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RESEARCH ARTICLES

DERIVING AND INTERPRETING KA(KARIMUSUBI) IN PREMODERN JAPANESE

Moreno MITROVIĆ[1]
University of Cambridge
mm821@cam.ac.uk

Abstract

This paper provides a new syntax and semantics for *kakarimusubi* (KM), a focus construction prominent in the grammar of Old Japanese (OJ) and Early Middle (Classical) Japanese (CJ), which diachronically developed into the interrogative construction in Modern Japanese (MdJ) headed by the *ka* particle. Adopting Chierchia & Caponigro's (2013) novel analysis of Free Relatives (FRs) as embedded interrogatives, an FR-based analysis of KM is proposed so as to obtain a compositional semantic analysis of this focus construction as well as an account of the adnominal marking of the presuppositional *musubi* component of this grammatical construction.

Keywords: Old Japanese; syntax-semantics of focus; particles

Povzetek

Članek predlaga novo skladenjsko in pomenoslovno analizo *kakarimusubi*-ja, konstrukcije žariščenja, ki je bila prominentna slovnična značilnost v stari japonščini (OJ) ter zgodnjesrednji (klasični) japonščini (CJ) in katera se je diahrono razvila v vprašalno konstrukcijo, izraženo s členkom *ka*, v moderni japonščini (MdJ). Z usvojitvijo Chierchiove & Caponigrove (2013) nove analize prostih odvisnih stavkov (FR), po kateri so le-ti sestavljeni iz vprašalnih stavkov, predlagam analizo KM, zasnovano na FR, s katero dosežem sestavno-pomenoslovno analizo te konstrukcije žariščenja kot tudi analizo adnominalnega označevanja na predpostavnem *musubi* delu te slovnične sestave.

Ključne besede: stara japonščina; skladnja/pomenoslovje žariščenja; slovnični delci

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1. Introduction

This paper provides a novel analysis of the *ka*-marked *kakarimusubi* (KM) construction on both syntactic and semantic levels. I first review the synchronic syntactic status of KM in premodern Japanese and account for its diachronic decline in Section 2. Section 3 then translates the motivated syntactic structure into a formal semantic composition. The core analysis will hinge on Chierchia & Caponigro's (2013) novel analysis of Free Relatives (FRs) as embedded interrogatives. KM will be shown to involve the syntactic structure of a FR which is the derivational source of the adnominal marking on the *musubi* component. Section 4 concludes the discussion.

2. The syntax of *kakarimusubi* and its historical demise

One of the most exotic and interesting gramamtical structures in OJ is the *kakarimusubi* (KM) construction. Translating as 'hanging-tying', KM, as Frellesvig (2010: 247) describes it, is a Japanese grammatical term for a specific focus construction, in which some constituent is marked by one of the '*kakari* particles' and the core predicate it relates to is in a specific nominal form, rather than in the conclusive form generally used to conclude sentences. Given below is a simple, yet representative, example of KM, taken from Watanabe (2002: 181), where we underline the two crucial components: the co-occurrence of the *ka* (κ) particle and the adnominal inflection on the verb.[2]

(1) 敵見有　　　　虎　　可　　吼登
     atami-taru   twora **ka** poyu-ru
     iritated.STAT tiger **κ** roar-ADN

     'Is it [an irritated tiger]^F that is roaring?' (MYS 2.199)

Frellesvig (2010: 249) elegantly equates *kakarimusubi* and the theme-rheme construction, which we show in Tab. 1, where topic and focus are seen as forming subtypes of *kakarimusubi* (theme-rheme).

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[2] We limit our analysis to *ka*-type KM only. For a wider empirical descriptions of the general phenomenon and recent syntactic analyses, see Whitman (1997); Serafim and Shinzato (2000); Wrona (2007), and the work cited therein.

Table 1: KM as a theme-rheme super-construction .

[SEGMENT]	**Kakari** (theme)	**Musubi** (rheme)
[STRUCTURE]		
[INTERPRETATION]	focus	presupposition
[FORM]	headed by particle *ka*	adnominal

$$\kappa P$$
$$XP_i$$
$$\kappa$$
$$t_i \ldots V_{ADN} \ldots$$

While prevalent in both OJ and CJ, the KM construction disappears from the language by the Edo period, i.e. by the beginning of the 17th century as previous diachronic research on the topic has shown (Serafim and Shinzato 2000: 82; Okimori 1989: 95–98).

