discourse items included antecedents in the first sentence and anaphors in the second sentences, and the comprehension questions asked about the antecedents in the first sentences. Results showed that the comprehension questions for the discourses that included topic anaphors (topic-subject-*wa* and topic-object-*wa*) were responded to faster than those for the discourses that included non-topic anaphors (subject-*ga* and scrambled object-*o*). The results indicate that anaphors' topic-hood given by *wa* facilitates the realization of antecedents.

Keywords: reference; subject; object; topic; scrambling

Povzetek

V študiji o referenčni ločljivosti naveznikov (anafor) s ponavljajočimi se imeni v japonščini se avtor posveča naslednjim štirim točkam: (i) osebkovemu navezniku z imenovalniškim členkom *ga*, (ii) tematskemu osebkovemu navezniku s tematskim členkom *wa*, (iii) mešanemu predmetnemu navezniku v premeni in s tožilniškim členkom *o* ter (iv) tematskemu predmetnemu navezniku s tematskim členkom *wa*. V bralnem eksperimentu, v katerem je bralec samonadzoroval hitrost branja posameznih stavkov, je bil uporabljen dvostavčni diskurz. Temu je sledilo vprašanje, preko katerega je avtor ugotavljal, kateri tip naveznika sproža najhitrejšo navezavo med naveznikom in nanašalnico. Nanašalnice so bile vedno vključene v prvi in navezniki v drugi stavek, vprašanja so iskala informacije iz prvega stavka, tj. o nanašalnicah. Rezultati so pokazali, da je bila odzivnost na vprašanja hitrejša v primerih tematskih naveznikov (tematskemu osebkovemu navezniku s tematskim členkom *wa* in tematskemu predmetnemu navezniku s tematskim členkom *wa*) kot netematskih (osebkovemu navezniku z imenovalniškim členkom *ga* in mešanemu predmetnemu navezniku v premeni in s tožilniškim členkom *o*), zaradi česar lahko sklepamo, da tematičnost, ki jo definira tematski členek *wa*, omogoča realizacijo nanašalnice.

Ključne besede: referenca; osebek; predmet; tema; skladenjske premene

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1 Introduction

Reference resolution has been widely discussed in the field of psycholinguistics, concerning the forms of anaphors. It is well known that anaphors in pronoun forms are preferred to those in repeated-name forms when antecedents are prominent, namely, when they are grammatical subjects or first mentioned entities in a sentence (Ariel, 1990; Gundel, Hedberg, & Zacharski, 1993; Gordon, Grosz & Gillian, 1993; among others). According to Gordon and Hendrick (1998, p. 390, 393, 416), in English, pronouns are immediately interpreted as anaphors, which leads readers to looking for their referents, whereas repeated-name anaphors tend not to be initially interpreted as anaphors. Readers of a repeated-name anaphor first establish a general concept of the entity indicated by the repeated name, and later realize the referential relationship between the entity and its referent, resulting in a slower identification of the referents. This relatively slower realization of antecedents is reflected in slower processing times for sentences with repeated-name anaphors compared with sentences with pronoun anaphors where the anaphors are both grammatical subjects (Gordon, Grosz & Gilliom, 1993, among others), e.g., '*Harry* is a member of a track team. *Harry/He* recruited Fred for the team because he is the fastest runner in the school.'.

In Japanese, repeated-name anaphors can appear in several variations. One is grammatical subject anaphors marked with the nominative postposition *ga* (e.g., *HARRY-GA Fred-o sasotta* 'Harry recruited Fred'), which would be the most equivalent to the repeated-name anaphors in other languages that elicited slower processing in early studies. However, instead of *ga*, grammatical subjects can be marked with the topic postposition *wa* (e.g., *HARRY-WA Fred-o sasotta* 'Harry recruited Fred'), which explicitly shows that the grammatical subjects are discourse topics (i.e., topic-subject).[1] In addition, in scrambled sentences, non-subjects such as grammatical objects with the accusative postposition *o* can be positioned at the beginning of a sentence, similar to a subject's position (e.g., *HARRY-O Fred-ga sasotta* 'Fred recruited Harry). Moreover, the scrambled/fronted non-subject can be a topic (e.g., *HARRY-WA Fred-ga sasotta* 'Fred recruited Harry'). The present study investigated the processing of these different types of sentence-initial repeated-name anaphors in Japanese, aiming to examine whether any particular types of repeated-name anaphors would trigger a faster realization of their referents. For non-subjects, this study used grammatical objects, and thus the following four variations of repeated-name anaphors were tested: (non-topic) subject-*ga*, topic-subject-*wa*, (non-topic) scrambled object-*o*, and topic-object-*wa*.

[1] The term *topic-subject* is sometimes called *topicalized subject* in linguistic articles. However, in the author's view, topics are base-generated, and they are not moved from the grammatical subject position. Thus, the term *topicalized* is not used in this article.

2 Topic and Scrambling

It is widely acknowledged that a topic refers to information that has been presented earlier (Chafe, 1987; Kuno, 1973, p. 38, among others). Prince (1978) states that a speaker marks an entity as a topic when the listener already recognizes the entity. In response, the entity marked as the topic leads the listener to search for its antecedent in the preceding context, the ongoing situation, or the listener's long-term memory (Haviland & Clark, 1974, p. 512, 513). This process seems similar to that for English pronouns, where Gordon and Hendrick (1998, p. 390, 393, 416) argue that pronouns are immediately interpreted as anaphors and readers look for antecedents. In short, a topic is essentially anaphoric, as Halliday (1967, p. 199) argues: a topic is concerned with the relation of what is currently being said to what was said earlier in the discourse. According to the above arguments, in Japanese, topic anaphors with the topic postposition *wa* should be more quickly interpreted as anaphors and to trigger antecedent-realization compared with non-topic anaphors (with *ga*, *o*, etc.), which would be reflected in different processing times, even if the anaphors are all repeated-name anaphors. This prediction is summarized below.

(1) topic-subject-*wa*, topic-object-*wa* < (faster to process than) subject-*ga*, scrambled object-*o*

However, a possible problem of processing a sentence with topic-*wa* is that the topic postposition *wa* by itself does not tell its grammatical role, such as topic-subject or topic-object. In fact, topic-*wa* anaphors in Japanese are much more frequently topic-subjects than other types of topics (Martin, 1975; Nishimura, 1989, p. 374). Due to this frequency difference, any type of topic-*wa* might be initially interpreted as a topic-subject. This possibility is further supported by the fact that any topic-*wa* tends to be positioned at the beginning of a sentence, which is similar to the grammatical subject position. Therefore, readers of a topic-object (or any non-subject topics) would have to reanalyze it after they initially misinterpret it as a topic-subject. Accordingly, sentences with topic-objects could be processed more slowly than sentences with topic-subjects, as summarized below.

(2) topic-subject-*wa* < topic-object-*wa*

Note that this above prediction is not related to the realization of the anaphor-antecedent relationship. Rather, this is an issue of realizing the grammatical role of a topic within a sentence, i.e. topic-subjects and topic-objects do not have to be anaphors to elicit this processing-time difference.

Another sentence-level issue is word order. In Japanese, the default word order of the argument nouns and a verb is 'subject – object – verb (SOV)'. Therefore, a scrambled word order such as OSV could assign readers a heavier processing load than the default SOV order. Sentences with subjects and topic-subjects are in the SOV order,

which may be faster to process than sentences in the OSV order, including scrambled sentences with surface-initial objects and sentences with surface-initial topic-objects. This prediction is summarized below.

(3) topic-subject-*wa*, subject-*ga* < scrambled object-*o*, topic-object-*wa*

Moreover, when an object in an OSV sentence is a topic-object, its sentence might be slower to process than a sentence with a scrambled non-topic object. As mentioned earlier, a topic-object may require readers to reanalyze it during processing the sentence because a topic-object might be initially misinterpreted as a topic-subject. This is different from scrambled objects appended with the accusative postposition *o*, which explicitly shows that they are grammatical objects. Thus, sentences with scrambled objects with *o* might be processed faster than topic-objects with *wa*, as summarized below.

(4) scrambled object -*o* < topic-object -*wa*

In sum, four predictions are presented above. The prediction (1) is related to the realization of the referential relationship between anaphors and their antecedents, which is the main objective of this study. The other predictions, (2), (3) and (4), relate to the processing of sentences with subjects, topic-subjects, scrambled objects and topic-objects, irrelevantly to being anaphoric. A self-paced sentence-by-sentence reading experiment was conducted in order to test the prediction (1), but the effects shown in (2), (3) and (4) were also predicted to appear in the results.

3 Experiment

3.1 Participants

24 Japanese speakers, which consisted of students of the University of South Carolina and residents in South Carolina, North Carolina and Georgia, served as participants in this experiment. They were all native speakers of Japanese, raised in Japan until they were at least 15 years old. The participants consisted of 8 males and 16 females, and their ages ranged from 18 to 52.

3.2 Items

The basic design of the experiment followed that of Gordon, Grosz and Gilliom (1993). A self-paced sentence-by-sentence reading experiment was conducted, in which participants read two-sentence discourse items.[2] The first sentence included an

[2] Gordon et al. (1993) used four-sentence discourse items.

antecedent, which was always prominent as it was a grammatical subject and was first-mentioned in the sentence. The second sentence included a repeated-name anaphor, which was one of the following four types: (i) (non-topic) subject-*ga*, (ii) topic-subject-*wa*, (iii) (non-topic) scrambled object-*o*, or (iv) topic-object-*wa*. Eight items for each of the four types were prepared, and thus there were 32 experimental items in total. The anaphors and antecedents were always persons' names, and no other proper names were used in the items. The processing times of the second sentences that included anaphors were measured as an indication of how fast participants realized the anaphor-antecedent referential relationship, which tested the prediction (1), or an indication of how fast they processed the sentences independently from the preceding sentences, which tested the predictions (2), (3) and (4).

A yes-no comprehension question followed each discourse item. In order to test the prediction (1), it was of importance that the comprehension questions asked about the antecedents found in the first sentences. According to Gernsbacher (1989, p. 107), questions about the clauses that include antecedents that appear before anaphors ensure that readers understand anaphor-antecedent relationship. The author of this study considers that response times for this type of comprehension question would indicate how fast participants successfully realized the referential relationship between anaphors and antecedents. For example, when participants read a discourse such as *Taro-ga toshokan-ni itta. Taro-wa yoru osoku made benkyooshita.* 'Taro went to the library. Taro studied until late at night.', if they successfully interpret 'Taro' in the second sentence as an anaphor and realize its antecedent (interpreting the discourse like, 'Taro, who went to the library, studied there until late at night'), then they would have little trouble in answering a comprehension question about the antecedent, e.g., 'Did Taro go to a library?' (the answer is Yes). On the other hand, if the participants do not recognize 'Taro' in the second sentence as an anaphor, they have interpreted the second 'Taro' independently from the 'Taro' in the first sentence, building no referential relationship between the two Taros. As a result, they would experience a temporary difficulty in answering the comprehension question that asks about the prior 'Taro'.

This method regarding comprehension questions is a modification of the probe-recognition task such as the one in Nakayama's (1990) study. He conducted an experiment with the items like the below (p. 15):

(i) 町を歩いていたおばさんが警察に彼女が泥棒を見たと電話した。
Machi-o aruiteita obasan-ga$_i$ keisatsu-ni kanojo-ga$_i$ doroboo-o mita to denwashita.

'A woman who was walking on the street telephoned the police that she saw the thief.'

(ii) 図書館で勉強している学生が友達に宿題をしておいたと伝えた。
Toshokan-de benkyooshiteiru gakusei-ga tomodachi-ni Øi shukudai-o shiteoita to tsutaeta.

'The student who was studying at the library informed his friend that [null] did homework.'

Antecedents (*obasan* 'woman' and *gakusei* 'student') of anaphors (*kanojo* 'she' and null pronoun) were shown as probe words after participants read the sentences, and the participants were asked whether the probe words appeared in the sentence that they just read. The response times to the probe words were the indication of how fast they realized the anaphor-antecedent referential relationships. Nakayama found that the response times for (i) was slower than those for (ii), indicating that the referential relationships were realized faster with null pronouns than with overt pronouns. The present study could not replicate Nakayama's probe-recognition task: antecedents could not be used as probe words because the antecedents were repeated in the second sentences. Thus, instead of using antecedents as probe words, this study prepared comprehension questions that asked about antecedents.[3]

All items were presented in Japanese texts. The 32 experimental items (8 items for four conditions) were given mixed among 68 distractors, and thus there were 100 items in total. Example experimental items for each condition are shown below. (Anaphors in each condition are italicized.)

(i) Subject anaphor

Two-sentence discourse:

(5) 太郎が図書館に行った。*太郎が*夜遅くまで勉強した。
Taro-ga toshokan-ni itta. *Taro-ga* yoru osoku-made benkyoshita.
Taro-NOM library-DIR went Taro-NOM until late at night studied
'Taro went to a library. Taro studied until late at night.'

Comprehension question:

(5Q) 太郎は図書館に行きましたか。
Taro-wa toshokan-ni ikimashita ka.
'Did Taro go to a library?'

[3] Gernsbacker (1989) used the antecedents of repeated-name anaphors as probes in her study, which resulted in comparatively faster response times for the repeated-name anaphors. Gernsbacker also suggested that repeated names facilitated faster antecedent-realization compared with pronouns. However, as Gordon et al. (1993, p. 323) highlight, the response times unlikely reflect how fast readers realized the anaphor-antecedent relationship; they may have simply retrieved the anaphors unrelated to the antecedents.

(ii) Topic-subject anaphor

Two-sentence discourse:

(6) 次郎がレストランで食事をした。*次郎は*パスタを食べた。
Jiro-ga resutoran-de shokuji-o shita. *Jiro-wa* pasuta-o tabeta.
Jiro-NOM restaurant-LOC meal-ACC did Jiro-TOP pasta-ACC ate
'Jiro ate a meal at a restaurant. Jiro ate pasta.'

Comprehension question:

(6Q) 次郎はレストランで食べましたか。
Jiro-wa resutoran-de tabemashita ka.
'Did Jiro eat at a restaurant?'

(iii) Scrambled object anaphor

Two-sentence discourse:

(7) 三郎が公園で遊んでいた。*三郎を*お母さんが迎えに来た。
Saburo-ga kooen-de asonde-ita. *Saburo-o* okaasan-ga mukaenikita.
Saburo-NOM park-LOC was playing Saburo-ACC mother-NOM came to pick up
'Saburo was playing at a park. Mother came to pick up Saburo.'

Comprehension question:

(7Q) 三郎は公園で遊びましたか。
Saburo-wa kooen-de asobimashita ka.
'Did Saburo play at a park?'

(iv) Topic-object anaphor

Two-sentence discourse:

(8) 四郎がパーティに出席した。*四郎は*いとこが招待した。
Shiro-ga paatii-ni shusseki-shita. *Shiro-wa* itoko-ga shootaishita.
Shiro-NOM party-DIR attended Shiro-TOP cousin-NOM invited
'Shiro studied at the library. His cousin invited Shiro.'

Comprehension question:

(8Q) 四郎はパーティに出席しましたか。
Shiro-wa paatii-ni shusseki shimasita ka.
'Did Shiro attend a party?'

4 Procedure

The discourse items in the experiment were presented using E-Prime. Participants read two-sentence discourses sentence-by-sentence, in a self-paced reading fashion. The experiment was carried out with each participant viewing the sentences on a computer. During the experiment, the participants first received the welcome message and instructions on the computer screen and proceeded to the practice block by hitting the space bar. The practice block provided four practice questions to familiarize the participants with the sentence-by-sentence reading task. After the participants finished the practice questions, they received the end-of-practice message, and they were allowed to proceed to the actual experiment by hitting the space bar. In the practice block and actual experiment, the first sentence of each experimental discourse appeared after the fixation mark, "+". After participants read each discourse, a yes-no comprehension question was given, which could be answered by hitting "1 (yes)" or "2 (no)". After the comprehension question, the fixation "+" appeared, which was followed by the first sentence of the next discourse. The experimental and distractor discourses were given in random order. A session lasted approximately 20 minutes.

5 Data Analysis

The independent variables of the experiment were the anaphors: repeated-name subject-*ga*, repeated-name topic-subject-*wa*, repeated-name scrambled object-*o* and repeated-name topic-object-*wa*. The measured dependent variables were reading times of the second sentences with anaphors and response times to the comprehension questions asking about antecedents. Linear Mixed Effects analyses using SPSS compared these dependent variables between each condition. The data with the participants' wrong answers for the comprehension questions were removed from the analysis, affecting 4.95% of the data, as the wrong answers indicate that participants did not accurately comprehend the given discourses. When analyzing reading times, an additional 0.26% of the data with reading times greater than 15,000 milliseconds were removed as outliers. In addition, the reading times that were three standard deviations (SDs) away from each participant's mean were removed, affecting 2.73% of the data. In total, 7.94% of the data were removed. Likewise, when analyzing question-response times, 0.39% of the data with response times greater than 15,000 milliseconds were removed as outliers. Also, response times that were three SDs away from each participant's mean were removed, affecting 3.16% of the data. In total, 8.5% of the data were removed.

6 Results

The table and figures below show the mean reading times of the second sentences that included anaphors and response times for the comprehension questions asking about antecedents.[4]

Table 1: Reading Times for Anaphoric Sentences
and Response Times for Comprehension Questions

Anaphors	Reading times ms (SD)	Response times ms (SD)
Subject-*ga*	2358.81 (1281.56)	1947.83 (903.87)
Topic-subject-*wa*	2306.44 (1292.57)	1757.32 (772.44)
Scrambled object-*o*	2843.71 (1474.71)	2027.02 (954.06)
Topic-object-*wa*	3055.87 (1549.55)	1789.57 (811.28)

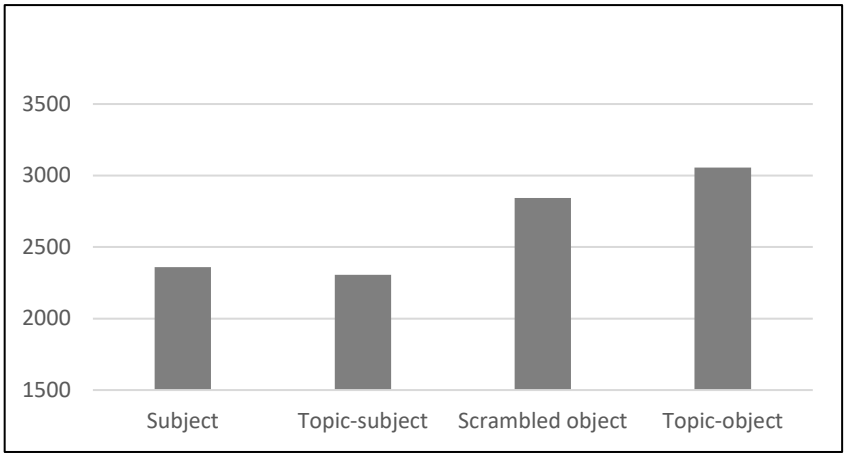

Figure 1: Reading times for anaphoric sentences (second sentences)

[4] It was also observed that the accuracy rates for the comprehension questions did not significantly differ between conditions: the accuracy rates were 94% in subject condition, 95% for topic-subject condition, 94% for scrambled object condition, and 97% for topic-object condition.

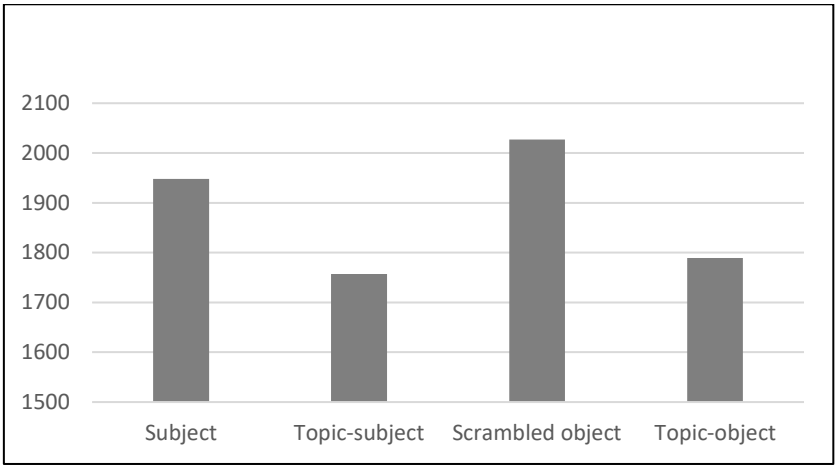

Figure 2: Response times for comprehension questions

The results of the reading times of the second sentences (that included anaphors) showed that sentences with subject-*ga* anaphors and those with topic-subject-*wa* anaphors did not significantly differ [β = 52.376, *SE* = 135.878, *t* = .385, *p* = .700]. Also, the reading times for scrambled object-*o* anaphors and topic-object-*wa* anaphors did not significantly differ [β = 212.167, *SE* = 161.662, *t* = 1.312, *p* = .190]. However, sentences with scrambled object-*o* anaphors were processed significantly slower than those with subject-*ga* anaphors [β = -484.894, *SE* = 147.085, *t* = -3.297, *p* = .001] and than those with topic-subject-*wa* anaphors [β = -537.270, *SE* = 146.468, *t* = -3.688, *p* < .001]. Likewise, sentences with topic-object-*wa* anaphors were processed significantly slower than those with subject-*ga* anaphors [β = -697.060, *SE* = 152.105, *t* = -4.583, *p* < .001] and than those with topic-subject-*wa* anaphors [β = -749.436, *SE* = 151.402, *t* = -4.950, *p* < .001]. In short, the reading-time results indicate that SOV sentences with subject-type anaphors (i.e., subject-*ga* and topic-subject-*wa*) were processed faster than OSV sentences with object-type anaphors (i.e., scrambled object-*o* and topic-object-*wa*).

The results of the response times to the comprehension questions (that asked about antecedents) showed different outcomes. Comprehension questions for the items with topic-subject-*wa* anaphors were responded to significantly faster than those for the items with subject-*ga* anaphors [β = 190.508, *SE* = 90.030, *t* = 2.116, *p* = .035] and than those for the items with scrambled object-*o* anaphors [β = -269.701, *SE* = 92.583, *t* = -2.931, *p* = .004]. Similarly, question-response times for the items with topic-object-*wa* anaphors were significantly or marginally significantly faster than for those with subject-*ga* anaphors [β = 158.251, *SE* = 91.176, *t* = 1.736, *p* = .083] and for those with scrambled object-*o* anaphors [β = -237.443, *SE* = 93.575, *t* = -2.537, *p* = .012]. There was no significant difference between the response times for the items with topic-subject-*wa* anaphors and topic-object-*wa* anaphors [β = -32.257, *SE* = 83.540, *t* = -.386, *p* = .700]. Also, there was no significant difference between the response times for the

items with subject-*ga* anaphors and scrambled object-*o* anaphors [β = -79.193, *SE* = 100.091, *t* = -.791, *p* = .429]. In short, question-response times were faster for the discourse items with topic-type anaphors (i.e., topic-subject-*wa* and topic-object-*wa*) than for items with non-topic-type anaphors (i.e., subject-*ga* and scrambled object-*o*).

7 Discussion

The results of the reading times of the second sentences with anaphors can be attributable to word order, as indicated by the prediction (3). The sentences with subject anaphors and topic-subject anaphors are in the default SOV order, and those with scrambled object anaphors and topic-object anaphors are in the OSV order. The results showed that SOV sentences were faster to process than OSV sentences. Also, the reading-time results for topic-subject anaphors and topic-object anaphors can be attributable to the prediction (2). Readers might have misinterpreted topic-objects as topic-subjects, and later they had to reanalyze the interpretation. Thus, sentences with topic-objects were processed more slowly than those with topic-subjects.

The prediction (4), scrambled objects should be processed faster than topic-objects, did not appear in this experiment. Scrambled objects with the accusative postposition *o* should have been immediately realized as objects while topic-objects with *wa* should have been initially misinterpreted as topic-subjects. Nevertheless, they were read at indifferent speeds. This result can mean that the reanalysis of topic-objects does not require processing cost enough to significantly slow down its overall processing. If this possibility is true, there should be no reading-time difference between topic-subjects and topic-objects as well, and thus the prediction (2) should not account for the overall results for reading times. Thus, the prediction (3), SOV vs. OSV, solely accounts for the reading time results.

The prediction (1) that suggests the advantage of topic anaphors for realizing anaphor-antecedent relationship did not appear in the reading-time results. This outcome implies that the reading-time differences only reflect the word-order effects, which may have overridden the possible effect predicted by (1). On the other hand, the prediction (1) was supported by the results of response times to comprehension questions. The question-response times for the items with topic-type anaphors (i.e., topic-subject and topic-object) were faster than for non-topic-type anaphors (i.e., subject and scrambled object) at significant or marginally significant levels. The results indicate that, when participants read the second sentences with topic-type anaphors, the topic postposition *wa* signaled to them that the topic entities overlapped the antecedent entities, resulting in immediate realization of their referential relationship. In other words, the participants possibly interpreted the given two sentences as one continuous discourse that described one person whose name appeared in the

discourse. Thus, they quickly responded when they were asked about the antecedents, the person, in the first sentences.

In contrast, the slower question-response times for the items with non-topic-type anaphors may indicate that the readers processed the second sentences with the anaphors independently and discontinuously from the first sentences with antecedents. Readers seemed to have shifted their attention away from the first sentence when they processed the second sentence. In other words, processing non-topic-type anaphors initially did not trigger realization of the referential relationship between the anaphors and antecedents.[5] The participants were likely reminded of the antecedents only when comprehension questions asked about them, resulting in slower responses.

8 Limitations

A possible limitation of this study is that the experimental items were all different, not given in the Latin-Square style. Should the same discourse items be used with only different anaphors, the results would have been more plausible. Another limitation could be found in the familiarity of the persons' names that were used as anaphors and as antecedents in experimental items. Common names could be processed faster than relative rare names. There could have been a familiarity-check survey with native Japanese speakers, and only common names should have been used. Future research for the same objective as the one for the present study can be conducted with the modifications regarding the above problematic factors in experimental design.

9 Conclusion

This study investigated referential resolution in Japanese using four different types of repeated-name anaphors. The results showed that word order affects sentence-processing and that, more importantly, topic-hood of anaphors (indicated by the topic postposition *wa*) contributes to building referential relationships between anaphors and antecedents. The fact that topic anaphors and non-topic anaphors elicited different outcomes provide an implication for future studies that examine referential expressions. That is, while most existing studies focus on anaphors' forms such as pronouns vs. repeated names, morphological markings such as *wa* or *ga* in Japanese should be also considered, which will contribute to cross-language understandings of

[5] One of the participants gave a comment to the author after the experiment: 'I experienced a wired feeling that the images that I created from the sentences did not quickly connected'. This comment might express that the images from non-topic anaphors without *wa* were not quickly connected to the images from antecedents.

referential resolution. The present study is one such study that examines the effects of morphological markings. Similar research in other morpheme-marking languages could be conducted to verify the replicability of this study. Such follow up studies may find it universal that morphological topic-marking functions to helps readers realize referential relationships between anaphors and antecedents.

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FUNCTIONAL SIGNIFICANCE OF CONTEXTUAL DISTRIBUTION: DISCOURSE PARTICLE *AR* IN BANGLA

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Abstract

This paper deals with Bangla indeclinable *ar* to explore its role in conversational discourse. In doing so, the paper provides a detail study about *ar* in the Bangla language. This, in turn, helps to conceptualize how the occurrences of *ar* motivate a conversation in a pragmatic domain, in particular. More specifically, multiple interpretations of *ar* pose a particular challenge to semantics and pragmatics, which can be taken care of through the incorporation of phonological context. Phonological context contains information about speaker's intention and speaker's approach to their utterance. The paper discusses several criteria, namely the traditional and polysemous nature, intonational pattern, evidentiality etc., which are crucial in determining its role in structuring a conversation.

Keywords: particle *ar*; intonation; evidentiality

Povzetek

Članek se osredotoča na nesklonljivi *ar* v bengalščini in proučuje njegovo vlogo v govorjenem diskurzu ter s tem ponudi podrobno analizo o njegovi uporabi. Takšen pristop posledično omogoča tudi zaključke v obratni smeri in sicer o tem, kako pojavnost izraza *ar* na pragmatični ravni spodbuja pogovor. Številnost njegovih interpretacij predstavlja izziv tako v semantiki kot v pragmatiki, kar pa je moč poenostaviti z upoštevanjem fonološkega konteksta. Slednji namreč vsebuje informacije o govorčevih namerah in govorčevemu odnosu do izrečenega. Avtor tako razpravlja o fonoloških kriterijih kot so tradicionalna in večpomenska narava izreke, intonacijski vzorci, dokazljivost idr., ki so odločilni pri ugotavljanju njegove vloge v pogovoru.

Ključne besede: členek *ar*; intonacija; dokazljivost

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1 Introduction

This paper seeks to investigate the role of Bangla indeclinable *ar* in a discourse emphasizing particularly on its usage pattern at the utterance level. A brief survey of its usage in Bangla discourse reveals that *ar* functions in two different ways, i.e. (i) it can either occur as a conjunctive indeclinable, or (ii) as a non-conjunctive indeclinable. This non-conjunctive indeclinable, in the level of utterance, contains multiple senses depending on its contextual behavior. Therefore, the objective of this research paper is to disambiguate the various senses of *ar* with a special reference to the contexts of its use. For further elaboration, please consider the following examples:

(1) রাম আর রহিম আসবে
ram ar rohim aʃ-b-e
Ram-NOM INDL Rahim-NOM come-FUT-3
'Ram and Rahim will come.'

(2) রাম আর আসবে না
ram ar aʃ-b-e na
Ram-NOM INDL come-FUT-3 NEG
'Ram will never come.'

(3) আর বছরে রাম এসেছিল
ar bɔʧʰor-e ram eʃ-eʧʰ-il-o
INDL year-Loc_{temp} Ram-NOM come-PRF-PST-3
'Ram came in the previous year.'

It is evident from these examples that the indeclinable *ar* has different roles in all its occurrences. As in (1) it occurs as a conjunctive particle having the sense of 'and', additionally its scope is restricted within the NP *(e.g. ram ar rohim)*. As a conjunctive particle it is connected with two NPs (*ram* and *rohim*). Contrarily, in (3) *ar* is modifying the following NP (*bɔʧʰor-e*) and carries the sense of 'previous': being modified with *ar* the complex NP (e.g. *ar bɔʧʰor-e*) appears VP internally and finally moves to the sentence initial position. In (2) *ar* means 'never', and it appears within the scope of VP (e.g. *ram ar aʃbe na*).

To understand the way *ar* brings different colors of interpretation simply by overriding the truth conditional content of the utterance within which it is embedded, this paper will concentrate primarily on the constructions like (2) and (3).

2 Research Question

While dealing with *ar*, this paper will engage itself in analyzing the role of *ar* in a communicative context. In particular, the pragmatic function and evidential nature of this particle in a conversational discourse will be explored. To attain these goals stated

above the discussion is distributed in following major sections: Section 3 will provide a short overview of Bangla language and thereafter Section 4 will contain a discussion on how *ar* is dealt with in traditional Bangla grammar. This is further augmented with a discussion on the polysemic nature of *ar*. Subsequently, in Section 5 an effort has been taken to integrate the traditional findings with the phonological ones to explore how communicative intention is crucial in determining the way meaning construing capacity of *ar* do vary from one context to another.

3 Bangla: An Overview

Bengali, also known by its endonym Bangla, is an Indo-European language mainly spoken in eastern South-Asia. It is the national language of Bangladesh and the official language of India, spoken mainly in West Bengal and parts of Assam, Bihar, Jharkhand, Mizoram Tripura North Western Burma and Andaman and Nicobar Islands. With over 250 million speakers it is the seventh most spoken native language in the world.

Following Gordon (2005), Khan (2008) points out that Grierson's (1928) survey of Bangla dialects is still used as the basic classification of the language's variants. Grierson divides the Bangla language in two branches, i.e. Eastern and Western. It is important to mention here that this division does not follow any national or geographic boundary. The paper summarize the said branches in the following manner.

I. Western Branch

a. Central Bangla

i. In Indian West Bengal: Nadia (Standard Bengali), Kolkata, Haora, Tamluk, Medinipur, Murshidabad, Barddhaman
ii. In Bangladesh: Kushtia

b. Northern Bangla

i. In Indian West Bengal: East Malda, Koch Bihar
ii. In Bangladesh: Rajshahi, Dinajpur, Bogra, Pabna

c. Western Bangla

i. In Indian West Bengal: Kharia Thar, Mal Paharia, Manbhum
ii. In Indian Bihar: Saraki

d. Southwestern Bangla

II. Eastern Branch

a. Eastern Bangla

i. In Bangladesh: Dhaka, southeastern Faridpur, Mymensingh, Comilla, Bakerganj, Sylhet, Hajong, Sandwip Island

ii. In Indian Assam: Cachar

b. East-Central Bangla

i. In Bangladesh: Jessore, Khulna, Faridpur

c. Southeastern Bangla

i. In Bangladesh: Noakhali, Chittagong, Chakma, Tangchangya
ii. In Myanmar: Sittwe

d. Rajbanshi

i. In Bangladesh: Rangpur
ii. In Indian West Bengal: Siripuria, Jalpaiguri, Bahe
iii. In Indian Assam: Goalpara

Depending on this division Khan (2008) further points out that the dialects not only differs in syntactic level but a major difference is also observable in phonological and morphological level. The distinction between oral and nasal vowel, /s/ and /ʃ/, /ɹ/ and /ɽ/, vowel rounding harmony, voicing harmony are some of the noteworthy differences (Chatterjee, 1939; Grierson, 1928). Thus, even though the speakers of all dialects are familiar with the standard form (as for India it is the 'Kolkata Standard Bengali' and for Bangladesh it is the 'Bangladeshi Standard Bengali') regional dialect's influence on this standardize form is significant. Having said this in the next section the paper will focus on the behavior of *ar* in detail. In doing this, the paper will concentrate on the 'Kolkata Standard Bengali' in terms of data and for the analysis part.

4 Indeclinable *ar* in Bangla

Traditionally, *ar* is classified as an indeclinable mainly because of being insensitive to the declension. Its significance lies with its capacity to change the overall sense of an utterance. Compare (4) with (5): the example (4) says nothing specific about the span of time for which the articulation holds true. In other words, it works in an indefinite manner leaving the scope of Ram's coming back in some future time. Whereas (5) holds true for a longer period of time: in fact depending of the context sometimes it may indicate that 'Ram will never come'. More formally, the latter one indicates that the coming of Ram will never hold true for all future time.

(4) রাম আসবে না
ram aʃ-b-e na
Ram-NOM come-FUT-3 NEG
'Ram will not come.'

(5) রাম আর আসবে না
ram ar aʃ-b-e na
Ram-NOM INDL come-FUT-3 NEG
'Ram will not come again.'

Both of these two utterances form a minimal pair in virtue of (not-) having *ar* in the utterance body. From their respected literal translation it is also clear that whatever difference they do posses in their meaning is due to the (non-)appearance of *ar*: in fact appearance of *ar* remains extremely crucial in implicating a particular type of inference under the precedence of a pretext as is illustrated below:

(6) (রামের যা মনের অবস্থা) রাম আর আসবে না
(ram-er ʤa mon -er ɔbostʰa) ram ar aʃ-b-e na
ram-GEN PRT mind-GEN situation Ram-NOM INDL come-FUT-3 NEG
'(The state of mind in which Ram is now,) Ram will not come again.'

(7) রাম আর কখনোই আসবে না
ram ar kɔkʰonoi aʃ-b-e na
Ram-NOM INDL ever come-FUT-3 NEG
'Ram will not ever come again.'

Being a implicature of (6), (7) satisfies the feature of conversational implicature namely defeasibility, non-detachability, calculability, non-conventionality. With the substitution of an utterance containing no *ar* in (6), a different implication is licensed.

(8) (রামের যা মনের অবস্থা) রাম আসবে না
(ram-er ʤa mon-er ɔbostʰa) ram aʃ-b-e na
ram-GEN PRT mind-GEN situation Ram-NOM come-FUT-3 NEG
→ '(The state of mind in which Ram is now,) Ram will not come again.'

Therefore, (4) and (5) as the members of a minimal pair reflect contrastive distribution resulting into a kind of paradigmatic arrangement.

4.1 Nature of *ar*

As it has been stated earlier, this paper mainly focuses on the non-conjunctive *ar*, and this section in particular will concentrate on how *ar* In Bangla behaves as a discourse particle. Unlike the other particles such as *to, na*, particle *ar* does not bring any kind of a semantic change by its presence in the initial, medial, or the final situation of an utterance. As shown below:

(9) রাম আর আসবে না
ram ar aʃ-b-e na
Ram-NOM PRT come-FUT-3 NEG
'Ram will not come again.'

(10) রাম আসবে না আর
ram aʃ-b-e na ar
Ram-NOM come-FUT-3 NEG PRT
'Ram will not come again.'

(11) আর রাম আসবে না
ar ram aʃ-b-e na
PRT Ram-NOM come-FUT- NEG
'Ram will not come again.'

However this is not the case with other Bangla particles *to* and *na*. Consider the examples of (12)-(15).

(12) রাম তো আসবে
ram to aʃ-b-e
Ram-NOM PRT come-FUT-3
'Ram will come.'

(13) রাম না আসবে
ram na aʃ-b-e
Ram-NOM PRT come-FUT-3
'Ram will come.'

The appearance of *to* and *na* as modifiers of the preceding noun in the subject position of (12)-(13) plays a crucial role in emphasizing the respective assertions unambiguously. Therefore, phonological cues are not significant in interpreting these utterances. Contrariwise (14)-(15) need phonological cues to get interpreted unambiguously. In the absence of the phonological context, as is the case here, each of them can be interpreted either as an assertion or as a question.

(14) রাম আসবে তো
ram aʃ-b-e to
Ram-NOM come-FUT-3 PRT
'Ram will come./Will Ram come?'

(15) রাম আসবে না
ram aʃ-b-e na
Ram-NOM come-FUT-3 NEG
'Ram will not come./Will Ram not come?'

Chatterjee (1939) points out *ar* as one of the members of the fundamental indeclinable class[1] in Bangla. In sentential level it can co-occur with other particles. Consider the following:

(16) রাম তো আর আসবে না
ram to ar aʃ-b-e na
Ram-NOM PRT PRT come-FUT-3 NEG
'Ram will not come again.'

(17) রাম না আর আসবে না
ram na ar aʃ-b-e na
Ram-NOM PRT PRT come-FUT-3 NEG
'Ram will not come again.'

(18) রাম কি আর আসবে না?
ram ki ar aʃ-b-e na
Ram-NOM PRT PRT come-FUT-3 NEG
'Ram will not come again?'

In (16)-(18) *ar* is used in all examples to emphasize the predicate of the utterance but it is also interesting to observe the role of other particles in these utterances. In (16) the speaker's intention was to add a pragmatic force both to the subject and predicate, as the occurrence of *to* after the subject and occurrence of *ar* before the predicate emphasize subject and predicate respectively. By doing this speaker wants to imply that 'it is Ram who will not come again'. Similarly, in (17) the insertion of *na* induces politeness to the whole information and in (18) the question particle *ki* adds a notion of polarity to the utterance.

4.2 Polysemous Nature of *ar*

The discussion about the nature of *ar* instigates the paper to focus on another unique feature. In some situations, the meaning construing capacity of *ar*, both in the sentence and utterance level, largely depends on the words with which it co-occurs. As a consequence, in these case *ar* functions not as a particle but as a grammatical category with which it co-locates. Such as the following:

(19) আর একবার এস
ar æk-bar eʃ-o
ADJ one-time come-PRS-2
'Come once again.'

[1] Chatterjee (1939) identifies *na*, *ba*, *ki*, *ar*, *to*, as a fundamental indeclinable in Bangla. In the utterance level these indeclinable, having the nature of particle, works as a functional category. Therefore, we can form a class, containing these particles as members of it.

(20) রাম আর কিছু বলল না?
ram ar kiʧʰu bol-l-o na?
Ram-NOM ADJ some say-PST-3 NEG
'Ram didn't say anything else?'

(21) ইস্কুলে পৌঁছলাম আর বৃষ্টি আরম্ভ হল
iskul-e põuʧʰ(o)-l-am ar briʃʈi arombʰo ho-l-o
school-Loc_{TEMP} reach-PST-1 CONJ rain begin be-PST-3
'As soon as I reached the school rain started.'

(22) তুমি বল আর না বল আমি তো বলব
tumi bɔl- o ar na bɔl-o ami to bol-b-o
you-NOM speak-PRS-2 INDL NEG speak -PRS-2 I PRT speak -FUT-1
'You speak or not, I will speak.'

(23) আর কাউকে বোলো না
ar kau-ke bol-o na
ADJ someone-ACC say-PRS-2 NEG
'Don't say this to anyone else.'

It is not hard to show from these examples (19)-(23) that *ar* in discourse creates various types of meanings depending on its use. In the example (19) *ar* carries a sense of 'again' that makes the speaker to request the hearer to come one another time. In the next example, (20), *ar* indicates the sense of 'more' and the speaker by saying this utterance expressing his expectation in an emphasizing manner. *ar* in the example (21) adds information of time having 'as-soon-as' sense. Similarly example (22) and (23) also contains two different meanings of *ar* i.e. a sense of 'or' and a sense of 'another'. It is to be important to mention over here that unlike the other examples *ar* in (21) functions not as a particle rather as a conjunctive indeclinable.

These examples, which are mentioned above, establish our line of argument that the meaning construing force of *ar* is very much dependent on the neighboring words. That's why the resulted utterances are interpreted in the distinct ways. As in the case of (19) the incorporation of *ar* with the quantifier *ækbar* brings the sense of 'again' in the sentence. In (20) *ar* is generating the sense of 'more' as it appears after the pronoun *ki ʧʰu*. In rest of the examples, *ar* is forming the senses like 'as-soon-as', 'or', and 'another' by following the mentioned claim. This line of argument can further be cemented by three examples from the above- (3), (19) and (23). In all these cases *ar* occurs initially but creates three different interpretations depending on its different co-occurrences, with the sense of 'year', 'once' and 'person'.

A line of syntactic thought will specify that the occurrence of *ar* in utterance initial position will not project *ar* as a particle rather as different lexical categories regardless of its non-conjunctive nature. As in (19), (20) and (23) it functions like an adjective, in (21) as a conjunctive and in (22) as an indeclinable.

5 Discussion

What follows in, therefore, is an emerging necessity to explore the significance of *ar* in an utterance in inducing a particular illocutionary force. To address this newly evolved concern one need to consider the phonological make up of an utterance because the appearance of a particle in an utterance influence the meaning in two distinct ways: (a) It influence the meaning of the utterance in terms of those pragmatic behaviors which are pertinent from the viewpoint of the discrete segmental appearance of it. This is discussed in detail in Section 4, and, (b) beyond its discrete reality it also participates in the non-discrete supra-segmental make up of the utterance. Though the syntactic semantic and pragmatic behavior of the particle is discussed in existing literature on particles, very few of them in any true sense tries to explore the way communicative intention is captured through the characteristic interactions holding between the segmental and supra-segmental layers of linguistic representations. This is exactly the departure point from where the current investigation differs from the rest of the studies on particles.

In the level of prosodic hierarchy, an utterance is denoted as an Intonational Phrase (henceforth IP) which is comprised of Phonological Phrases (henceforth PP or P). A PP is further decomposed into the Prosodic Word (henceforth, Pwd), containing information about the supra-segmental aspects associated with the lexical words (lex)[2]. Furthermore function words[3] (henceforth Fnc) categorized as either Prosodic Word or as a Prosodic clitic[4] (henceforth Pcl) (Selkirk, 2003).