CJ prose, as Vovin (2003: 431) observes, boasted two interrogative particles: *ya* and *ka*, which forms the core point of interest in this paper. Ikeda (1975) notes that the *ka* particle expresses a question aimed at the speaker himself, while the particle *ya* expresses a question directed at the addressee. Vovin (2003) has subsequently shown that recent investigations of CJ grammar invalidate Ikeda's (1975) original generalisation. While *ka* may express self-addressing and rhetorical questions, it also expresses questions aimed at the addressee. Same has been shown to hold of the *ya* particle. On a more morphosyntactic level, *ya* occurs exclusively in polar questions, while *ka* tends to be used (not exclusively, however) in combination with *wh*-interrogatives.[3]

(2)   Traditional view on the time course of the change (Watanabe 2002: 182)

gradual loss of *kakari-musubi*

8th c. 9th c. 10th c. 11th c. 12th c. 13th c. 14th c. 15th c. 16th c. 17th c.

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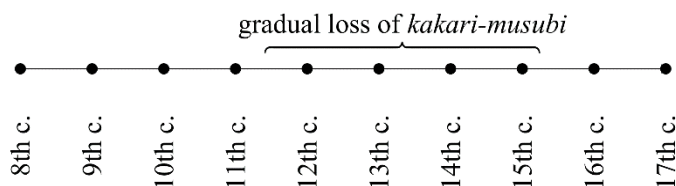
[3] This usage of *ka* in combination with *wh*-phrases, has been observed by Tokieda (1954) and has subsequently received excellent formal diachronic treatments by Watanabe (2002) and, especially, Aldridge (2009).

The particle *ka*, all up until the 17th century, is an exclusive feature of the KM construction, which has an inherently focal semantics. We plot in (2) the time of loss of the KM construction, taken from Watanabe's (2002) work. The synchronic affinity between focus and interrogativity has been recognised since, at least, Erteschik-Shir (1986), who argued for the idea that the *wh*-phrase in a *wh*-question functions as the focus of the question. This idea, in light of KM, lends itself to a diachronic analysis of Old and Classical Japanese *ka* which underwent a change from being a focus operator, combining with *wh*-terms, to a question operator. We state this diachronic hypothesis in a more formal term in (3) using a(n *i*nterpretable) feature notation (Chomsky 1995, et seq., inter. al.).

(3)   OJ/CJ: *ka* [iFOC] ≫ Post-CJ/MdJ: *ka* [iQ]

Evindence in (4) demonstrates that OJ *ka* was not originally a question particle since interrogative meaning may obtain without *ka*-marking. We reiterate Aldridge's (2009) arguments against an interrogative analysis below.

(4)   伊麻   波伊可爾   世母
        ima-fa ikani   se-mo
        now-TOP how   do-SUPP.ADN

        'What should we do now?'   (MYS 14.3418, l. 5; from Aldridge 2009: 550)

The focus particle *ka*, as Watanabe (2002: 183) notes, had no restriction to host *wh*-terms in the OJ period (8th c.) since *ka* was able to host a non-*wh*-phrase. It was Nomura (1993a, b) who first examined the ordering restriction on the placement of *ka* within the clause in OJ (MYS), clearly showing that there was a fixed position for the placement *ka*, with regards to other grammatical markers of topichood (*fa*) and subjecthood (*no/ga*). This line of reseach has shown that *ka* and its host are restricted to a position following the topic marker *fa* but preceding (>) the *no/*ga-marked subject. Listed in Tab. 2 are Nomura's results as refined by Wrona (2007: 3), who shows several problems with the statistical analysis that Nomura (1993a, b) made and Watanabe (2002) adopted.