In the phonological phrase the pitch accents are tones - high (H) or low (L) - that gets linked to stressed syllables, which is formally represented as H* and L*. At the boundary level, both for the phonological phrase and intonational phrase, the phrase accent is identified as Phonological phrase boundary or T_P and Intonational phrase boundary or T_I (Hayes & Lahiri, 1991). Having said this, the intonational pattern of the sentence (4) can be represented in Figure 1:

[2] Selkerk (2003) talked about two structures in the level of utterance- i) S-structure, ii) P-structure. S-structure contains the lexical words (Lex) whereas the P-structure contains the sequence of Prosodic words (Pwd) in phonological representation.

[3] Function words (Fnc) are the members of a class in which membership is largely fixed, such as in the cases with determiners, prepositions, conjunctions and particles. Lexical words (Lex), on the other hand, constitute the open class expressions having the unlimited numbers as the new items are continually being added.

[4] Prosodic clitics (Pcl) are those morpho-syntactic words which are not itself a Pwd.

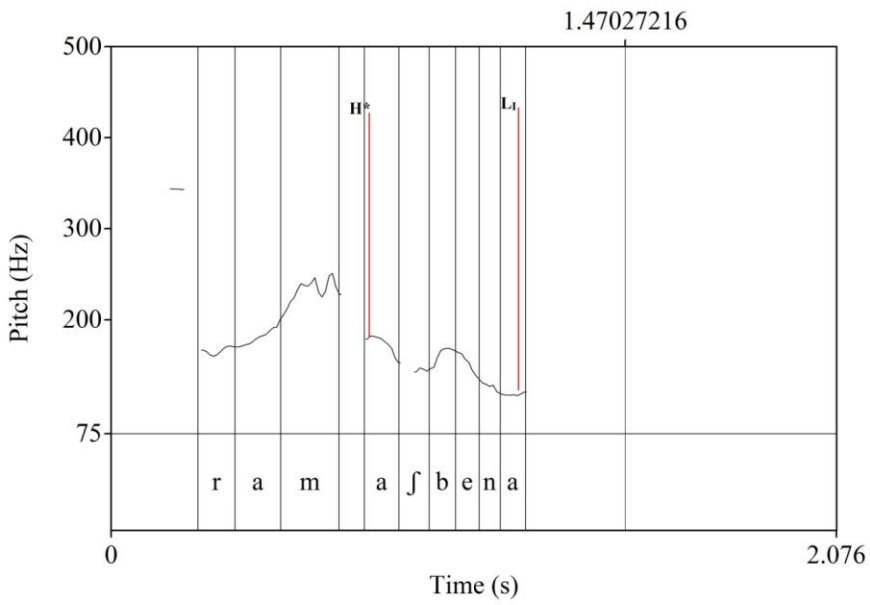

Figure 1: Pitch Pattern of Example (4)

Figure 1 shows that the initial syllable of a word often carries the stress marker as the syllable *aʃ* gets the stress and it also receives a high pitch accent (H*). Additionally, the graph falls down around the final syllable of the I- phrase boundary (L_I) just after the high pitch accent (H*). The corresponding metrical grid representation is given in Figure 2 to show the distribution of the stresses over the utterance:

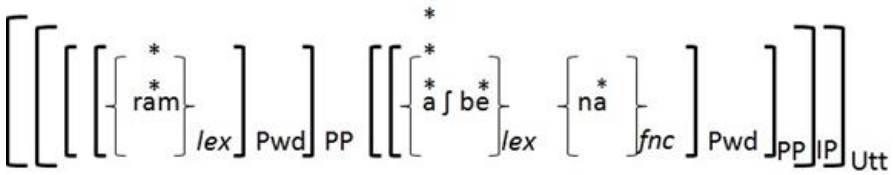

Figure 2: Metrical Grid of Example (4)

In Figure 2, *ram* and *aʃbe na* are the two P-phrase that constitutes IP/Utt. Note that in a neutral situation like this, the declarative sentence the right most P-phrase within the I-phrase receives the main prominence as the I-phrase stress rule assigns stress to the rightmost P-phrase of the I-phrase. In this metrical grid, *na* functions as a prosodic clitic, more precisely as an internal clitic[5] and because of this it further adds extra stress to the left most non-clitic word (Hayes & Lahiri, 1991).

[5] Internal clitic is another branch of prosodic clitic which is dominated by the same Pwd that on the other hand dominates its sister lexical word *lex*

The insertion of *ar* in the utterance does not alter the meaning of the sentence rather adds a higher degree of negativity to it. This higher degree of negativity can only be achieved through the performance of some inferential task as it is already discussed towards the beginning of Section 4. Nearly, similar situation can be grasped through (24) and (25) from different perspective.

(24) সুশীল আসবে?
suʃil aʃ-b-e
Susil-NOM come-FUT-3
'Will Susil come?'

(25) সুশীল আর আসবে?
suʃil ar aʃ-b-e
Susil-NOM PRT come-FUT-3
'Will Susil come again?'

A close look on these two examples will indicate that, in the examples (24) and (25), the speaker is giving the license to the hearer to draw the inference that the speaker is in doubt about Susil's coming. Additionally, a careful analysis of these two examples do vary from each other in terms of their respective implicational capacities: (24) implicates that the speaker is concerned about Susil's coming in a (future) span of time of which the lower bound is the utterance time associated with it. More explicitly, Susil's coming could be either true or false in the presupposed span of time; as a consequence (24) will not implicate the falsity of Susil's coming for all future time. Here in this case speaker's psychological state is severely restricted by a temporal constraint in virtue of not having a hidden sense of 'never'. Contrariwise in (25) Susil's coming is in doubt for all future time. In other words, speaker's psychological state presupposes the presence of 'never' in the underlying representation. In fact, speaker is asking the hearer to confirm whether Susil will ever come. Due to its characteristic implicational pattern, (25) can be further augmented with the following lexicalized context as its pretext:

(26) সে দিনের বাজে ব্যবহারের পর তোমার কী মনে হয়
ʃe din-er bad̪ze byabohar-er por tomar ki monehoy
that day-GEN bad behavior-GEN then you-NOM Q-PRT think

সুশীল আর আসবে?
suʃil ar aʃ-b-e?
Susil-NOM PRT come-FUT-3

'Do you think that Susil will come again after the behaviour you have shown to him on the day of the accident?'

In the domain of conversation the particle *ar* captures more emotional coloring through the intonational pattern. Consider the following:

(27) Speaker 1: দেখবে সবাই আসবে
dekh-b-e ʃɔbai aʃ-b-e
see-FUT-3 all come-FUT-3
'Don't worry, everyone will come.'

Speaker 2: (সবাই এলেও) রাম আর আসবে না
(ʃɔbai ele-o) ram ar aʃ-b-e na
(all come-COND-EMP) Ram-NOM PRT come-FUT-3 NEG
'(Although everyone will come) Ram will not come again.'

(28) Speaker 1: রাম আর আসবে না?
ram ar aʃ-b-e na
Ram-NOM PRT come-FUT-3 NEG
'Ram will not come again?'

Speaker 2: না
na
no
'No.'

In (27) the speaker 2's incorporation of *ar* in his reply against speaker 1's question establishes the fact that the speaker 2 is more or less confirm that the person called 'Ram' will never come. On the other hand in (28) the situation is little different. Here, the speaker uses *ar* in his utterance as a negative polarity particle by making a change in the intonation. In situations like these two mentioned in (27) and (28), then, the question arises how the distinctive intonations associated with the utterances are selected. A little attention will reveal the fact that the selection of intonation patterns are not bound to the selection of the discrete lexical unites of the utterances rather they are bound to the context of the communication.

The intonation pattern of the example mentioned in (27), as evident in Figure 4, does not show much change compare to the Figure 1.The interesting fact over here is that the *ar* as a clitic particle brings *ram* under narrow focus situation as per the illustration of Figure 3:

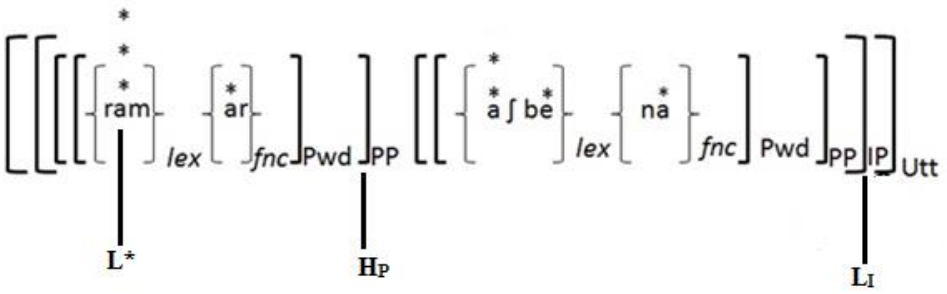

Figure 3: Metrical Grid of Speaker_2's Utterance in Example (27)

The Figure 3, under the narrow focus situation, there is a low pitch accent on the syllable *ram* and for this reason the phrase *ram-ar* receives a high tone in the P-phrase boundary (H_P), the pitch map will show this fact more on an elaborate manner.

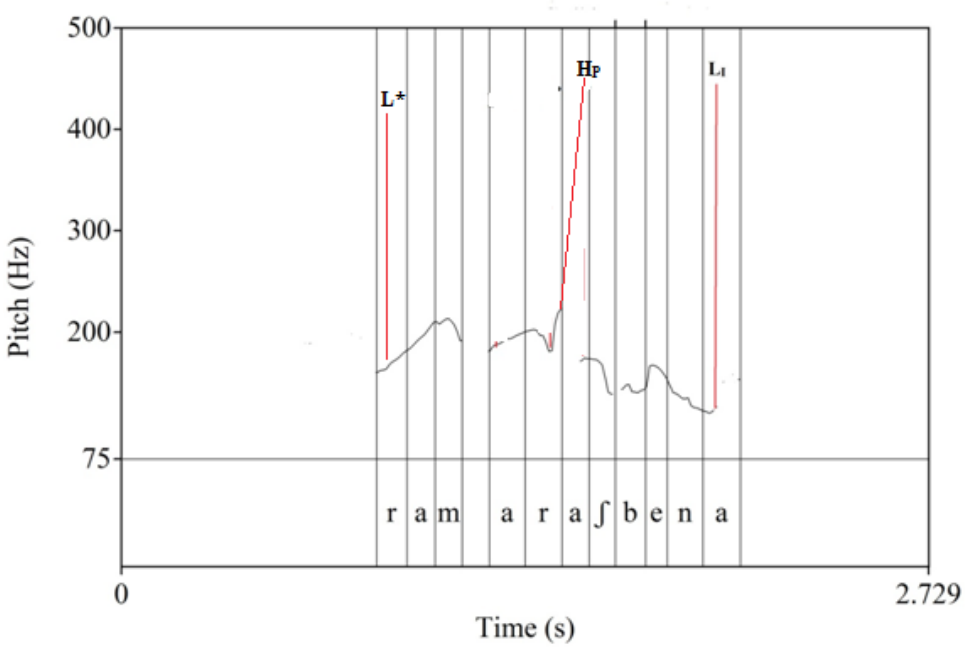

Figure 4: Pitch Pattern of Speaker_2's Utterance in Example (27)

It is important to note here that *ar* not only appears as a clitic particle but additionally as an internal clitic. It further implies that *lex-fnc* combination displaying a phonological behavior identical to that of Pwd which is constituted of a single lex alone. In Bangla, this particular combination is possible only because it fulfills the criterion- the left edge of any Pwd is required to coincide with the left edge of a Foot. (McCarthy & Prince, 1993)

(29) Align (Pwd, L; Ft, L)

The transformation of this declarative sentence to an interrogative sentence through the change in intonation brings change not only in the metrical grid but also in the pitch map.

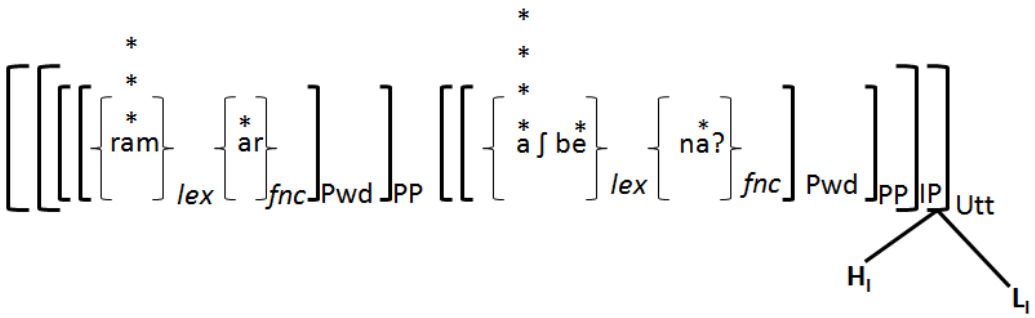

Figure 5: Metrical Grid of Speaker_1's Utterance in Example (28)

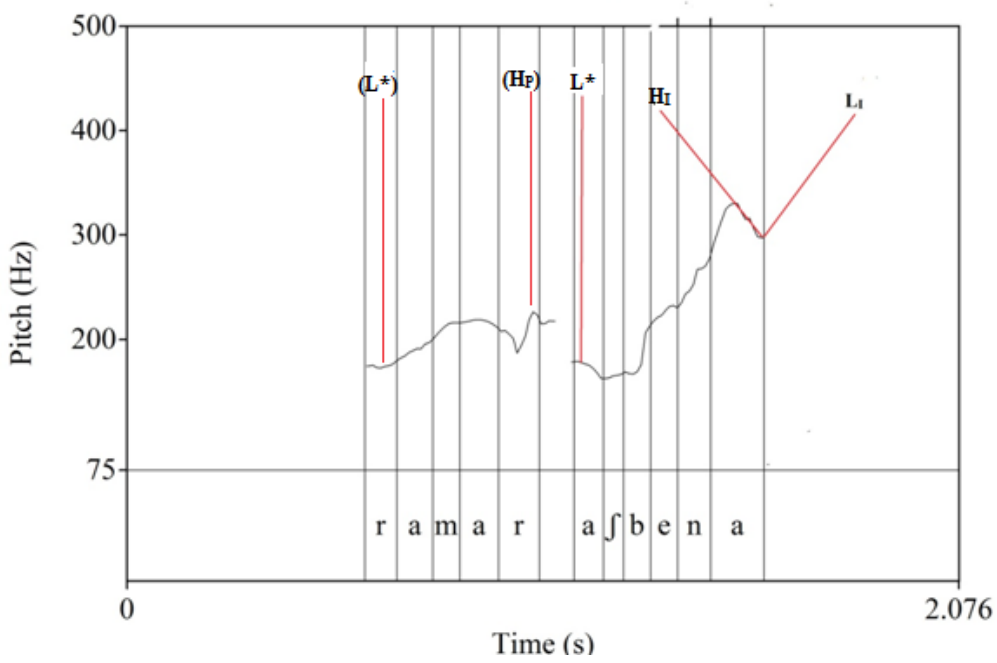

Figure 6: Pitch Pattern of Speaker_1's Utterance in Example (28)

The utterance, as a question, has its narrow focus on *aʃbe na*, the first syllable of this word, i.e. *aʃ*, gets the main stress of the utterance. In the yes/no situation, the main stressed syllable often gets the low pitch and then this pitch rises smoothly to the last syllable *na*, and afterwards it falls again, as is shown in Figure 6. The presence of H_I and L_I sequence in the pitch map indicates that in the IP boundary, high peak is followed by a final low value.

The paper has already argued that the intonation is very much context dependent phenomenon. Keeping this thing in mind, we can also say that the particle *ar* can be occurred not only as a clitic particle but also as a focus particle in the utterance like *ram ar aʃbe na*. Jackendoff (1972), in a similar occasion once argued that if a P-phrase comes in the focus position of an utterance (U), the highest stress in U will be on the syllable

of that P-phrase. Thus the pragmatic domain of the focus is also its phonological domain. As a consequence the focus is defined in the following way:

(30) Focus: If F is a Focus and DF is its domain then the highest prominence in DF will be within F.

In the conversational discourse the domain of focus (DF) is defined as a sector from which the scope of the focus can be determined. This domain is both phonologically and semantically relevant. This pragmatic-phonological interface can be illustrated in Figure 7 and Figure 8:

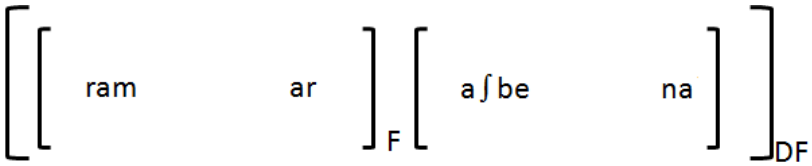

Figure 7: Phonology Pragmatics Interface with Focused Subject Containing Discourse Particle

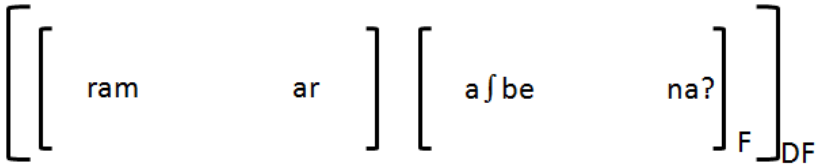

Figure 8: Phonology Pragmatics Interface with Non-Focused Subject Containing Discourse Particle

Figure 7 suggests that *ar* as a clitic particle emphasizes the constituents with which it is attached to, as in this case *ram* is stressed. Due to this, the entire clause being a domain of focus, selects *ram-ar* as a focus constituent. On the contrary the interrogative utterance in Figure 8 implies the fact that the speaker is uttering this question out of disbelief. Thus in the entire focus domain *aʃbe na* gets the relative prominence compare to *ram-ar* and as a consequence it comes in the focus part.

6 Evidential Nature of *ar*

The above discussion ensures the fact that *ar* not only generates speaker's intention but it also marks the source and reliability of their knowledge behind a particular assertion. It specifies the source of evidence on which statements are based, the degrees of precision, probability and expectations. So, in simple words we can say that, *ar* as an evidential shows what kind of justification for a factual claim is available to the person making the claim. In order to grasp the evidentiality in a better way, the machinery of Grice's theory becomes important as it explains not only what is

conversationally implied but also in what is said. Therefore by applying the maxims of Quality to the utterances (P), we have mentioned above, can be reinterpreted as (a) the speaker believes that 'P', and also (b) the speaker has adequate evidence of 'P'.

In the level of utterance this evidential nature is not only expressed through the linguistic items (in this paper it is *ar*) but also through the extra linguistic elements such as intonation. As in (27) and (28) the sentence *ram ar aʃbe na* is uttered from two different intonational pattern, i.e. (27) in declarative tone and (28) in the tone of question. It implies that in (27) on the base of some evidence speaker believes that Ram will not come whereas in (28) the speaker was not sure about Ram's arrival for this reason he was trying to confirm the fact. Thus, it is visible if the speaker is asserting/claiming/declaring that P, (s)he must believe that P; if the speaker is suggesting/guessing/questioning that P, (s)he must believe that there is not sufficient reason to believe that P, which is weakest degree of commitment (Bach & Harnish 1979).

To sum up, we can say that in Bangla discourse *ar* plays a very significant role in construing the pragmatic meaning. It further answers the question on 'what constitutes the knowledge of language' and how this knowledge is put to use. A more thorough research on this line and a comparative study of some Bangla discourse particles will help us to build the structure of the conversation in a more concrete manner.

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JAPANESE *N DESHITA* IN DISCOURSE: PAST FORM OF *N DESU*

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Abstract

N deshita/*datta*, which is the past-tense form of *n desu*/*da*, has not been explored in depth in the field of Japanese linguistics. By using the *Balanced Corpus of Contemporary Written Japanese* (BCCWJ) as a database, the present study explores the cases of *n deshita*/*datta* used for past events and situations. The findings of the present study show that approximately one-third of the cases of *n deshita*/*datta* used for past events and situations in the corpus co-occurred with grammatical elements that require past-tense connections such as the sentential ending particle *kke*, the *tara* structure, and the *tari* structure. For the cases of *n deshita*/*datta* that co-occurred with *kke*, *tara*, or *tari*, it was concluded that the grammatical restrictions arising from these elements triggered the occurrences of *n deshita*/*datta*. On the other hand, about two-thirds of the cases of *n deshita/datta* occurred without any grammatical elements that require past-tense connections. These cases of *n deshita*/*datta* were used to express the speaker's recollection of previously held knowledge, or as part of confirmation-seeking utterances for previously held knowledge.

Keywords: Japanese linguistics; discourse analyses; past tense; *n desu*; *n deshita*; *n datta*

Povzetek

N deshita/*datta*, ki je pretekla oblika strukture *n desu*/*da*, v japonskem jezikoslovju ni nikoli dobila pozornosti. Z vpogledom v korpus BCCWJ (*Balanced Corpus of Contemporary Written Japanese*) tokratna raziskava razkriva uporabo te oblike za pretekle dogodke ali razmere. Rezultati kažejo, da se približno ena tretjina vseh primerov *n deshita*/*datta*, ki kažejo na pretekle dogodke ali razmere, pojavlja skupaj s stavčnim členkom *kke*, v *tara* strukturi ali pa v *tari* strukturi. Za omenjene tri primere je moč reči, da je pojavnost pretekle oblike *n deshita*/*datta* posledica slovničnih pravil. To pa ne velja za preostali dve tretjini primerov z obliko *n deshita*/*datta*, preko katerih govorec izrazi njemu že znane dogodke ali razmere oziroma o njihovi pravilnosti od sogovorca pričakuje potrdilo.

Ključne besede: japonsko jezikoslovje; diskurzivna analiza; preteklik; *n desu*; *n deshita*; *n datta*

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1 Introduction

The Japanese sentential ending *n desu* structure has been discussed and explored in depth in the field of Japanese linguistics. However, previous studies focus mainly on its present-tense form *n desu*, and the past-form *n deshita* has not been included in the scope of these analyses. By examining a large corpus, the present paper will explore the usages of *n deshita* used for past events and situations in discourse, and discuss the factors that trigger the usage of *n deshita*.

2 Japanese *n desu* structure

The Japanese *n desu* structure has been the focus of linguistic inquiries by various scholars (Jorden, 1963; Alfonso, 1966; Kuno, 1973; McGloin, 1980, 1981, 1984, 1989; Aoki, 1986; Tanomura, 1990; Takatsu, 1991; Maynard, 1992, 2005; Noda, 1997; Ijima 2010; among many others). The *n desu* structure consists of the nominalizer *n* and the copula *desu*, and the structure is believed to create various interactional effects when it is added to the end of a sentence. Compare the a. sentences with the b. sentences in (1) and (2).

(1) a. 私 は昼ごはんを食べる。
Watashi wa hirugohan o taberu.
I TP lunch O eat
'I eat lunch.'

b. 私は昼ご飯を食べるんです。
Watashi wa hirugohan o taberu n desu.
I TP lunch O eat N CP
'(It is that) I eat lunch.'

(2) a. かばんは大きい。
Kaban wa ōkī.
bag TP large
'The bag is large.'

b. かばんは大きいんだ。
Kaban wa ōkī n da.
bag TP large N CP
'(It is that) the bag is large.'

(1a) and (2a) simply express the semantic information included in the sentences, but (1b) includes the *n desu* structure, and (2b) includes *n da*, which is a non-polite variant of *n desu*. The *n desu* structure in Japanese is typically translated as 'it is that' in English (Jorden and Noda, 1987; McGloin, 1980, 1989; Lammers, 2005; McGloin et al., 2013; etc.), but it is recognized as one of the most obscure and difficult-to-conceptualize

grammatical structures in Japanese. Due to its wide range of usages and versatile interactional effects, various arguments have been formulated on the interactional functions of the *n desu* structure. For example, McGloin (1989) argues that by using the *n desu* structure, the speaker can "present information which is known only to the speaker or the hearer as if it were shared information" (p. 89), and it has interactional functions such as explanation, rapport building, and providing background information. On the other hand, some discuss the *n desu* structure from the perspective of evidentiality. Aoki (1986) argues that the *n desu* structure has an evidential function of marking "nonspecific evidential statements" (p. 223), which does not explicitly indicate or specify the source of information for the stated proposition though treating the information as factual.

For the description of past events or situations with the *n desu* structure, the tense of the component that precedes *n desu* is modified into the past tense, but *n desu* itself typically remains unchanged. Examples (3) and (4) show the usages of *n desu* for a past event.

(3) 私は昼ご飯を食べたんです。
Watashi wa hirugohan o tabeta n desu.
I TP lunch O ate N CP
'(It is that) I ate lunch.'

(4) かばんは大きかったんだ。
Kaban wa ōkikatta n da.
bag TP was large N CP
'(It is that) the bag was large.'

In (3), *tabeta*, which is the past form of *taberu* 'to eat' is used before *n desu*. In (4), *ōkikatta*, which is the past form of *ōkī* 'to be big,' is used before *n desu*. In both (3) and (4), the copula component in the *n desu* structure stays in the present form and is not affected by the tense of the propositional content that precedes the *n desu* structure.

As mentioned in the introduction, past studies on the *n desu* structure primarily focus on the present-tense *n desu*, and the past-tense *n deshita* has not been explored in depth. Examples (5) and (6) include the past-tense forms of *n desu* and its non-polite variation *n da,* respectively.

(5) 私は昼ご飯を食べたんでした。
Watashi wa hirugohan o tabeta n deshita.
I TP lunch O ate N CP
'(It was that) I ate lunch.'

(6) かばんは大きかったんだった。
Kaban wa ōkikatta n datta.
bag TP was large N CP
'(It was that) the bag was large.'

Even though it is not grammatically unacceptable to use the past-tense *n deshita*/*datta* instead of the present tense *n desu*/*da*, some speakers of Japanese may feel (5) and (6) as unnatural unless a very specific context is given, which might be the reason why the past-tense *n deshita*/*datta* is left out in previous studies. Also, in the field of teaching Japanese as a second language, the present-tense *n desu*/*da* is introduced in early stages of learning in many Japanese language textbooks, but no explanation is provided for the past-tense *n deshita*/*datta* (Jorden and Noda, 1987; Lammers, 2005; Banno et al., 2011; Hatasa et al., 2015; etc.). In addition, many intermediate to advanced level textbooks also do not include any information on the usage of *n deshita*/*datta* (Miura & McGloin, 2008; Oka et al. 2009; etc.). Furthermore, as far as the author is aware, no studies have been conducted on the usage of *n deshita/datta* by L2 speakers of Japanese.

3 Present study

N deshita, which is the past form of *n desu*, has not been explored in depth in previous studies on Japanese linguistics nor second language acquisition. In order to explore the usages of *n deshita* in discourse, the present study examined cases of *n deshita* in a large corpus. By using the corpus as a database, the present study explored the usages of *n deshita* quantitatively and qualitatively, and analyzed in which kinds of contextual situations *n deshita* is used and how its interactional properties are utilized by speakers of Japanese.

The corpus used in the present study was the *Balanced Corpus of Contemporary Written Japanese* (BCCWJ), which is a balanced language database for written Japanese that was created by the National Institute for Japanese Language and Linguistics (Maekawa, 2008). The data in the BCCWJ is comprised of approximately 104.3 million words, and it covers text genres such as general books, magazines, newspapers, business reports, blogs, internet forums, textbooks, and legal documents among others. The search for the linguistic data in the database was conducted through the *Chūnagon* search portal, which was also developed by the National Institute for Japanese Language and Linguistics, and has a user interface similar to an internet search engine.

The scope of the present study was limited to cases of *n deshita* that follow another component in the past form in order to highlight the difference between using the present-tense *n desu* and the past-tense *n deshita* for past events, and also to limit the number of cases to be examined due to the large size of the BCCWJ. As for the selection of examples from the database, *n deshita* and *n datta* that follow the past marker *–ta* or *–da* were searched on the *Chūnagon* search portal. The search results were examined quantitatively and qualitatively.

4 Results and discussion

In order to identify individual examples of the past-tense form of *n desu* used for past events or situations, the four possible *hiragana* sequences for the combination of the past morpheme *–ta*/*da* and *n deshita*/*n datta*, which are *ta n deshita* (たんでした) *ta n datta* (たんだった), *da n deshita* (だんでした), and *da n datta* (だんだった) were input into the *Chūnagon* search portal. The search yielded 180 cases of the four possible *hiranaga* sequences for the *–ta*/*da* + *n deshita*/*datta* combination, but 13 cases were coincidentally matching cases such as *kantan datta* 'it was easy,' which are irrelevant to the scope of the present study. After eliminating the matching but irrelevant cases, 167 cases were available for further analysis. The following table summarizes the breakdown of the 167 cases of *–ta*/*da* + *n deshita*/*datta* found in the corpus.

Table 1: *-ta*/*da* + *n deshita*/*datta* in the BCCWJ

***Hiragana* sequence**	**# of cases**
-ta/*da n deshita*	61
-ta/*da n datta*	106
Total	**167**

4.1 *-ta*/*da n deshita*/*datta* co-occurred with *kke*, *tara*, or *tari*

The 167 cases of *-ta*/*da* + *n deshita*/*datta* in the corpus were examined qualitatively. Out of the 167 cases of *-ta*/*da* + *n deshita*/*datta*, 63 cases (37.7%) co-occurred with the sentence final particle *kke*, the *tara* structure, or the *tari* structure. *Kke*, *tara*, and *tari* all require a past-tense connection for the preceding grammatical item. The cases of *-ta*/*da* + *n deshita*/*datta* that co-occurred with *kke*, *tara*, or *tari* will be analyzed in this section.

Out of the 167 cases of *-ta*/*da* + *n deshita*/*datta* found in the corpus, 35 cases (21.0%) co-occurred with the sentence final particle *kke*. More precisely, 30 cases were *-ta*/*da n deshita* co-occurring with *kke*, and 5 cases were *–ta*/*da n datta* co-occurring with *kke*. The sentence final particle *kke* requires the past-tense form before the particle when it follows a verb or an *i*-adjective. *Kke* can also follow a predicate that includes a noun or a *na*-adjective, but the tense of the predicate can be either present or past, depending on the type of copula used at the end of the predicate (Martin, 1975; Kosaka, 2004; McGloin et al, 2013; etc.).

Example (7) includes a case of *n deshita* used with *kke* found in the corpus. (7) is from an internet discussion board included in the BCCWJ, on which its users ask and answer questions about topics related to everyday life.

(7) リンドバーグのボーカルの渡瀬マキってギターかベースやってた
Rindobāgu no bōkaru no Watase Maki tte gitā ka bēsu yatte ta
Rindobāgu LK lead singer LK Watase Maki QT guitar or bass played

髪の長い人と結婚したんでしたっけ？
kami no nagai hito to kekkon shita n deshita kke?
hair LK long person to got married N CP FP

'Am I right that Maki Watase, who was the lead singer of Rindobāgu (name of a rock band), married the person who was playing the guitar or bass?'

According to Martin (1975), *kke* marked utterances are used to indicate "thinking back, recollecting to oneself, or questioning oneself about some situations to be recalled" (p. 937). However, as Hayashi (2010, 2012) claims, *kke* is also commonly used in utterances addressed to another person. In regards to the usage of *kke* in interactional situations, Hayashi (2010) argues that "unlike *ka* and *no*, *kke* makes implicit reference to knowledge or information previously held by the speaker and shared with the addressee, but which the speaker has somehow forgotten or is unsure about" (p. 2687). Example (7) is a question about Maki Watase, who is a well-known musician in Japan, and the person who asked the question used to have the information but he or she is not sure as of now, and this uncertainty is marked with *kke*. As for the usage of *n deshita*, the particle *kke* requires the past form for the preceding item when it follows the long-form copula *desu*, and this grammatical constraint seems to be the main factor that triggers the usage of *n deshita* here. The two forms of Japanese copula, *da* and *desu*, mark different levels of politeness, and generally speaking, *desu* is considered to be more polite than *da*. When *kke* follows the less polite copula *da*, the tense of *da* can be either the present-tense *da* or the past-tense *datta*, and neither of them are grammatically incorrect. Examples (8) and (9) demonstrate the acceptability of using *datta* and *da* directly before *kke*, respectively.

(8) あの人、田中さんだったっけ？
Ano hito, Tanaka-san datta kke?
that person Tanaka Mr. CP FP
'Am I right that that person is Mr. Tanaka?'

(9) あの人、田中さんだっけ？
Ano hito, Tanaka-san da kke?
that person Tanaka Mr. CP FP
'Am I right that that person is Mr. Tanaka?'

Even though the tense of the copula component is different in (8) and (9), there are no semantic or communicative differences between (8) and (9). However, as Kosaka (2004) points out, when the long-form copula *desu* is used before *kke*, it must be modified into the past-tense *deshita*, and the present-tense *desu* cannot precede *kke*. Observe (10) and (11).

(10) えーと、どちらさんでしたっけ？
Ēto, dochira san deshita kke?
well who CP FP
'Well, (I used to know but) who are you?'

(11) *えーと、どちらさんですっけ？
*Ēto, dochira san desu kke?
well who CP FP
'Well, (I used to know but) who are you?'

(Kosaka, 2004, p. 139)

In (10), *deshita*, which is the past form of the *desu,* is used directly before *kke*, and it is an acceptable sentence. On the other hand, the present-tense *desu* is used in (11), and the sentence is not acceptable.

The above mentioned explanation is also applicable to the usage of *n deshita* in (7), which has already been examined. (12) provides a hypothetical example in which *n desu* in used instead of *n deshita* in (7).

(12) *リンドバーグのボーカルの渡瀬真紀ってギターかベースやってた
*Rindobāgu no bōkaru no Watase Maki tte gitā ka bēsu yatte ta
Rindobāgu LK lead singer LK Watase Maki QT guitar or bass played

髪の長い人と結婚したんですっけ？
kami no nagai hito to kekkon shita n desu kke?
hair LK long person to got married N CP Q

'Am I right that Maki Watase, who was the lead singer of Rindobāgu (name of a rock band), married the person who was playing the guitar or bass?'

As demonstrated by (12), the present-tense of the copula *desu* cannot precede *kke* due to the grammatical constraint imposed on the usage of *kke*. Therefore, in order for the speaker to use *kke* after the *n desu* structure, and if the speaker also wants to preserve the politeness level marked with the long-form copula *desu*, the speaker has no choice other than to use the past-tense *deshita* with *kke*. There are many examples of *n deshita* co-occurring with *kke* similar to (7) in the corpus, and the usages of *n deshita* in those cases appear to be resulting from the grammatical constraint discussed above.[1]

Another grammatical form that frequently co-occurred with *-ta*/*da n deshita*/*datta* in the corpus was *tara*. Out of the 167 cases of *–ta*/*da n deshita*/*datta* in the corpus,

[1] As demonstrated in the comparison between (8) and (9), the non-polite *da* and *datta* are interchangeable before *kke* and the meaning of the sentence does not change regardless of the choice. The five cases of *–ta*/*da n datta kke* in the corpus seem to be resulting from the flexibility of using *da* or *datta* directly before *kke*.

26 cases (15.6%) co-occurred with the *tara* structure. Generally speaking, the Japanese *tara* structure is considered to express conditional meaning similar to 'if' or 'when' in English. *Tara* indicates that "the action/state expressed by the main clause in a sentence takes place after the action/state expressed by the subordinate clause" (Makino and Tsutsui, 1989, p. 452). The structure is typically labeled as the "*tara*" structure in linguistic research, but technically the *tara* structure consists of the past form of a verb, an *i*-adjective or a copula, and *ra* that follows it. For example, the *tara* structure for the verb *taberu* 'to eat' is *tabeta ra*, which consists of the past form *tabeta* 'ate' and *ra*. When *ra* follows a copula, *datta ra* or *deshita ra* is formed depending on the intended politeness level.

The following example is from the BCCWJ, and it was uttered by a character in a novel. (13) contains a case of *-ta n datta* that co-occurs with the *tara* structure.

(13) どうもこうも引き返すしかないなあ。病院に帰ってから

Dō mo kō mo	hikikaesu	shika nai	nā.	Byōin	ni	kaette	kara
anyway	go back	have to	FP	hospital	to	return	then

気が付いたんだったら、明日に廻しちゃうけど。

kiga tsuita	n	datta	ra,	ashita	ni	mawashi chau	kedo.
notice	N	CP	if	tomorrow	until	wait	FP

'Anyway, I have to go back. If (it was that) I noticed it after I return to the hospital, I would have waited until tomorrow.'

As mentioned earlier, in order for the *tara* structure to be formulated, the grammatical unit that directly precedes *ra* must be in the past form. Therefore, whenever the *tara* structure is used with a predicate that ends with the *n desu* structure, the copula component must be converted to the past-tense *deshita* or *datta*. This is very similar to what was observed for the sentence final particle *kke* earlier, since the usage of the past-tense *n deshita* is triggered by the grammatical restriction caused by a grammatical component that directly follows *n desu* for both *kke* and the *tara* structure.

The third type of grammatical element that requires a past-tense connection co-occurring with *-ta*/*da* + *n deshita*/*datta* is the *tari* structure. In the examined corpus, 2 cases of *ta*/*da* + *n deshita*/*datta* co-occurred with the *tari* structure. The *tari* structure is used to express "inexhaustive listing of actions or states" (Makino and Tsutsui, 1989, p. 458), and it is typically used with verbs as in *utatta ri odotta ri suru* 'do things like singing and dancing,' but it can also be used with nouns and adjectives as well. As for the formation of the structure, *tari* consists of a past-tense form of a predicate + *ri* and *suru* 'to do,' forming structures such as *tabeta ri nonda ri suru* 'to do things like eating and drinking,' *ookikatta ri omokatta ri suru* 'to be big, heavy, etc.,' *tsukue datta ri isu datta ri suru* 'desks, chairs, etc.' In addition, the *tari* structure is sometimes used as a sentential ending expression that marks uncertainty. This usage of the *tari* structure

usually co-occurs with the gerund form ending *shite*, forming expressions such as *ōkikatta ri shite* '(something) might be big.'

The following example, (14), is one of the cases of *-ta/da n deshita/datta that* co-occurs with *tari* found in the corpus. It is taken from a scene in a novel where the protagonist recalls his childhood memories.

(14) あれから、しばらくして、僕と兄さんは一緒にお風呂に入る

Are	kara,	shibaraku shite	boku	to	nīsan	wa	issho ni	ofuro ni hairu
that	since	after a while	me	and	older brother	TP	with	take a bath

ことはなくなってしまったんだけど、もしかして、僕は

koto	wa	nakunatte shimatta	n	da	kedo,	moshika shite,	boku	wa
N	TP	stopped	N	CP	but	perhaps	I	TP

まだ兄さんと入りたかったんだったりして。

mada	nīsan	to	hairitakatta	n	datta	ri shite.
still	older brother	with	wanted to take	N	CP	might

'A little after that, my older brother stopped taking a bath with me, but perhaps, I still wanted to take a bath with him.'

In the above example, the *tari* structure is used to express uncertainty at the end of the sentence. Similar to the *tara* structure discussed earlier, in order for the *tari* structure to be formulated, the grammatical element directly before *ri* must be in the past form. Therefore, the copula *da* in (14) must be in the past form for the sentence to be grammatically acceptable.

In this section, the usages of *kke*, the *tara* structure, and the *tari* structure with *-ta/da n deshita/datta* were qualitatively examined. These three grammatical elements require a past-tense connection for the preceding item, and this grammatical restriction seems to trigger occurrences of *-ta/da n deshita/datta.* The next section will explore the cases of *-ta/da n deshita/datta* that occurred without any grammatical elements which would require past-tense connections.

4.2 *-ta/da n deshita/datta* without required past-tense connection

4.2.1 *-ta/da n deshita/datta* for recollection of previously held knowledge

Out of the 167 cases of *-ta/da + n deshita/datta* in the examined corpus, 104 cases (62.3%) were *-ta/da + n deshita/datta* that did not precede any grammatical elements that require past-tense connections. After examining each case of *-ta/da + n deshita/datta*, it was found that there are several ways in which *-ta/da + n deshita/datta* is used in discourse.

The first type of usage of *-ta/da + n deshita/datta* without being followed by grammatical elements that require a past-tense connection was expressing the

speaker's recollection of previously held knowledge. As Jorden and Noda (1987) explain, Japanese past-tense forms can be used for currently continuing actions or conditions, and it may refer to the speaker's recalled knowledge. Observe the past-tense copula *deshita* in B's utterance in (15).

(15) A: アメリカ大使館、どこですか。
Amerika taishikan, doko desu ka.
America embassy where CP Q
'Where's the American Embassy?'

B: えーと、虎ノ門でしたね。
Ēto, Toranomon deshita ne.
uh Toranomon CP FP
'Uh, it was Toranomon, wasn't it?' (i.e., as I recall it)

(Jorden and Noda, 1987, p. 196)

In response to A's question, B uses the past-tense *deshita*, but this does not necessarily mean that the American Embassy was located in Toranomon in the past and now it has moved to a new location. The usage of the past-tense form here indicates that the speaker has just recalled his/her previously held knowledge, and the relocation of the American Embassy is not being implied or indicated.

In the examined corpus, there were many cases of *-ta*/*da* + *n deshita*/*datta* that were used to indicate the speaker's recollections of previously held knowledge. The next example, (16), is from a blog entry about taking pictures of rare birds.

(16) たしか去年も彼に撮影を邪魔されたんだった。
Tashika kyonen mo kare ni satsuē o jama sareta n datta.
perhaps last year also him by photo shoot O got interrupted N CP

'If I remember right (now I recall that) he (my husband) also interrupted my photo shoot last year.'

In this part of the blog, the writer recalls that her husband interrupted her photo shoot last year, and the recollection of the information is indicated by the past-tense *datta* at the end of the sentence. Some readers may feel that the speaker's recollection is also expressed by *tashika* 'if I remember right' in (16), but even when *tashika* is removed, the indication of the speaker's recollection does not change. Observe (17).

(17) 去年も彼に撮影を邪魔されたんだった。
Kyonen mo kare ni satsuē o jama sareta n datta.
last year also him by photo shoot O got interrupted N CP

'(Now I recall that) he (my husband) also interrupted my photo shoot last year.'

However, for this particular example, if the present-tense *da* was used instead of *datta* at the end of the sentence, the sentence would give the impression that the writer has just come to realize what she stated. In (18), the past-tense *datta* in (17) is modified into the present-tense *da*.

(18) 去年も彼に撮影を邪魔されたんだ。
Kyonen mo kare ni satsuē o jama sareta n da.
last year also him by photo shoot O got interrupted N CP

'He (my husband) also interrupted my photo shoot last year.'

As demonstrated by (18), if the sentence ended with the present-tense *da*, it would give the impression that the writer has just realized that her husband interrupted her photo shoot last year, and the speaker's recollection of previously held knowledge is not expressed. In addition, as Sadanobu (2004) argues, speaker recollection can be marked by using a past-tense ending only when the sentence is about stative situations, and it cannot be marked when the sentence is about dynamic actions.

(19) 去年も彼に撮影を邪魔された。
Kyonen mo kare ni satsuē o jama sareta.
last year also him by photo shoot O got interrupted

'He (my husband) also interrupted my photo shoot last year.'

N datta in (17) is removed in (19). As demonstrated by (19), since *jama sareta* 'got interrupted' is a dynamic action, simply using the past tense for the action does not indicate that the speaker just recalled previously held knowledge. However, as we observed in (16) and (17), the speaker can indicate recollection of previously held knowledge for dynamic actions when *-ta*/*da* + *n deshita*/*datta* is used.

The examined corpus included many other cases of *-ta*/*da* + *n deshita*/*datta* similar to (16). The following are some of the examples of *-ta*/*da* + *n deshita*/*datta* that were found in the corpus, and they appear to be indicating speaker recollection of previously held knowledge.

(20) そう言えば、去年もピンクのシクラメンを二鉢
Sō ieba, kyonen mo pinku no shikuramen o ni hachi
speaking of which last year also pink LK cyclamen O two pots

くれたのを思い出した。
kureta no o omoidashita.
gave me LK O recalled

'Speaking of which, I recalled that I also received two pots of pink cyclamens last year.'

一鉢は上手く咲き続けたけど、もう一鉢は
Hito hachi wa umaku saki tsuzuketa kedo, mō hito hachi wa
one pot TP well kept blooming but another pot TP

すぐにだめになちゃったんだった。
sugu ni dame ni nacchatta n datta.
quickly bad became N CP

'(Now I recall that) the cyclamens in one pot kept blooming well, but the ones in another pot went bad quickly.'

(21) ああ、そうだ。あんまりに反応が悪いので、グーグルアドワーズを
Ā, sō da. Anmari ni hannō ga warui node, gūguru ado wāzu o
oh so CP extremely response SB bad because Google AdWords O

停止にしておいたんだった。
tēshi ni shite oita n datta.
turn off set N CP

'Oh, yes. (Now I recall that) I turned off Google AdWords because the response was very bad.'

Both (20) and (21) are sentences about dynamic actions that happened in the past, and *–ta n datta* is used at the end of the sentence. The past-tense *datta* in each sentence seems to be indicating speaker recollection of previously held knowledge.

4.2.2 *-ta/da + n deshita/datta* in confirmation-seeking utterances

The corpus also included cases of *-ta/da + n deshita/datta* used in sentences for seeking confirmation and agreement. This type of usage seems to be derived from *-ta/da + n deshita/datta* that indicates the speaker's recollections, especially when sentence final particles such as *ne* and *yone* are added to the sentence. According to Izuhara (2003), both *yo* and *yone* have the interactional function of establishing shared recognition between the speaker and the addressee, and this function of *ne* and *yone* seems to be contributing to the formation of the interactional effect.[2]

Example (22) is from an article based on an interview with a victim of aerial bombing during World War II. The utterance is made by the interviewer.

[2] Technically speaking, Izuhara (2003) categorizes *ne* as a confirmation seeker, and *yone* as an agreement seeker. However, since the focus of the present study is not the difference between *ne* and *yone*, the difference between the two particles is not fully discussed here. For more details, see Izuhara (1993, 2001, 2003).

(22) 空襲の時は本郷まで歩いていらっしゃったんでしたね。

Kūshū	no	toki	wa	Hongō	made	aruite irasshatta	n	deshita	ne.
bombing	LK	when	TP	Hongo	to	walked	N	CP	FP

'You walked to Hongo when the bombing happened, right?'

In (22), it appears that the interviewer had already held the stated information when the utterance was made, and the sentence final particle *ne* is used to indicate the whole utterance was made as a confirmation seeking utterance.

In addition to *ne*, *yone* was also used with *-ta*/*da* + *n deshita*/*datta* in several confirmation seeking sentences in the corpus. (23) is a question utterance by an interviewer in an interview with a musician.

(23) ツアー自体は広島から始まったんでしたよね。

Tsuā	jitai	wa	Hiroshima	kara	hajimatta	n	deshita	yone.
tour	itself	TP	Hiroshima	in	started	N	CP	FP

'The (concert) tour itself started in Hiroshima, right?'

In (23), *-ta n deshita* is followed by *yone*. Similar to the example that included *ne*, (23) appears to be uttered as a confirmation seeking utterance for the propositional information that was previously held by the speaker. The examined corpus also included many other examples that were similar to (22) and (23). Based on the abundant usage of these cases in the corpus, the combination of *-ta*/*da* + *n deshita*/*datta* and *ne* or *yone* seems to be a commonly recognized way of seeking confirmation for previously held knowledge.

5 Conclusion

The present paper has explored the usages of *-ta*/*da* + *n deshita*/*datta* in discourse by examining a large corpus. The findings have shown that 37.8% of *-ta*/*da* + *n deshita*/*datta* in the corpus co-occurred with either *kke*, the *tara* structure, or the *tari* structure. *Kke*, *tara*, and *tari* all require past-tense connections for the preceding grammatical element. The analysis has shown that the occurrences of *-ta*/*da* + *n deshita*/*datta* with *kke*, *tara*, or *tari* are triggered by the grammatical constraints arising from those sentential ending expressions or connections. In addition, in the examined corpus, 62.2% *-ta*/*da* + *n deshita*/*datta* was not accompanied with any grammatical elements that require past-tense connections. Those cases of *-ta*/*da* + *n deshita*/*datta* are used to indicate the speaker's recollection of previously held knowledge, or used as part of a confirmation seeking utterance for previously held knowledge when it is used with the sentence-final *ne* or *yone*.

The author of the present study is aware of the limitations in the present study. The present study only focused on the past-form of the *n desu* structure that is used for past events and situations. Needless to say, it is possible for the speaker to use *n deshita*/*datta* for ongoing or future events and situations as long as the information was previously recognized in the past. Further analysis of those cases may contribute to expanding our understanding of the usages of the past-tense *n deshita/datta*. In addition, *no de atta*, which is the past-tense form of *no de aru*, was not explored in the present study. *No de aru* is a variant of *n desu,* and it is predominantly used in formal-style written texts, especially in narrative texts such as the main body of novels. The relationship between tense, aspect, and point of recognition seems to be operating on a different system in those narrative texts, and communicative functions of *no de aru* and *n desu* in colloquial utterances also seem to be highly differentiated. Conducting a comparative study on *n deshita/datta* and *no de atta* may further reveal the interactional effects created by using the past form of the *n desu* structure.

Finally, in the field of Japanese language pedagogy, explicit instruction on the usages of *n deshita*/*datta* is usually not included in the curriculum, even though the *n desu* structure itself is introduced in elementary-level textbooks. Due to the complexity around the usages of *n desu*, not including *n deshita*/*datta* may be reasonable in order to avoid overwhelming beginning-level learners. However, it may be beneficial for learners of Japanese to include instruction on *n deshita*/*datta* in intermediate to upper level courses as part of activities to fine-tune their usage of the *n desu* structure.

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Appendix: Transcription Conventions and Abbreviations

CP	various forms of copula verb *be*
FP	final particle
LK	nominal linking particle
N	nominalizer
NEG	negative morpheme
O	object marker
Q	question marker
QT	quotative marker
SB	subject marker
TP	topic marker

"TWO SIDES OF THE SAME COIN": YOKOHAMA PIDGIN JAPANESE AND JAPANESE PIDGIN ENGLISH*

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Abstract

The paper is a comparative overview of the phonology, morphology, syntax and lexicon of Yokohama Pidgin Japanese and Japanese Pidgin English, formerly spoken in Japan. Both varieties are shown to exhibit features typical of pre-pidgins, while they differ considerably in the circumstances of their emergence and the context of use.

Keywords: Yokohama Pidgin Japanese; Japanese Pidgin English; phonology; morphology; syntax; vocabulary; pre-pidgin

Povzetek

Raziskava vključuje primerjalni pregled med japonskim pidžinom v Yokohami in angleško pidžinom na Japonskem pred dobrim stoletjem ter njune glasoslovne, besedotvorne, skladenjske in besedišče značilnosti. Skozi primerjavo je razvidno, da obe različici vsebujeta značilnosti, tipične za zgodnjo fazo pidžina, vendar se bistveno razlikujeta v okoliščinah njunega nastanka in okolja njune uporabe.

Ključne besede: japonski pidžin v Yokohami; angleški pidžin na Japonskem; glasoslovje; besedotvorje; skladnja; besedišče; zgodnja stopnja pidžina

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1 Introduction

Yokohama Pidgin Japanese (henceforth YPJ), also known as "Yokohama dialect", "Yokohama Pidgin" or "Japanese ports lingo", is a variety of pidginized Japanese, spoken in the second half of the 19th century in Yokohama and, most probably, in Kobe and Nagasaki (Lange, 1903, p. XXVIII; Chamberlain, 1904, p. 369; Daniels, 1948, pp. 805-806; Loveday, 1986, p. 28; Loveday, 1996, p. 69; Stanlaw, 2004, pp. 56-59; Inoue, 2003; Inoue, 2004, p. 116; Inoue, 2006, pp. 55-56). The users of YPJ included Japanese, Westerners (Europeans and Americans), and also a sizable number of Chinese (Stanlaw 2004, p. 57; Inoue 2004, pp. 116-117; Inoue, 2006, p. 56).

YPJ is poorly documented. The attestations are limited to a phrasebook (Atkinson, 1879), a glossary (Gills, 1886), a dictionary (Lentzner, 1892), travel accounts (Griffis, 1883; Knollys, 1887), and two magazine articles (Anonymous, 1879; Diósy 1879). Under the circumstances, it is hardly surprising that analyses of YPJ are also scarce. Its lexicon is analyzed by Daniels (1948), while Inoue (2006) looks mostly at morphosyntactic features. More comprehensive overviews are found in Avram (2013, 2014).

Japanese Pidgin English (henceforth JPE), also referred to as "Bamboo English" or "English-Japanese Pidgin", is an extinct variety of pidginized English, formerly used by US army personnel and local Japanese after World War II (Norman, 1954; Loveday, 1986, p. 29) and later transplanted to South Korea (Algeo, 1960, p. 117; Stanlaw, 2004, p. 70; Loveday, 1986, p. 29).

There are very few textual sources for JPE. The data analyzed in the present paper are from a dialogue (Michener, 1954), cartoons (Hume, 1954; Hume and Annarino 1953a, 1953b), and a story (Webster, 1960). Short descriptions of JPE can be found in Norman (1954, 1955), Algeo (1960), Webster (1960), Goodman (1967), Duke (1972), Stanlaw (1987, 1996, 2004, 2006). A more detailed analysis is found in Avram (2016).

All examples[1] appear in the original orthography or system of transcription used in the sources. The sources are mentioned between brackets. Unless otherwise specified, the translations are from the sources.

The paper is organized as follows. The phonology, morphology, syntax and lexicon of YPJ and JPE are analyzed in sections 2, 3, 4, and 5, respectively. Section 6 is a discussion of the findings, with reference to various classifications of pidgin languages. Section 7 summarizes the conclusions.

[1] The following abbreviations are used in the examples: 1 = 1st person; 2 = second person; 3 = 3rd person; D = Dutch DEM = demonstrative; E = English; IMPER = imperative; INDEF = indefinite; J = Japanese; NEG = negator; O = object; PL = plural; S = subject; SG = singular; V = verb.

2 Phonology

2.1 YPJ

In spite of the inconsistencies in the transcriptions in the textual sources, it can be stated from the outset that the phonology of YPJ has characteristics typical of the Tokyo-Yokohama dialectal area.

For instance, in Japanese-derived lexical items, the etymological high vowels /i/ and /ɯ/ are not rendered in the transcription if they occur between voiceless consonants or in word-final position. These are precisely the phonological environments in which devoicing of the high vowels /i/ and /ɯ/ occurs in the Tokyo-Yokohama dialectal area[2]. The absence of the vowel letters <i> or <u> presumably reflects the phonetic realizations [i̥] and [ɯ̥] respectively:

(1) a. *h'to* 'person' (Diósy, 1879, p. 500) < J *hito* 'man'
b. *nannats* 'seven' (Atkinson, 1879, p. 18) < J *nanatsu* 'seven'
c. *skoshe* little' (Atkinson, 1879, p. 18) < J *sukoshi* 'a little'
d. *tacksan* 'much' (Atkinson,1879, p. 18) < J *takusan*

As in Tokyo-Yokohama Japanese, the alveo-palatal voiceless fricative [ʃ] is substituted for the Standard Japanese palatal voiceless fricative [ç]:

(2) a. ***sh**to* 'man' (Atkinson, 1879, p. 20) < J ***h**ito* 'man'
b. ***sh**eebatchey* 'stove' (Atkinson, 1879, p. 24, f.n.) < J ***h**ibachi* 'stove'

As shown by the use of the digraph <ng> in the sources, YPJ exhibits the nasal velar [ŋ] in word-medial position, a feature of (earlier) Tokyo Japanese[3]:

(3) a. *koo**ng**-ee*[4] (Atkinson, 1879, p. 24) / *koo**ng**ee* (Atkinson, 1879, p. 28) < *ku**g**i* 'nail'
b. *toma**ng**o* (Atkinson, 1879, p. 24) < J *tama**g**o* 'egg'

The syllable structure of YPJ is, with a few exceptions, that of Japanese: i.e. with simple syllable margins and with the uvular /N/ as the only admissible consonant in word-final codas[5]. Again as in Japanese, illegitimate onsets and codas are resolved via two repair strategies – epenthesis, as in (4), or paragoge, as in (5):

(4) a. *b**u**ranket* 'blanket' (Diósy, 1979, p. 500) < E *blanket*
b. *s**i**tésh'n* 'railway station' (Diósy, 1879, p. 500) < E *station*

[2] See e.g. Avram (2005, pp. 28-33).

[3] See e.g. Shibatani (1990, pp. 171-173) and Avram (2005, pp. 48-56).

[4] In the YPJ examples from Atkinson (1879), <ee> frequently stands for [i], while <oo> represents both [ɯ] and [ɯ:].

[5] See e.g. Avram (2005, p. 96).

(5) a. *drunk**y*** ‘drunk’ (Atkinson, 1879, p. 28) < E *drunk*
b. *madoros**u*** ‘sailor’ (Diósy, 1879, p. 501) < D *matroos* ‘sailor’

The phonology of YPJ appears to have displayed considerable inter-speaker variation. Some of these instances of variation are explicitly attributed to the different first languages of YPJ users. Consider, for example, the differences between the pronunciation of Westerners and that of the Chinese users of YPJ in the phonetic realization of [ɾ]. According to Atkinson (1879, p. 29), “foreigners [= Westerners] as a rule rattle their “Rs” roughly, readily […] or else ignore them altogether”, whereas “the Celestial [= Chinese] lubricates the “R””. This is illustrated by the following examples:

(6) a. Westerner *walk-ka**rr**ymasing* / *walk-ka**w**ymasing* vs.
Chinese *walk-ka**ll**imasing* ‘misunderstand (Atkinson, 1879, p. 28)

b. Westerner *am buy wo**rr**y* vs. Chinese *am buy wo**ll**y* ‘not feeling well’
(Atkinson, 1879, p. 28)

There is also variation in the form of the same YPJ lexical items, as recorded in different sources:

(7) a. *piggy* (Atkinson, 1879, p. 21) / *peke* (Diósy, 1879, p. 501) / *peggy* (Knollys, 1887, p. 312) ‘to go’

b. *pumgutz* ‘punishment’ (Atkinson, 1879, p. 28) / *bonkotz* ‘thrashing’ (Diósy, 1879, p. 501)

Finally, the same author occasionally lists different forms of the same YPJ word:

(8) a. *ji**gg**y ji**gg**y* / *ji**k**i ji**k**i* ‘to make haste’ (Gills, 1886, p. 113)
b. *mar**o**-mar**o*** / *mar**u**-mar**u*** ‘to be somewhere’ (Diósy, 1879, p. 501)
c. ***sh**eebatchey* / ***h**eebathchey*[6] ‘stove’ (Atkinson, 1879, p. 24, f.n.)

2.2 JPE

The phonology of JPE, to the extent to which it can be inferred from the available evidence, attests to the occurrence of readjustments of the syllable structure of lexical items derived etymologically from English and Japanese, respectively. Goodman (1967, p. 51), for instance, states that “in the Japanese speakers’ version [of JPE], /o/ or /u/ is normally added in final position to English words that do not end in [n, m, ŋ]”. The three nasal phonemes of English appear to have been treated as the Japanese uvular nasal /N/, the only consonant which can occur in word-final position in Japanese. This would account for the absence of paragogic vowels in such cases. Duke (1972, p. 170) writes

[6] In which <sh> and <h> presumably stand for [ʃ] and respectively [ç].

that American speakers also resort to paragoge, "by ending English words with either "i" or "ee"[7]:

(9) a. *chang**ee*** 'to change' (Webster, 1960, p. 160)
b. *ketch**ee*** 'to catch' (Webster, 1960, p. 160)
c. *speak**ie*** 'to speak' (Webster, 1960, p. 161)

On the other hand, both parties involved, i.e. the Japanese and the American users of JPE, also tried to accommodate each other. According to Goodman (1967, p. 52), "English speakers […] developed a sensitivity to Japanese syllabic structure and attempted to end all words with /u/ or /o/ in a rather arbitrary pattern":

(10) a. *post card**o*** (Webster, 1960, p. 163)
b. *saym**o**-saym**o*** 'same' (Goodman, 1967, p. 51)

Goodman (1967, p. 52) notes that "Japanese speakers […] made the same sort of compensation by clipping of final vowels":

(11) *jidoš* 'car' (Goodman, 1967, p. 52), cf. J *jidōsha*

Inter-speaker variation is widely attested. In (12a) Japanese /N/ is phonetically realized as [n] by American speakers, while in (12b) English /r/ is phonetically realized as [ɾ] in word-initial and it is deleted word-finally, while English /l/ is phonetically realized as [ɾ]:

(12) a. [itʃiba**N**] vs. [itʃibæ**n**] 'very good' (Goodman, 1967, p. 51)
b. [**ɾ**oːɾaː] vs. [**r**əʊlər] 'roller' (Goodman, 1967, p. 51)

Consider next differences in the phonetic realization of vowels:

(13) a. [s**a**k**e**] vs. [s**æ**k**i**] 'sake' (Goodman, 1967, pp. 51-52)
b. [itʃib**a**N] vs. [itʃib**æ**n] 'very good' (Goodman, 1967, p. 51)
c. [sɯ̟.ko**.**ʃi] vs. [sko**.**ʃi] (Norman, 1967, p. 44)

As can be seen, in (13a-b) American speakers use different vowels and in (13c) they do not exhibit the devoiced vowel. Similarly, in (14), Japanese speakers substitute a long vowel for the original diphthong [əʊ] and for [ə][8] respectively:

(14) [ɾ**oːɾaː**] vs. [r**əʊ**l**ə**r] 'roller' (Goodman, 1967, p. 51)

[7] The use of the paragogic vowel [ɪ] is typical of stereotypical representations of English pidgins or creoles as well as of attempts at "speaking" in such varieties.

[8] In Japanese, the reflex of [-ər], spelled <er>, is long [a:], see e.g. Quackenbush & Ōso (1991: 93).

3 Morphology

3.1 YPJ

With the exception of the negators *nigh* < J *nai* and *-en* < J *-en*, which only occurs in two verbs, YPJ does not have any inflectional morphology.

Two word-formation means are attested, compounding and affixation. Compounds frequently compensate for the absence of particular lexical items:

(15) a. *nammai kammy* lit. 'name' + paper' = 'card' (Atkinson, 1879, p. 21)
b. *niwa-tori* lit. 'garden' + 'bird' = 'rooster' (Diósy, 1879, p. 501)

A number of compounds are constructed with *mono* (< J *mono* 'thing'), as in (16), or with reflexes of J *hito* 'man', as in (17):

(16) *shiroy* ***mono*** lit. 'white' + 'thing' = 'starch' (Atkinson, 1879, p. 24)

(17) *selly* ***shto*** lit. 'to sell'+ 'man' = 'auctioneer' (Atkinson, 1879, p. 25)

Affixation is confined to the use of the suffix *-san* (< J *-san*):

(18) a. *baby****san*** 'child' (Atkinson, 1879, p. 19)
b. *doctor****san*** 'doctor' (Atkinson, 1879, p. 24)
c. *Nankin****san*** 'Chinaman' (Atkinson, 1879, p. 25)

Reduplication is not really a word-formation means. Firstly, it is neither productive nor frequent:

(19) a. *drunky drunky* 'drunk', cf. *drunky* 'drunk' (Atkinson, 1879, p. 28)
b. *mate-mate* 'wait a little' (Gills, 1883, p. 147), cf. *matty* 'wait' (Atkinson, 1879, p. 20)

Secondly, as shown by example (19a), there is no demonstrable difference in meaning between the reduplicated form and the simplex one. Moreover, other examples are actually quasi-reduplicated forms[9]:

(20) a. *chobber chobber* 'food, sustenance' (Atkinson, 1879, p. 21)
b. *minner minner* 'all' (Atkinson, 1879, p. 22)
c. *sick-sick* 'crank' (Atkinson, 1879, p. 20)
d. *so so* 'sew' (Atkinson, 1879, p. 21)

[9] Defined by Bakker (2003, p.40) as "reduplicated forms for which single forms do not exist".

3.2 JPE

Inflectional endings only occur sporadically in JPE as spoken by American users.

In the derivational morphology of JPE compounding is rather poorly documented. One rare example of a compound is given below:

(21) *benjo ditch* lit. 'toilet' + 'ditch' = 'toilet, the can' (Goodman, 1967, p. 49)

Affixation, limited to the use of the Japanese-derived suffix *-san*, is better represented. According to Goodman: (1967, p. 54), *-san* is "a sort of suffix", which can be attached "to any of a group of English-derived terms, like mama, papa, boy, girl, and baby, as both terms of reference and address". Duke (1972, p. 170) also notes "the use of the honorific suffix *-san* after many nouns". Consider the following examples:

(22) a. *boy-**san*** 'boy; son' (Duke, 1972, p. 170)
b. *godmother-**san*** 'godmother' (Webster, 1960, p. 160)
c. *mama-**san*** 'woman, lady; mother' (Duke, 1972, p. 170)
d. *prince-**san*** 'prince' (Webster, 1960, p. 160)

Both Goodman, 1967, p. 51) and Duke (1972, p. 170) also discuss reduplication. However, on the strength of the available evidence, JPE appears to have had quasi-reduplicated forms, with no corresponding simplex forms:

(23) a. *chop-chop* 'food' (Webster, 1960, p. 163)
b. *dame-dame* 'bad' (Hume, 1954, p. 95)
c. *hubba-hubba* 'to hurry' (Webster, 1960, p. 164)
d. *saymo-saymo* 'same' (Goodman, 1967, p. 51)

4 Syntax

4.1 YPJ

The absence of inflections and the small size of its lexicon account for the fact that YPJ words exhibit categorial multifunctionality, as illustrated by the following examples:

(24) a. *die job* 'strong, sound, good, able' (Atkinson, 1879, p. 19) and 'well (adv.)' (Atkinson, 1879, p. 23)

b. *jiggy jig* 'to hasten' (Atkinson, 1879, p. 17), 'quickly' (Atkinson, 1879, p. 17) and 'fast' (Atkinson, 1879, p. 17), 'the nearest' (Atkinson, 1879, p. 19)

c. *pumgutz* 'punish' (Atkinson, 1879, p. 22) and 'punishment' (Atkinson, 1879, p. 28)

d. *sick-sick* 'illness' (Atkinson, 1879, p. 17) and 'sick, ill'(Atkinson, 1879, p. 28)

As is mostly the case in Japanese, plurality is inferred from the context or expressed by means of cardinal numerals or quantifiers:

(25) ***Tempo meats*** *high kin* *arimas*. (Atkinson, 1879, p. 18)
penny three see be
'I see three pence.'

The Japanese case markers (particles and postpositions) have not been retained, as can be seen from the examples below:

(26) a. *Dalley* ***Ø*** *house* *arimas?* (Atkinson, 1879, p. 22)
who house be
'Whose house is this?'

b. *watarkshee* *boto* ***Ø*** *piggy* (Atkinson, 1879, p. 21)
1SG boat go
'I've gone out in the boat.'

Only three personal pronouns are attested:

(27) *watarkshee* 1SG
anatta / *anatter* and *oh my* 2SG
acheera sto 3SG

Of these, only *watarkshee* and *oh my* occur more frequently. The only demonstrative attested (just once) is *kono*:

(28) *kono* *house* (Atkinson, 1879, p. 26)
DEM house
'this house'

Adjectives are better represented in the available sources. The only degree of comparison of adjectives attested in the corpus is the absolute superlative, formed with *num wun* preceding the adjective:

(29) ***num wun***[10] *your a shee* (Atkinson, 1879, p. 25)
exceptional good
'exceptionally nice'

The only numerals found in the corpus of YPJ are the cardinal numerals from 1 to 10 and 100.

[10] Etymologically derived from E *number one*, and presumably pronounced [namwan].

Rather surprisingly, YPJ has a copulative verb, *arimas* < J *arimasu*. This is attested both in equative, as in (30a), and in predicative structures, as in (30b):

(30) a. *Tempo* ***arimasu***. (Atkinson, 1879, p. 16)
penny be
'This is a penny.'

b. *Kooroy* ***arimasu***. (Atkinson, 1879, p. 19)
black be
'It is black.'

Time adverbials are used to indicate tense and aspect:

(31) a. *Sigh oh narrow dozo* ***bynebai*** *moh skosh cow* (Atkinson, 1879, p. 27)
good bye please by and by more little buy
'Good bye, please buy [in the future] some more.'

b. ***meonitchi*** *[…] tacksan so so arimasu* (Atkinson, 1879, p. 21)
tomorrow a lot sew be
'I will have plenty of work for him.'

Only one, invariant negator, *nigh* < J *nai,* is attested:

(32) *Atsie sammy eel oh piggy* ***nigh****?* (Atkinson, 1879, p. 19)
hot cold colour change NEG
'Does his color change in the various seasons?'

As in Japanese, the word order of YPJ is SOV:

(33) *Your a shee cheese eye curio high kin*. (Atkinson, 1879, p. 25)
good small curios see
'I wish to see some nice small curios.'

YPJ exhibits rather consistently the parameters correlated with the SOV word order. This is illustrated by the examples under (34):

(34) a. possessor – possessee

oh my oh char (Atkinson, 1879, p. 15)
2SG tea
'your tea'

b. adjective – noun

die job sto (Atkinson, 1879, p. 19)
strong person
'a strong man'

c. demonstrative – noun

kono house (Atkinson, 1879, p. 26)
DEM house
'this house'

d. numeral – noun

Stoats sindoe skoshe matty. (Atkinson, 1879, p. 20)
one boatman a little wait
'Let one boatman wait.'

e. adverb – verb

skoshe matty (Atkinson, 1879, p. 20)
a little wait
'wait a little' [translation mine]

However, as shown below, exceptions are also attested:

(35) a. noun – numeral

Tempo meats high kin arimas. (Atkinson, 1879, p. 18)
penny three see be
'I see three pence.'

b. verb – adverb

Oh my piggy jiggy jig (Atkinson, 1879, p. 28)
2SG get out quickly
'Get out quickly' [translation mine]

YPJ exclusively resorts to parataxis for sentence coordination:

(36) *watarkshe oki akindo, tacksan cow* (Atkinson, 1879, p. 26)
1SG big merchant a lot buy
'I am an important merchant and I buy a lot' [translation mine]

Sentence subordination also relies on the exclusive use of parataxis, given the absence of any complementizers, conjunctions, conjunctive particles, etc.:

(37) a. *Nanny sto arimasu, watarkshee arimasen?* (Atkinson, 1879, p. 19)
what person be 1SG be-NEG
'Who called when I was out?'

b. *Watarkshee am buy worry oh char parra parra* (Atkinson, 1879, p. 17)
1SG ill tea boil
'Boil me some tea because I feel ill.' [translation mine]

c. *Dye die job arimasen, itchiboo sinjoe nigh*. (Atkinson, 1879, p. 28)
table good be-NEG one *bu* give NEG
'If the table is not good, I won't give you a *bu*.' [translation mine]

Generally, and as can be seen in the examples (37b) and (37c), subordinate clauses precede main clauses, as in Japanese.

4.2 JPE

The virtual absence of inflections and the small size of the lexicon explain the categorial multifunctionality typical of JPE lexical items. Goodman (1967, p. 53) notes "the use of many words in a variety of grammatical functions". As stated by Duke (1972, p. 170), "grammatically, many of the words function as both nouns and verbs and sometimes as adjectives and adverbs". Representative examples are provided below:

(38) a. *chop-chop* 'food' and 'to eat' (Duke, 1972, p. 172)
b. *hayaku* 'quickly' and 'to hurry up' (Goodman, 1967, p. 53)
c. *okay* 'OK' and 'to fix, to adjust' (Goodman, 1967, p. 54)
d. *sayonara* 'absence' and 'to get rid of' (Goodman, 1967, p. 53)
e. *taksan* 'much, many', 'very' and 'large' (Duke, 1970, p. 172)

The English definite and indefinite articles have not been retained. In the JPE of American speakers, *one* may be used as an indefinite article:

(39) ***one*** *prince-san* (Webster, 1960, p. 163)
INDEF prince
'a prince'

Nouns are occasionally marked for the plural, but only by American users of JPE.

Only three personal pronouns are attested in the corpus:

(40) a. *I / watash* 1SG (Michener, *Sayonara*, p. 170; Goodman 1967, p. 48)
b. *you* 2SG (Michener, *Sayonara*, p. 170)
c. *we / ol watash* 1PL (Goodman, 1948, p. 48)

As seen in (40c), pre-posed *ol* (< E *all*) optionally marks plurality.

A number of adjectives occur in the available corpus of JPE. As shown by Goodman (1967, p. 48), *ichiban* (< J *ichiban*) is "used to indicate relative or absolute superlative".

Only cardinal numerals are attested.

The verbal system of JPE is characterized by extreme simplicity. For instance, there is no overt copula (Goodman, 1967, p. 52; Stanlaw, 2006, p. 184):

(41) a. *You* ***Ø*** *takusan steki* (Michener, *Sayonara*, p. 171)
2SG very wonderful
'You are very beautiful.'

b. *Kid, you* **Ø** *dai jobu* (Webster, 1960, p. 164)
kid 2SG OK
'Kid, you're all right.'

Also absent are auxiliary verbs. Consider the example below:

(42) *I beauty saron* **Ø** *go*. (Michener, *Sayonara*, p. 171)
1SG beauty salon go
'I'm going to the beauty parlor.'

According to Goodman (1967, p. 52), "verbs from both languages [English and Japanese] were used […] in infinitive forms or citation forms without affixes". This general absence of verbal inflections accounts for the fact that tense and aspect distinctions could only be inferred from the context or were indicated by time adverbials (Goodman, 1967, p. 52; Stanlaw, 2006, p. 184) such as *one time* 'once', *kinoo* 'yesterday' (< J *kinō*), *ima* 'now' (< J *ima*), *ashita* 'tomorrow' (< J *ashita*), *all time* 'always':

(43) *Maybe you* ***one time*** *gang boy* (Hume & Annarino, 1953a, p. 43)
maybe 2SG once gangster
'Maybe you were once a gangster.'

The only negator attested is pre-posed *no* (< E *no*):

(44) a. ***No*** *can stay*. (Michener, *Sayonara*, p. 170)
NEG can stay
'I can't stay.'

b. *all time* ***no*** *fit* (Webster, 1960, p. 164)
all time NEG fit
'[they] did not fit'

Prepositions are frequently omitted, in particular by Japanese speakers, as in (45a), and, more rarely, also by American users of JPE, as in (45b):

(45) a. *I* **Ø** *jobu go* (Michener, *Sayonara*, p. 170)
1SG job go
'I must go to my job'

b. *Come on* **Ø** *my house* (Webster, 1960, p. 164)
come on my house
'Come on to my house'

Consider next word order. According to Stanlaw (2006, p. 184), "both American and Japanese speakers were somewhat indeterminate about this". Indeed, both SVO and SOV patterns are attested, with intra-speaker variation as well, as in (46b):

(46) a. *I* ***takushi, get***. (Michener, *Sayonara*, p. 170)
1SG taxi get
'I'll call a cab.'

b. *You* ***mess my hair****, ne. I* ***beauty saron go*** (Michenere, *Sayonara*, p. 171)
'You've messed up my hair. I'll have to go to the beauty parlour.'

Sentence coordination is mostly achieved by means of parataxis (Goodman, 1967, pp. 52-53), given that coordinating conjunctions are generally not used:

(47) *Meter-meter dai jobu. Testo-testo dammey-dammey*. (Goodman, 1967, p. 53)
look over OK examine bad
'It's fine to look at the girl, but don't try anything else.'

The following is an extremely rare example in which a Japanese-derived coordinating conjunction (*keredomo* 'but' < J *keredomo*) is used:

(48) *I rike stay with you* ***keredomo*** *I* train
1SG like stay with 2SG but 1SG train

go honto (Michener, *Sayonara*, p. 170)
go really

'I would like to stay with you, but I really have to go to the train station.'

Since complementizers and subordinating conjunctions are not used, sentence subordination is also achieved via parataxis, as in the examples below:

(49) a. *You all time speak work-work*. (Stanlaw, 2006, p. 184)
2SG always speak work
'You always say you're out working.'

b. *Come night […], sisters speak sayonara* (Webster, 1960, p. 164)
come night sisters speak good bye
'When the night […] came, the sisters left'

5 Lexicon

5.1 YPJ

The lexicon of YPJ amounts to approximately 250 words. The inventory of these lexical items as well as their origin can be found in Daniels (1948). Therefore, this section is exclusively concerned with other features of the YPJ vocabulary (see also Avram, 2014, pp. 42-43).

A few English-derived words illustrate reanalysis of morphemic boundaries:

(50) a. *come here* (Atkinson, 1879, p. 19) /
komiya (Diósy, 1879, p. 500) /
kumheer (Knollys, 1887, p. 311)
'dog' < E *come here!*

b. *damyuri sto* (Atkinson, 1879, p. 28) /
damuraïsu h'to (Diósy, 1879, p. 500) /
dammuraisu hito (Griffis, 1883, p. 493)
'sailor' < E *damn your eye(s)*, J *hito* 'man'

The following are lexical hybrids[11]:

(51) a. *kireen* 'clean' (Atkinson, 1879, p. 25),
cf. E *clean* and J *kirei*

b. *shiroy* 'shirt (Atkinson, 1879, p. 24),
cf. E *shirt* and J *shiroy* 'white'

Given the small size of the YPJ lexicon, words undergo semantic extension and frequently express a rather wide range of meanings:

(52) a. *aboorah* 'butter, oil, kerosene, pomatum, grease' (Atkinson, 1879, p. 20)

b. *piggy* 'to remove, take away, carry off, clear [the table], get out, remove' (Atkinson, 1879, p. 17), 'change' (Atkinson, 1879, p. 19), 'push off' (Atkinson, 1879, p. 20), go(ne) out' (Atkinson, 1879, p. 21)

Another consequence of the small size of the vocabulary of YPJ is the occurrence of circumlocutions. Illustrative examples are provided below:

(53) a. *coots* *pom pom* *otoko* (Atkinson, 1979, p. 20)
shoe hammer man
'bootmaker'

b. *fooney* *high-kin* *serampan* *nigh* *rosoko* (Atkinson, 1879, p. 19)
ship see break NEG candle
'light house'

[11] Lexical items identified across languages, given their phonetic similarity (Mühlhäusler, 1997, p. 135).

Finally, also attested are synonyms derived etymologically from different source languages:

(54) a. *am buy worry* (Atkinson, 1879, p. 17) < J *ambai* 'condition', *warui* 'bad', and *sick-sick* (Atkinson, 1879, p. 17) 'ill' < E *sick*

b. *die job* (Atkinson, 1879, p. 19) < J *daijobu* 'fine', and *your a shee* 'alright' (Atkinson, p. 1879, p. 18) < J *yoroshii* 'good'

5.2 JPE

The lexical contribution of English is discussed in Goodman (1967), while the lexical items and phrases derived etymologically from Japanese are discussed in Avram (2014, pp. 17-18), to which the reader is referred. The following remarks focus on other characteristics of the lexicon of JPE.

The form below is the outcome of reanalysis of morphemic boundaries:

(55) *morskosh* 'a while' (Norman, 1955, p. 44) < J *mō* 'more' and *sukoshi* 'a little'

Also attested are lexical hybrids:

(56) a. *meter-meter* 'to look over' (Goodman, 1967, p. 51), cf. J *mite* 'to see IMPER' and E *meter*

b. *mor* 'more' (Norman, 1955, p. 44), cf. J *mō* 'more' and E *more*

The small size of the JPE lexicon accounts for two striking features of the JPE vocabulary. Consider first the pervasive lexical polysemy. Goodman (1967, p. 54) mentions the "quality of semantic extensibility" of JPE words, and Stanlaw (2006, p. 184) rightly observes that "most of the vocabulary items have undergone semantic extension". Both English- and Japanese-derived words exhibit considerable polysemy, as illustrated by the examples under (57) and (58) respectively:

(57) a. ***ketchee*** *no fun* '[she] had no fun' (Webster, 1960, p. 163)
b. ***ketchee*** *post cardo* '[they] received a post card' (Webster, 1960, p. 163)
c. ***ketchee*** *one mouse* '[she] caught a mouse' (Webster, 1960,p. 163)
d. ***ketchee*** *beeru* '[he] got a beer' (Webster, 1960, p. 163)

(58) *shimpai-nai* 'don't worry; don't bother; let's enjoy ourselves; you're welcome; I've recovered from my malady' (Goodman, 1967, p. 54)

The extremely small size of the JPE vocabulary also explains the occurrence of circumlocutions. Consider one such example:

(59) *speak sayonara* 'to leave someone' (Webster, 1960, p. 164)

One last characteristic of the JPE lexicon worth mentioning in this section is the existence of a few synonyms, one of which is from English and the other from Japanese:

(60) a. *nice* < E 'nice' and *suteki* < J *suteki* 'nice'
b. *okay* < E *OK* and *dai jobu* < J *daijobu* 'all right'

6 Classification of YPJ and JPE

In a well-known typology Mühlhäusler (1997, pp. 5-6) identifies three types of pidgin in the so-called "pidgin-to-creole life cycle": (i) pre-pidgins[12]; (ii) stable pidgins; (iii) expanded pidgins[13]. Each of these is characterized by specific phonological, morphological, syntactic, and lexical diagnostic features. Since productive morphological reduplication is a correlate of the developmental stage (Bakker, 2003, p. 44; Bakker & Parkvall, 2006, p. 514), this diagnostic feature can be added to those suggested by Mühlhäusler (1997).

The data from YPJ and JPE discussed in sections 3 through 5 indicate that both varieties should be classified as pre-pidgins. The distribution of pre-pidgin features in YPJ and JPE is set out in Table 1 below:

Table 1: Pre-pidgin features of YPJ and JPE

Feature	YPJ	JPE
inter-speaker variation in phonology	+	+
minimal personal pronoun system	+	+
omission of copula (predicative, equative)	–	+
omission of tense and aspect markers	+	+
omission of adpositions	+	(+)
omission of complementizers	+	+
non-productive reduplication	+	+
categorial multifunctionality	+	+
extensive use of parataxis	+	+
small size of vocabulary	+	+
reanalysis of morphemic boundaries	+	+
lexical hybrids	+	+
lexical polysemy	+	+
circumlocutions	+	+
synonyms from different source languages	+	+

[12] Also called "jargons", "minimal pidgins" or "restricted pidgins".

[13] Bakker (2008, p. 131) suggests the alternative term "PidginCreole".

As can be seen, the overwhelming majority of the features diagnostic of the pre-pidgin stage are attested in both YPJ and JPE.

Pidgin languages are also classified on the basis of social criteria. Sebba (1997, pp. 26-33), for instance, suggests the following typology according to the social context of the language's origins: (i) military and police pidgins; (ii) seafaring and trade pidgins; (iii) plantation pidgins; (iv) mine and construction pidgins; (v) immigrants' pidgins; (vi) tourist pidgins); (vii) urban contact vernaculars. YPJ and JPE exemplify different types. YPJ emerged in several Japanese ports – Yokohama, Kobe, and Nagasaki – and it can therefore be assigned to type (ii). JPE, which emerged in various locations in Japan, in the context of contacts between the US army personnel and the local Japanese population, represents type (i).

Consider next the social situation in which pidgins are used. Bakker (1995, pp. 27-28) distinguishes the following types: (i) maritime pidgins; (ii) trade pidgins; (iii) interethnic contact languages; (iv) work force pidgins. Here again, YPJ and JPE differ in terms of the type to which they can be assigned: YPJ is a representative of type (ii), while JPE is illustrative of type (iii).

To sum up, the social contexts of the emergence and use of YPJ and JPE are different. Moreover, both varieties reflect a specific power differential, which accounts for the different lexifier language – Japanese for YPJ, but English in the case of JPE. Within the context of Japan's opening of its ports to the West after the 1850s, Japanese was the superstrate language and YPJ consequently bears its imprint. JPE, which emerged in the aftermath of World War II in American-occupied Japan, testifies to the position of English as the superstrate language.

7 Conclusions

YPJ and JPE are structurally very similar and can both be assigned to the same developmental stage, i.e. that of pre-pidgin.

YPJ and JPE differ, though, in terms both of the social context in which they emerged and of that in which they were formerly used. The similarities in structure and in developmental stage are the outcome of different histories and contexts of use.

The different lexifier of YPJ and JPE respectively reflects differences in the relative power of the main contributing languages. In a sense, then, YPJ and JPE are "two sides of the same coin", illustrative of two episodes in the history of language contacts in Japan.

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CHINESE LEGAL TEXTS – QUANTITATIVE DESCRIPTION*

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Abstract

The aim of the paper is to provide a quantitative description of legal Chinese. This study adopts the approach of corpus-based analyses and is conducted on the Chinese monolingual corpus *Hanku*. It shows basic statistical parameters of legal texts in Chinese, namely the length of a sentence, the proportion of part of speech etc., and discusses the issues on statistical data processing from various corpora, such as the tokenisation and part of speech tagging, and their relevance to the study of register variations.

Keywords: Chinese language; written Chinese; legal texts; corpus linguistics

Povzetek

Namen članka je ponuditi kvantitativni jezikoslovni opis kitajskih pravnih besedil. V raziskavi avtor privzema metodologijo korpusnih analiz na kitajskem enojezičnem korpusu *Hanku*. Osredotoča na osnovne statistične parametre, kot so dolžina povedi, besedne vrste in njihov delež v besedilih idr. ter razpravlja o vprašanjih obdelave statističnih podatkov iz različnih korpusov, kot sta npr. navajanje in označevanje besednih vrst, ter njihov doprinos k raziskavam o raznolikosti registrov.

Ključne besede: kitajski jezik; pisna kitajščina; pravna besedila, korpusno jezikoslovje

* The study builds on my previous work Gajdoš, Ľ (2016). Quantitative description of written Chinese – a preliminary corpus-based study. *Studia orientalia: Victori Krupa dedicata*. Bratislava: Ústav orientalistiky, pp. 62-75.

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1 Chinese language

Chinese is one of the most widely used languages in the world (Sun, 2006). Genealogically, Chinese belongs to the Sino-Tibetan language family and is often classified as an 'isolating' or 'analytic' language (Li & Thompson, 2009, pp. 703-723). Chinese has a written tradition of more than 3000 years. The majority of Chinese words are mono- or disyllabic, the word order is relatively rigid with the SVO prototypic word order.

In a language with written tradition, the discrepancy between spoken and written registers[1] is a natural phenomenon. Chinese language is no exception, nevertheless, there are some issues that need to be considered when studying registers[2] variation, e.g. a relatively vague standard of the written language, the influence of *wenyan*[3] on the written language, missing qualitative and quantitative comparative study of language registers etc.

The study is based on the dichotomic model of Chinese language registers – colloquial and written. Hereinafter, the term 'Chinese' is reserved for the written standard of Chinese which is known as *putonghua* (普通话) 'common language'.

2 Chinese legal language

The term *legal language/text* (hereinafter legal text) may be understood in many ways with respect to a research perspective, a research methodology, criteria of classification etc. Due to the content of the sub-corpus *zh-law*, the term legal text implies only monologic, prescriptive texts of legislation. Generally speaking, legislation is considered as the prototype of legal language (Biel, 2014, pp. 19-22).

Legal Chinese is a part of written language registers (sub-register) with unique lexis, syntax properties, terminology etc.

[1] In this article, I use the term *register* as "situationally-defined varieties described for their characteristic lexico-grammatical features" (BIBER, 2006, pp. 11-12).

[2] Both terms are defined very vaguely in Chinese linguistics. The spoken register is called *kouyu* (口语) 'spoken language' and written as *shumianyu* (书面语) 'written or literary language'.

[3] *Wenyan* is known as 'classical literary language' and "it looks to the style of writings prevalent in the period from the Spring and Autumn period to the Eastern Han dynasty for its grammatical and lexical norms" (Chen, 2004, p. 67).

3 Methodology

In this study, the Hanku corpus and corpus methodology is used as a systematic approach to the study of the register of legal Chinese. It is proposed that a variance across registers might be – to some extend – revealed by statistical data from a corpus.

By testing this hypothesis on the register of legal Chinese, the following criteria are taken as a part of the description.

(1) the length of a sentence in a register
(2) frequency of every part of speech (hereinafter the POS) in a register
(3) the relative representation of some POS and their comparison
(4) markers of passive voice

The statistical data presented in this study are given in two values – absolute frequency and frequency in IPM.[4]

4 The Chinese corpus *Hanku*

The *Hanku* corpus is available at: http://konfuciovinstitut.sk/corpus-hanku/, *NoSketch Engine*[5] is used as the corpus manager. The basic block of the corpus is a token which basically corresponds to one word. A token is annotated for the part of speech (POS labelling), its composition into characters and the *Hanyu pinyin* transcription.[6] The corpus is divided into two subcorpora (May 2017):

- *web-zh* – texts from the PRC
- *zh-law* – legal texts from the PRC; texts of laws and regulations

The statistical data used in this study was obtained by writing CQL queries in the *NoSketch Engine* user interface.

[4] IPM: Instances Per Million, the number of occurrences normalized by the size of the corpus.

[5] Nosketch Engine is an open-source version of the Sketch Engine. See more at: https://www.sketchengine.co.uk. For other Chinese corpora available in Sketch Engine, see Petrovčič (2016).

[6] The POS annotation, tokenization and *Hanyu pinyin* transcription are results of automatic processing.

Table 1: Subcorpus Zh-law – parameters

Parameters	Status	Notes
Type	synchronous	legal texts from the PRC
Language of interface	English, Chinese	
Size (June 2017)	7.2 million	size referred in tokens
Tokenisation	✓	
POS annotation	✓	Penn Chinese Treebank[7]
Bibliographic annotation	✓	
Phonetic annotation	✓	
Statistic tools	✓	frequency in IPM, average reduced frequency
Save results directly from the interface	✓	in text or XML format
KWIC	✓	
Collocations search	✓	many collocation measures
Advanced search options	✓	Boolean operators – conjunction, disjunction, negation; possibility to use regular expressions at the character, word, pinyin, and metadata level; full CQL[8] etc.
Sorting by	✓	Left, right, node, references etc.

5 The length of a sentence in the subcorpus *zh-law*

It is generally believed that there is a positive correlation between the length of a sentence and the register affiliation – the more formal a text is, the longer the sentences are, and *vice versa*.

Our previous research on written Chinese has confirmed this tendency, yet with more accurate statistical data showing that the length tends to have more than 29 tokens.[9] It should be noted though that the number of tokens also include punctuation (the POS tag "PU"), e.g. "，、。（）", so that the length in words is shorter.[10]

[7] See more at: http://www.cs.brandeis.edu/~clp/ctb/posguide.3rd.ch.pdf.

[8] CQL – Computer Query Language.

[9] Our previous research indicated slightly different figures, i.e. 20 words (tokens without punctuations).

[10] The length of a sentence was simply calculated by division of a number of tokens by a number of sentences in the sub-corpus.

The results indicate that a sentence in legal Chinese tends to have the length of approximately 29 tokens or 25 words (tokens without punctuations). It is also evident that the more information-saturated a text (a text in nominal style) is, the longer it is. When analysing the corpus data here, one must also pay attention to the fact that the name of a law or a regulation is tokenized as a sentence as well. That is to say, the length of a sentence may even be longer.

6 Parts of speech in the sub-corpus zh-law

The proportion of individual POS was directly retrieved from the corpus with a query written in CQL,[11] then, the result was sorted by "node tags" and converted to IPM.

Table 2: A proportion of POS in Zh-law

Part of Speech	Examples	Tag	Frequency in the corpus	IPM
Nouns		NN	2 804 164	389 236
Punctuations		PU	1 091 923	151 566
Verbs		VV	1 070 286	148 562
Prepositions		P	242 165	33 614
Non-predicative adjectives	共同，女	JJ	232 514	32 274
Adverbs		AD	222 902	30 940
Coordinating Conjunctions	与，和，或者	CC	219 759	30 504
Particle DE	的	DEC	215 381	29 896
Measure words		M	198 809	27 596
Cardinal numbers		CD	162 183	22 512
Ordinal numbers		OD	139 560	19 371
Particle DE as genitive marker	的	DEG	129 286	17 945
Localizer		LC	109 661	15 221
Determiners	这，那	DT	99 523	13 814
Proper nouns		NR	48 931	6 792
Adjectives		VA	38 810	5 387
Temporal nouns		NT	35 166	4 881

[11] CQL – Corpus Query Language; [tag=".*"].

Part of Speech	Examples	Tag	Frequency in the corpus	IPM
Pronouns		PN	33 930	4 709
Verbs	有，没有，无	VE	28 195	3 913
Etcetera	等等	ETC	21 082	2 926
Particles	所，以，而	MSP	18 021	2 501
Copulas		VC	15 708	2 180
Preposition BA		BA	6 586	914
Preposition BEI		SB	6 378	885
Preposition BEI		LB	3 338	463
Aspect particles	了，着，过	AS	2 898	402
Particle DE	地	DEV	2 489	345
Subordinating conjunctions	如果，要是	CS	1 917	266
Modal particles	了，吧，吗	SP	1 591	220
Foreign words		FW	948	131
Particle DE	得	DER	157	22

Data in Table 2 reveal that interjections and onomatopoeias are not present in legal texts at all. By comparing statistical data with other registers, there are some factors that should be taken into consideration – due to the fact that the form of legal texts differs from other registers, the frequency of punctuation, cardinal and ordinal numbers, or measure words is much higher. See Chapter 7.

To allow a more concise comparison, some POS are combined together as shown below in Table 3.

Table 3: POS combined together

POS	Frequency	IPM
Nouns (NN+NR+LC+NT)	2 997 922	416 132
Verbs (VV+VC+VE)	1 114 189	154 657
Particles DE (DEC+DEG+DEV+DER)	347 313	48 209
Numbers (CD+OD)	301 743	41 884
Prepositions (P+BA+BEI)	258 467	35 877
Non-predicative adjectives (JJ)	232 514	32 275
Adverbs (AD)	222 902	30 940

POS	Frequency	IPM
Conjunctions (CC+CS)	221 676	30 770
Measure words (M)	198 809	27 596
Pronouns (PN+DT)	133 453	18 524
Particles (ETC+AS+MSP+SP)	43 592	6 051
Adjectives (VA)	38 810	5 387
Passive markers (SB+LB)	9 716	1 349
Punctuation (PU)	1 091 923	151 566

The chart shows that the nominal style is preferred in legal Chinese with a dominance of nouns.

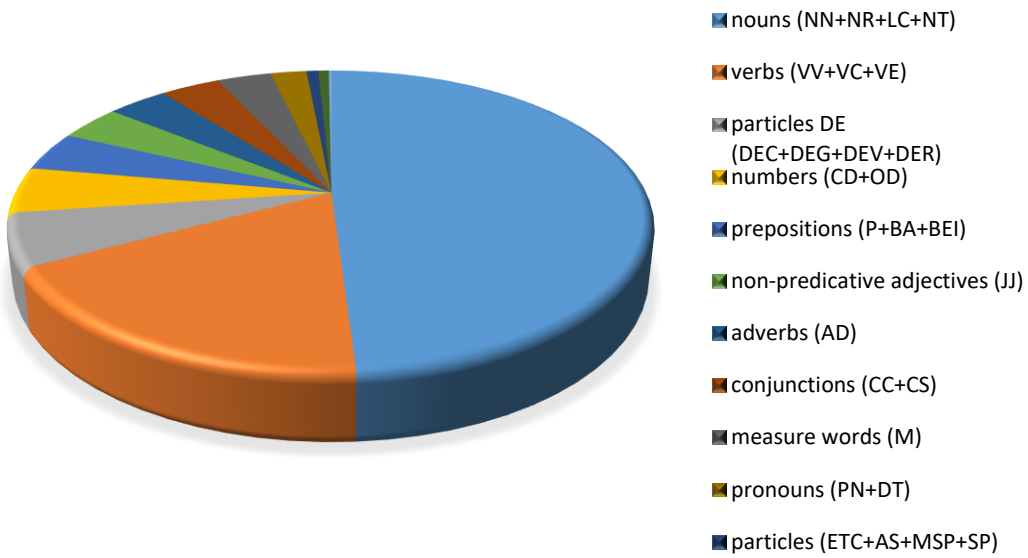

Figure 1: Proportion of part of speech in the zh-law

Mainly because of the different approach to the tokenization and the POS labelling, statistical data have exhibited a considerable divergence between the proportion of verbs in the sub-corpus *zh-law* (18%) versus the Sihanku corpus (26%).

7 Most frequent content and function words in the sub-corpus zh-law

Following the traditional model[12] of division of lexis into content and function words (*shici* 实词, *xuci* 虚词, respectively), I have searched for the most frequent content words by the CQL query: [tag="V.*|N.*|LC|CD|OD|JJ|AD|DT|PN|M"]. The result was then sorted by "node forms" and converted to IPM. As for the function words, the CQL expression is: [tag="P|CC|DE.|ETC|MSP|BA|SB|LB|AS|CS|SP"].

Table 4: 30 most frequent content and function words in legal Chinese

Content word	Frequency	IPM	Function word	Frequency	IPM
条	102845	14276	的	339351	47104
应当	57301	7954	和	86413	11995
规定	50465	7005	或者	47375	6576
管理	48272	6700	在	40438	5613
不	45266	6283	对	38084	5286
部门	41477	5757	由	26783	3718
机构	34843	4836	并	24460	3395
行政	33949	4712	及	21111	2930
人民	31789	4413	等	21060	2923
本	31540	4378	或	18820	2612
企业	29894	4149	与	17647	2450
一	28734	3988	向	17483	2427
单位	28029	3891	按照	15267	2119
有关	27402	3804	所	14866	2064
国家	26708	3707	根据	10988	1525
人员	24086	3343	经	10928	1517
工作	23779	3301	以	10130	1406
有	23085	3204	被	9338	1296
其	22666	3146	以及	7595	1054
其他	22012	3055	为	7355	1021
进行	21269	2952	之	7216	1002
申请	21018	2917	按	7176	996

[12] E.g. Liu, Y. et al. (2004). *Practical Chinese Grammar*.

Content word	Frequency	IPM	Function word	Frequency	IPM
应	20085	2788	依照	6732	934
机关	19254	2673	自	6691	929
内	18847	2616	将	6160	855
公司	18130	2517	因	4353	604
监督	17920	2487	于	4042	561
主管	17711	2458	关于	3418	474
二	17333	2406	通过	2958	411
三	17096	2373	除	2627	365

Based on the content of legal texts, it is no surprise that the most frequent content word is the measure word *tiao* 条 as it stands for an article of a law (§). A second most frequent word is the modal verb *yingdang* 应当 which is a mean of expressing deontic modality.

Our previous research has also proven the tendency that on the part of function words, there is a high frequency of conjunctions compared to unstructured texts (e.g. language data from the sub-corpus web-zh) and this might be an indication of formal, written texts. There is also a high figure of prepositions which are considered as a formal expression, e.g. *yu* 与 or *yi* 以.

8 Passive voice in legal Chinese

In this chapter, the result of Straňák's study (2015) who has conducted his research on the relatively small sub-corpus[13] of legal texts with a different tagset and tokenizer are compared.

Passive voice in Chinese may be marked with prepositions e.g. *bei* 被 or unmarked. Since Straňák has only searched for the passive voice marked by preposition, I adopt this approach here as well. In the Hanku corpus, to search for the passive voice is quite straightforward with the CQL query as follows: [tag="LB|SB"].

The results in the Table 5 show that the frequency of passive markers in all corpora varies. Comparison of the passive marker *bei* 被 from the sub-corpora *zh-law* and *web-zh* also indicate slightly opposite tendency as it was the case of Straňák's research in which the frequency of the passive marker in legal Chinese was significantly higher that

[13] The sub-corpus had a size of 480.000 tokens.

the frequency in other sub-corpora of written language. It is worth noting that the statistical data is not sufficiently large to enable comparison to be performed.

Table 5: Passive markers in the sub-corpora zh-law, web-zh and the corpus Sihanku

Marker	IPM zh-law	IPM web-zh	IPM Sihanku
被	1296	1458	2206
受	47	20	1312
为	5	20	?

The statistical data also has not proven that the passive markers might be one of the indicator of legal texts. The figures of passive markers do not indicate any significant differences between two sub-corpora of the Hanku.

9 Implications for language pedagogy

The quantitative study and its result may be used in language pedagogy too, i.e. by learning Chinese legal texts, one might choose to study not only verbs (according their occurrence in a corpus) but the collocational preferences of verbs with a subject/object or prepositional phrases, which is known as “wordsketch” in corpus linguistics or as “valency” in general linguistics.

It is only a matter of practise for students of Chinese language to write a CQL query or a regular expression and search for the concrete POS or words, even for patterns of sentences. I assume that this may help to improve language teaching methods and materials.

10 Conclusion

In this article, I have presented the results of the corpus-based approach to the study of register variation in Chinese. The research was conducted on a relatively small corpus yet the language data in it may be described as complete and closed. The statistical data of legal Chinese reveals that there are evident differences, e.g. in lexis or syntax. Among the above indicators, the absence of modal particles, onomatopoeias, interjections may be clear evidence of a formal, written register. I have also presented an amount of statistical data in support of the hypothesis in which the proportion of nouns in written formal register (here *zh-law)* prevails over other POS.

Some caution should be applied, when comparing the statistical data in this study with other corpus data. Let us here just highlight some issues:

- The size of a corpus matters, e.g. as it is the case of passive markers
- Different approach to tokenization may result in different statistical data
- It is not always a simple task to compare results from two corpora with different tagsets.

To conclude, a quantitative description is as accurate as precise the automatic process of tokenization and POS labelling is. Over the past few years, we have witnessed steady improvement in automatic tokenisation and the POS tagging processes, nevertheless problems still remain with regards of quantitative comparison of results from different corpora.

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PERCEPTUAL ERRORS IN CHINESE LANGUAGE PROCESSING: A CASE STUDY OF CZECH LEARNERS

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Abstract

There are now a vast number of cross-linguistic studies that investigate how perceptual performance with non-native speech categories is constrained by the listener's native language. However, considering the acquisition of the Chinese language phonological system, studies examining the transfer from less frequent languages are rather rare. The aim of this paper is to fill the gap regarding Czech native speakers. Through examining errors in dictation tests, it introduces some difficulties experienced by beginner level Chinese students and thus provides insight on the perception of Chinese language segmental and suprasegmental features by Czech learners. The findings imply that while errors in initials and finals show a high influence of the native language, errors in disyllabic tonal combinations seem to follow the basic language-independent patterns that have been observed in previous studies.

Keywords: second-language acquisition; non-native speech perception; L1 interference; Chinese phonological system; Czech learners

Povzetek

Obstajajo številne raziskave o tem, kako na zaznavanje govornih kategorij vpliva slušateljev materni jezik, vendar pa so raziskave o usvajanju kitajskega fonološkega sistema s stališča manjših jezikov še vedno zelo maloštevilne. Namen te raziskave je torej zapolniti vrzel z rezultati čeških maternih govorcev. S proučitvijo njihovih napak v narekih avtor predstavi pogoste težave, ki jih imajo češki študenti kitajščine na začetnem nivoju, in ponudi vpogled v značilnosti njihovega zaznavanja na segmentnem in prozodičnem nivoju. Ugotovitve kažejo, da medtem ko so napake v soglasniški začetnici zloga (angl. initial) oz. končniškemu sklopu zloga (angl. final) posledica negativnega vpliva maternega jezika, napake v dvozložnih tonskih kombinacijah sledijo ustaljenim vzorcem in so neodvisne od maternega jezika slušatelja.

Ključne besede: usvajanje drugega/tujega jezika; zaznavanje govora drugega/tujega govora; vplivi maternega jezika; kitajski glasovni sistem; češki študentje

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1 Introduction

At the beginning of this research, the aim was to optimize the content of a course introducing the Chinese phonological system to first-year students in the Chinese Philology B.A. program at Palacký University in Olomouc. Although the characteristics of the Chinese phonological system have been thoroughly described, taking into account its differences from Czech phonological properties (Švarný, 1998; Švarný & Uher, 2001; Třísková, 2014), Chinese teaching materials were used in the course due to the absence of any set of practical exercises. Despite the fact that this material provides a comprehensive training program, the teaching experience has shown that it did not fully meet the requirements of the specific native speaker group. In particular, it does not seem to sufficiently emphasize the similarities and differences between the Chinese and Czech phonological features.

It is generally recognized that a speaker's native language (L1) experience significantly impacts many aspects of second language (L2) acquisition. The influence of the native phonological system on the production and perception of L2 speech sounds is no exception. L2 learners tend to transmit phonological rules from their native language, as well as implement strategies used in L1 acquisition. Using Trubetzkoy's (1969) famous metaphor, the native language phonological system represents a sieve “through which everything that is said is processed” (p. 51). When a learner hears another language, his linguistic experience sets the parameters that constrain perception of the L2 phonological system.

As for Chinese language[1] acquisition, the rapidly growing interest in studying Chinese is bringing increasing attention to its pedagogical theory and practice. Nevertheless, case studies reporting difficulties caused by L1 linguistic experience are still limited to just a few languages. Even though teaching Chinese in the Czech Republic already has an 80-year tradition, there is no systematic study investigating Czech-specific influences on Chinese language processing.

The linguistically homogeneous environment of the Czech Republic[2] provides a space for the adaptation of learning paths according to the needs of a specific group of learners. In order to adjust the course called *Introduction to Chinese Phonetics* to meet the needs of Czech learners, different investigations were carried out, obtaining complex insights. Among other things, an analysis of dictation tests has been performed. These dictation tests have been used as a tool for testing students' perception skills at the end of the course for the last 15 years. As such, they provide a

[1] The term Chinese used in this paper refers to Modern Standard Chinese, with pronunciation based on the Beijing dialect.

[2] Strictly speaking, the needs of two specific groups of learners are taken into account, since Slovak students are also enrolled in the Chinese philology program at Palacký University. Nevertheless, the vast majority of students are of Czech origin. For this study, the target group is only Czech learners.

valuable data collection source whose analysis can reveal useful information on Chinese language processing. By examining the errors occurring in dictation tests, this paper attempts to fill a gap in our understanding of Czech students' Chinese language perception. After a brief introduction of the course's organization and the structure of the dictation test, errors at the segmental and suprasegmental level will be investigated.

2 Organization of the course

Introduction to Chinese Phonetics is a mandatory course taken by all Chinese Philology students in the first semester of their study.[3] Its aim is to introduce students to the basic speech features of Chinese, laying the groundwork for successful language learning. Using the official romanization system Pinyin, students' ability to produce and perceive speech sounds is being systematically developed. 21 45-minute lessons are scheduled three times a week. Different types of exercises are used to improve students' listening ability and production accuracy. After seven weeks of intensive training, students take a dictation test covering both segmental and suprasegmental phonological levels, i.e. the range of Chinese initials and finals, as well as four lexical tones in their 15 possible disyllabic tonal combinations.

The Chinese handbook *Hanyu Putonghua Yuyin Bianzheng* 《汉语普通话语音辨正》 'Correction of Standard Chinese Pronunciation' is used as the main teaching material; however, it has been adapted for the purposes of the course. Using a discrete-item approach, the first third of the course focuses on initials, the second on finals and the last on tonal combinations. Initials and finals with similar phonological features (place or manner of articulation) are compared and drilled. The training is applied with disyllabic compounds as basic units of the modern Chinese lexicon. While practicing a specific feature (e.g. finals *-an* and *-ang*), either two syllables within the same compound (e.g. *dāngrán*), or two compounds are contrasted (e.g. *kāifàn* vs. *kāifàng*).

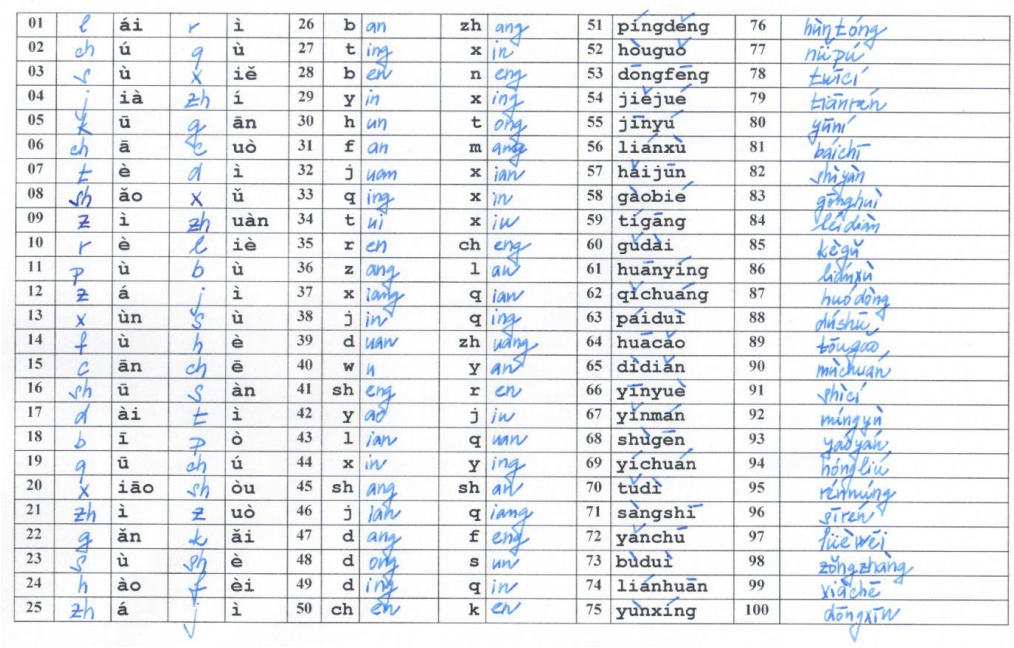
It must be mentioned that the *Introduction to Chinese Phonetics* course is just one part of a comprehensive curriculum in the Chinese philology program; listening and oral comprehension skills are developed in different courses. The goal of this course is to help learners achieve familiarity with common phonemes of the Chinese language as soon as possible. Disyllabic compounds are used as a tool to achieve this goal, regardless of their lexical meaning, in order to restrict learners' concentration to acoustic language features. Considering the non-tonal background, basic

[3] Warm thanks are due to Professor David Uher, PhD, who as a course supervisor and author of the dictation test kindly supported the idea to analyze errors in order to prepare more effective study materials.

suprasegmental units are introduced as well. Sentence-level prosodic patterns are practiced in the follow up courses during the second, third and fourth semesters.

3 Dictation tests

The dictation test contains 100 disyllabic compounds altogether. They are chosen from the exercises used during the course, and no additional combinations are included. Each compound is dictated twice by the teacher and the entire duration of the test is approximately 20 minutes. A special form is used, which is divided into four parts as shown below. It is composed of three partial dictation tasks and one full dictation task. In the first part (numbers 1 to 25), finals are preprinted and students are supposed to fill in the initials according to the dictation. In the second part (numbers 26 to 50) it is the other way around: initials are preprinted and finals (without tones) are to be written down. The third part (numbers 51 to 75) focuses on tonal combinations: students have to mark tones above syllables. These three parts are intended as warm-up exercises that should help students gather their concentration for the most difficult task: in the last part of the test (numbers 76 to 100) they are expected to note down the entire disyllabic compound including tone marks. Since the second and last part require more time for writing, they are dictated at a slower speed. Below is an example of a filled-out test form.



01	l	ái	r	ì	26	b	an	zh	ang	51	píngděng	76	hàntóng
02	ch	ú	q	ù	27	t	ing	x	in	52	hòuguǒ	77	nǚpú
03	s	ù	x	iě	28	b	en	n	eng	53	dōngfēng	78	tuīcí
04	j	ià	zh	í	29	y	in	x	ing	54	jiějué	79	tiānrán
05	k	ū	g	ān	30	h	un	t	ong	55	jīnyú	80	yǔnǐ
06	ch	ā	c	uò	31	f	an	m	ang	56	liánxù	81	báichī
07	t	è	d	ì	32	j	uan	x	ian	57	hǎijūn	82	shìyàn
08	sh	ǎo	x	ǔ	33	q	ing	x	in	58	gàobié	83	gōngjiù
09	z	ì	zh	uàn	34	t	ui	x	iu	59	tígāng	84	lǐdiǎn
10	r	è	l	iè	35	r	en	ch	eng	60	gǔdài	85	kègǔ
11	p	ù	b	ù	36	z	ang	l	an	61	huānyíng	86	liúxià
12	z	á	j	ì	37	x	iang	q	ian	62	qìchuáng	87	huódòng
13	x	ùn	s	ù	38	j	in	q	ing	63	páiduì	88	dúshū
14	f	ù	h	è	39	d	uan	zh	uang	64	huācǎo	89	tōngguò
15	c	ān	ch	ē	40	w	n	y	an	65	dìdiǎn	90	màichuan
16	sh	ū	s	àn	41	sh	eng	r	en	66	yīnyuè	91	shìcí
17	d	ài	t	ì	42	y	ao	j	iu	67	yínmán	92	míngyì
18	b	ī	p	ò	43	l	ian	q	uan	68	shūgēn	93	yǎbiān
19	g	ū	ch	ú	44	x	in	y	ing	69	yíchuán	94	hónglǐu
20	x	iāo	sh	òu	45	sh	ang	sh	an	70	tǔdì	95	rénmíng
21	zh	ì	z	uò	46	j	ian	q	iang	71	sàngshī	96	qìrén
22	g	ǎn	k	ǎi	47	d	ang	f	eng	72	yánchu	97	lüèwèi
23	s	ù	sh	è	48	d	ong	s	un	73	bùduì	98	zǒngzhāng
24	h	ào	f	èi	49	d	ing	q	in	74	liánhuān	99	xuéchē
25	zh	á		ì	50	ch	en	k	en	75	yùnxíng	100	dōngxīn

Figure 1: The filled-in dictation test form

4 Procedure

This study does not attempt to meet the requirements of experimental research. Tests were designed for the purpose of assessing students at the end of the course, not to provide a venue for research. Based on theoretical knowledge about listening comprehension and the teaching experience, the tests were designed in order to measure listening skills gained during the course. Even though the operationalization process applied while compiling an assessment test (theoretical notions about the nature of the listening construct were turned into actual practice, in a set of test items) is similar to that at beginning of the experimental research procedure, the parameters used in compiling the test were determined by its primary purpose, which was not to observe but to assess students' performance. Nevertheless, the tests represent a valuable data source, especially considering the amount of collected materials and the long time span when they were collected. As such, they provide an otherwise not easily obtainable source for exploring perceptual errors by Czech learners of Chinese. The specific circumstances regarding the data collection, however, have to be taken into account while interpreting the findings.

The dictations have been held since 2002 and up to now over 1500 tests have been collected. This paper investigates errors occurring in the tests from 2002 to 2008. There were altogether 715 tests collected during this period. The first examination of the tests has, however, shown that those with a high error rate need to be excluded from the analysis. The majority of errors clearly indicated a lack of familiarity with the notation system, i.e. letters used to write down initials and finals were highly influenced by the symbols used in Czech orthography. This fact made it difficult to identify perceptual difficulties. Due to this, tests with a maximum of 10 errors were selected in order to analyze speech perception at the segmental level (27% of the analyzed sample). Considering the fact that no interference with the Czech graphic system can be expected while placing the tonal marks, the analyzed sample was extended to 20 errors at the suprasegmental level (52% of the analyzed sample).

During this time, many different versions of tests were used. Although the general layout has not changed, the set of disyllabic compounds used vary from one to another. Because the tests were constructed with the intention of providing a general testing tool, the features of the Chinese phonological system are not equally distributed. As such, they were not suitable for the analysis of sensitivity to specific speech contrasts in the form of scores on correct identifications. Considering this fact, tests were analyzed in terms of errors in initials, finals and tonal combinations. The incorrect notations for each of these three units were collected together in order to identify the underlying patterns.

5 Results

Errors were evaluated from two perspectives. Firstly, disyllabic compounds with incorrectly noted initials and finals were examined. Secondly, confusions in tonal combinations were analyzed. Analysis of tests with a maximum of 10 errors has shown that proportionally speaking, Czech students experience more difficulties with the acquisition of the segmental level than with the perception of the disyllabic tonal combinations. Nonetheless, it has to be noticed that the vast majority of errors at the segmental level consist of errors in finals. In fact, errors in both finals and tonal combinations each account for about two fifths of incorrectly noted compounds. Contrary to expectations that a wider spectrum of errors might occur within the fourth (full dictation) part of the test, the analysis did not reveal significant differences. Besides, considering the long time period of data collection, the results imply only a negligible variation of errors typology. Thus, the overall findings are presented in the following two subsections.

5.1 Errors at the segmental level

Analysis has shown that errors in initials occur rarely. The results do not exactly support the presumption that because of the different distinctive phonological features characteristic for Czech (correlation of voicing) and Chinese (correlation of aspiration), Czech students might have difficulties with distinguishing aspirated and non-aspirated consonants (Třísková, 2014). Only one of the six pairs, velars *g-* and *k-*,[4] appeared multiple times within incorrectly noted initials. The familiarity of the non-aspirated voiceless consonants obviously represents a solid basis for the aspirated consonant recognition.

However, distinguishing aspirated consonants from one other, specifically the dental *c-* and post-alveolar *ch-* versus palatal *q-*, cause Czech students the biggest difficulties. Apparently students tend to overlook the fact that *c-* and *ch-* combine with a completely different set of finals than *q-*. As can be seen below, the incorrectly noted versions are either pronounced completely differently or do not even exist. More than anything else, these errors mostly indicate a lack of familiarity with the Chinese phonological system. However, one cannot overlook the possible reason for these confusions. Affricates *c-* and *ch-* before apical vowels are pronounced differently than in combination with other vowels: the type of aspiration is the same as in case of affricate *q-* (Třísková, 2012, p. 143) which might be a similarity causing confusion.

Besides, the analysis has shown that students tend to overlook the different distributional environments of the fricatives *x-* and *sh-* as well. It must be the same

[4] Considering the topic of this paper, Pinyin letters are used to note the described initials and finals.

place of articulation that tempts students to fail to notice not just their complementary distribution, but also their phonological differences. Nevertheless, in contrast to another pair of errors these are easily fixed. The palatals *q-* and *x-* share the same set of finals, and since neither of them is present in the Czech phonological inventory they are quite difficult to master.

Table 1: Most frequent errors in initials

Initials	Examples
k- vs. *g-*	*chāng**g**uáng* instead of *chāng**k**uáng*
c-/*ch-* vs. *q-*	***c**ìchuán* instead of ***q**ìchuán* ***q**āoqún* instead of ***ch**āoqún*
sh- vs. *x-*	*xīn**x**ǎng* instead of *xīn**sh**āng*
q- vs. *x-*	*yuán**q**iān* instead of *yuán**x**iān*

Four fifths of errors on the segmental level consisted of incorrectly noted finals. Three features causing difficulties can be identified. Two of them are related to single finals. Firstly, about 10% of errors show difficulties with the distinction between mid-round -e and the two apical vowels *-i* after post-alveolars *zh-*, *ch-*, *sh-*, *r-* and dentals *z-* , *c-*, *s-*. Secondly, about 16% of errors involve front high vowels, specifically discriminating between unrounded *-i* and rounded *-ü*. Students mostly tend to miss the higher level of roundedness than the other way around. Both of these types of errors are explainable in terms of differences between the Czech and Chinese vowel systems.

However, the most difficult finals to perceive are those with nasal endings, which appear in more than two thirds of the incorrectly noted finals. Even though both alveolar and velar nasals can be found in Czech speech sounds, the velar nasal is just a positional variant of the alveolar phoneme and is regularly used before velar consonants *k-* or *g-* in the middle of words. In comparison with Chinese, the alveolar and velar nasal do not occur in contrastive distribution. The experience of Czech learners with velar nasals is limited to a certain environment, which must be a reason why its mastery is difficult. Třísková (2012, p. 290) points out that under the influence of their native language, Czech students tend to put non-aspirated velar *k-* after the velar nasal while pronouncing the velar nasal. As far as our own pedagogical experience is concerned, they also tend to merge velar nasals with alveolar nasals, making no distinction between them. Analysis of dictation has shown the same blending in their perception. The recognition of differences between the two types of nasal endings has been identified as the most difficult issue of speech perception. Considering the structure of the final, the following pairs are especially difficult to distinguish: *-in* vs. *-ing*, *-uan* vs. *-uang* and *-an* vs. *-ang*.

Errors in finals with nasal endings are not limited to those relating to discrimination of nasals. There were also difficulties with vowel differentiation before velar nasals. Firstly, confusion of final *-ang* and *-eng* was identified. Secondly, a syllable with zero initial *ying* was repeatedly noted incorrectly as *yong* or *yung*. It seems difficult for students to distinguish the nucleus of finals whose pronunciation is affected by the velar nasal ending. Besides, there was one syllable with alveolar ending that, based on a spectrum of incorrect notation, can be marked as difficult to perceive as well. It is the final *-u(ə)n*, and as shown below, the incorrect notations of the example syllable *sun* include *suan*, *sang* and *song*.

Table 2: Most frequent errors in finals

Finals	**Examples**
apical vowels *-i* vs. back unrounded *-e*	*bōzhí* instead of *bōzh**é***
unrounded front high *-i* vs. rounded *-ü*	*lǚjī* instead of *lǚj**ū***
alveolar vs. velar nasals (*-in*/*-ing*, *-uan*/*-uang*, *-an*/*-ang*)	*j**īn**xīn* instead of *j**īng**xīn* *chāngk**uán*** instead of *chāngk**uáng*** *shēngch**ǎng*** instead of *shēngch**ǎn***
finals *-ang* vs. *-eng*	*píngd**ǎng*** instead of *píngd**ěng***
syllable *ying*	incorrectly noted as ***yong***, ***yun***, ***yung***
final *-un* (*-uen*)	*dōngs**uǎn**, dōngs**ǎng**, dōngs**ǒng*** instead of *dōngs**ǔn***

To sum up, confusion on the segmental level appears to be proportional to the dissimilarities between both languages in phonetic and phonological features. They reveal in substantial measure the main differences in the phonological organization of Czech and Chinese. In regard to the experience gained through teaching the *Introduction to Chinese Phonetics* course, one cannot overlook the correspondence with the most prominent pronunciation difficulties, confirming a high level of correlation between speech production and perception.

Considering the types of errors, they appear to be consistent with the fundamental premise of the so-called perceptual assimilation model of cross-language speech perception described by C. T. Best (1995). She pointed out that the reason L2 learners discern the differences between pairs of sounds in the L2 might be the fact that they tend to perceive the non-native sounds “according to their similarities to, and discrepancies from, the native constellations that are in the closest proximity to them in native phonological space” (p. 185).

Within the above described errors, several examples can be found indicating that learners show a tendency to assimilate non-native sounds to the most similar native

category that is straightforwardly closest in the L1 phonological space. This must be the reason why Czech learners have difficulties with distinguishing *k-* vs. *g-*, *x-* vs. *sh-*, *-ü* vs. *-i* and velar vs. alveolar finals: it is due to assimilation, non-native sounds and the closest native sounds being perceived as members of the same category. On the other hand, it also seems that non-native palatals *q-* and *x-* are not strongly assimilated to two different native categories since learners also face difficulties with their differentiation. These errors might indicate another type of assimilation defined by Best, i.e. uncategorizable speech sounds that are assimilated within native phonological space but not as a clear example of any particular native category. This also seems to be case of another pair of non-native speech sounds: apical vowels *-i* and back round vowel *-e*.

5.2 Errors at the suprasegmental level

Within the analyzed sample of dictation tests, 778 incorrectly noted tonal combinations were collected. According to occurrence of errors, the 15 possible tonal combinations[5] can be divided into the following four levels of difficulty. As can be seen, there is at least a 1% gap between neighboring levels.

Table 3: Errors in tones

Level	Percentage of errors in tones	Combinations
1.	over 13%	T3–T4, T1–T3
2.	11% – 9%	T2–T4, T2–T1, T2–T3, T4–T3
3.	7% – 4%	T3–T1, T4–T2, T1–T2, T3–T2
4.	less than 2%	T4–T1, T1–T4, T4–T4, T1–T1, T2–T2

The results indicate that the easiest tonal combinations to recognize are all combinations of the two same tones. Besides, the combinations of T1 and T4, regardless of their position, also belong to the least difficult group of tonal combinations. On the other hand, the combinations with T2 or T3 (including their mutual combinations) appear to be not easy to perceive. The most difficult combination is T3–T4: its incorrect notations account for 19% of errors in tonal combinations. Taken together with T1–T3 as the second most difficult combination, their incorrect notations constitute almost one third of all errors at the suprasegmental level.

[5] T3–T3 was included under T2–T3 because its pronunciation is, due to the sandhi rule, the same.

Let us now examine types of errors in detail. Firstly, the position of the error within the combination was investigated. Analysis has revealed that students have more difficulties to recognize the tone on the first syllable than on the second syllable. To be specific, 69% errors occur on the initial and 37% on the final syllable. It seems that the impression of the second syllable might influence the perception of the first one. As the numbers indicate, errors on both syllables are rather rare; this was the case in only 6% of incorrectly noted combinations.

Secondly, the question to be answered is whether the errors show any systematic behavior. Analysis has pointed out some important results that need to be further discussed. First of all, a strong connection between errors occurring within combinations T3–T4 and T2–T4 has been identified. As for the T2–T4, it is T3 that can be found on the first syllable in almost of 90% of its incorrect notations. And vice versa the same phenomenon can be observed, even though with a slightly lower frequency rate: T2 occurs on the first syllable in the 82% of incorrectly noted T3–T4 combinations. It appears that T4 starting at the top of pitch range makes it difficult for students to distinguish whether the preceding syllable was rising or not.

Moreover, the same connection can be identified for another pair of combinations. As for T1–T2 and T1–T3, Czech students face perceptual confusion between T2 and T3 on the second syllable. In this case, the mutual error frequency rate of 64% is identical for both combinations.

Nonetheless, patterns without such a clear mutual connection can be observed as well. Considering the other combinations rated above as most difficult, three other easily misidentified pairs of combinations can be identified. As can be seen below in Fig. 4, the error rate frequency for T2–T3 incorrectly noted as T4–T3 is especially high. However, errors concerning the combination T4–T3 occur more often with the second syllable being confused for T2.

Table 4: Tonal combinations: most frequent types of errors

Combination	Incorrectly noted as	Rate
T2–T4	**T3**–T4	90%
T3–T4	**T2**–T4	82%
T2–T3	**T4**–T3	84%
T1–**T2**	T1–**T3**	64%
T1–**T3**	T1–**T2**	64%
T4–**T3**	T4–**T2**	51%
T4–T3	**T2**–T3	36%

The results demonstrate that the greatest difficulties in tonal differentiation involve the pair of T2 and T3. Considering the fact that students take the test after seven weeks of training, this result is consistent with McGinnis's (1996, p. 87) theory that at the second stage of development of tonal perception skills, students begin to develop tonal confusion difficulties on the basis of similar tonal contours. However, it has been also observed that Czech learners experience difficulties concerning T2 and T4 discrimination, which are, according to McGinnis's research relating to American English speakers, easy to confuse during the initial period of Chinese language study because learners place greater emphasis on the extreme endpoint of a given tone and less on its direction.

Generally speaking, phonetic features of tones are considered one of the key factors that have been found to affect tone learning. Gandour (1981) has observed that tones which are highly similar in their Fundamental Frequency (F0) are more likely to be confused than tones whose F0 patterns are different. His findings were later confirmed in several other studies. In one recent study, So & Best (2010) examined the tonal perception of six Chinese syllables by Hong Kong Cantonese, Japanese and Canadian American native speakers. Although their results revealed language-specific errors, language independent patterns were identified as well: regardless of the learners' backgrounds, tones which have similar phonetic features (T1 vs. T2, T2 vs. T3, T1 vs. T4) were more difficult to distinguish than those with dissimilar features (T1 vs. T3, T2 vs. T4, T3 vs. T4). As for the Czech students, difficulties with the discrimination of T2 and T3[6] are consistent with this theory. It also aligns with the general assumption that T2 and T3 are the most confusable tone pair.

However, significant differences can be found when comparing the results with another recent study, this time focusing on disyllabic compounds. Lilienfeld (2015) examined tone perception by 111 beginner level Chinese students from different backgrounds (tonal as well as non-tonal, though none of them was from a Slavic-language background). Despite certain mean score differences, all students performed similarly for overall tonal combination perception. Analyzing the results, Lilienfeld detected the impact of tone placement as one of the factors influencing the perception of T3; the combinations with T3 on the initial position (T3–T1, T3–T2 and T3–T4) were identified as hardest, in contrast to the easiest tonal combinations T1–T3 and T2–T3. These findings are considerably different from those identified in the case of Czech learners. Only the combination T3–T4 was found to be the most difficult in both studies. Otherwise, the results of this study are the opposite of those obtained by Lilienfeld. Combinations T1–T2 and T2–T3 belong to those that were highly misinterpreted; on the other hand, errors within combinations T3–T1 and T3–T2 appear to be relatively

[6] The similarity shared by T2 and T3 is that both have a lower-to-higher pitch range, even though for T3 this is the case only in the final position.

fewer. Unfortunately, Lilienfeld's study does not include any description of error patterns typical for each combination, whose comparison might provide additional insight.

Despite the obvious differences, there is one important fact connecting both Lilienfeld's and the present study. Although all the most frequent errors are in some way connected with T3, the results suggest that one cannot sum it up as an overall difficulty regardless of the tonal combination. However, compared to Lilienfield's findings, it is obvious that the perception difficulties with T3 observed in Czech students show a more complex pattern. Firstly, difficulties with discrimination of T3 and T2 on the initial syllable occur in disyllabic compounds with T4 on the final syllable. Secondly, T3 and T2 on the final syllable are not easy to distinguish in disyllabic compounds with T1 or T4 on the initial syllable. Moreover, the position of T3 on the final syllable makes the recognition of T2 and T4 on the initial syllable difficult.

6 Conclusion

The analysis of errors occurring in dictation tests has revealed how Czech listeners' performance is constrained by their phonological system. The results demonstrate that, despite their non-tonal language background, the discrimination of tonal combinations is not the most challenging issue in Chinese speech perception for Czech learners, or at least not after the intensive seven weeks of training that the students went through before taking the test. If anything, they seem to experience the same difficulties with perception of Chinese finals as well. Besides, the study has also provided an overview of the most confusable pairs at the segmental and suprasegmental level. Unlike the language-specific errors in initials and finals, the identified patterns of errors in tonal combinations appear to be language-independent, since they are, in general, consistent with what has been reported in previous studies on cross-linguistic perception of the Standard Chinese tonal system, i.e. that tones with similar features are likely to cause more perceptual difficulties. In addition, the findings have also indicated that the tone errors of Czech learners seem to follow relatively complex patterns.

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