Table 2: The relative order of ka-phrases in MYS (p <0.005) as per Nomura (1993b, a) and Wrona (2007) .

				token #
GENITIVE SUBJECT	XP-**ka**	>	subject-**no/ga**	15
	subject-**no/ga**	>	XP-**ka**	1
TOPICALISED SUBJECT	XP-**ka**	>	subject-**fa**	1
	subject-**fa**	>	XP-**ka**	18

The data in Tab. 2, stemming from Nomura (1993a, b), motivate a generalisation according to which *ka*-marked constituents generally follow *fa*-marked topics and precede genitive subjects, which we adopt from Aldridge (2009) and provide in (5).

(5)   NOMURA'S GENERALISATION (Aldridge, 2009: 557):
       XP-**fa** …YP-**ka** …DP-GEN …V-ADN

Watanabe (2002) thus proposed, and reiterated in Watanabe (2005), an analysis of high *wh*-movement to [Spec, FocP], where Foc may well stand for our κ head, where he located the κ head in the left-peripheral position of the clause. Given the evidence in Tab. 2, the partial syntax of OJ CP is the one in (12). In line with Whitman (2001), and indeed Kayne (1994: 143, fn. 3), we take the OJ genitive *no/ga* markers to be exponents of T^0 and the topic marker *fa* to be the realisation of Top^0.

(6) Clausal left periphery in OJ:
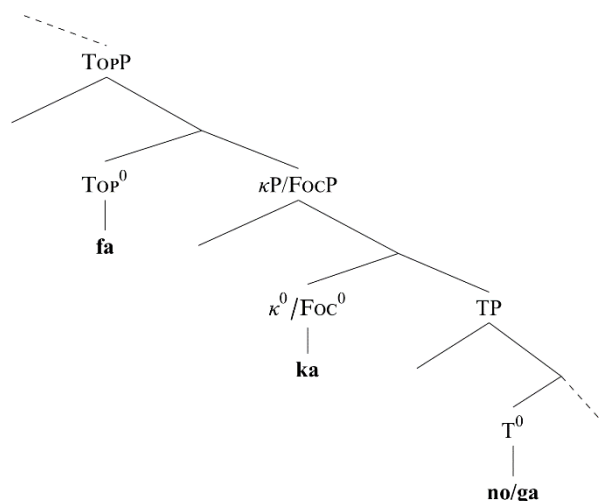
Instead of an analysis according to which the *wh*-terms target a high focus position above the TP (6) as originally proposed by Watanabe (2002), Aldridge (2009) refines the analysis and proposes to treat the *wh*-movement as targeting a low focus position, as indicated in (7b), instead of a high focus position (7a). The Foc head in (7a) and (7b) corresponds to our κ label.

(7)   a.   HIGH FOCUS MOVEMENT
              [$_{TopP}$ XP Top [$_{FocP}$ YP$_{wh}$ Foc [$_{TP}$ DP$_{GEN}$ …]]]

       b.   LOW FOCUS MOVEMENT
              [$_{TopP}$ XP Top [$_{TP}$ DP$_{GEN}$ [$_{FocP}$ YP$_{wh}$ Foc [$_{vP}$ DP$_{GEN}$ …]]]

Aldridge (2009: 551) shows that genitive subjects, unlike nominative subjects residing in [Spec, TP], are rather better analysed as residing in their base-generated position in [Spec, *v*P], which additionally allows for a TP-internal landing site for *wh*-movement. Aldridge (2009: sec. 3) additionally shows that, other than the topic-marked (*fa*), syntactic material may precede the *wh*-elements, which a high-movement analysis (Watanabe 2002, 2005) does not predict and which, in fact, severley compromises the analysis according to which *wh*-movement targets a high left-peripheral position. Consider (8) taken from Aldridge (2009: 555).

(8)   保登等芸須   [都奇 多都 麻泥爾]   奈仁 **加**   吉奈可奴
       pototogisu   [tukwi tatu made-ni]   nani **ka**   ki-naka-nu
       cuckoo.NOM   [moon rise before-DAT] why **κ**   come-sing-NEG

       'Why does the cuckoo not come to sing [before the moon rises]?'
                                       (MYS 17.3983, ll. 3–5; from Aldridge 2009: 555)

Even scrambled objects, assumed to target the edge of TP (McGinnis 1999; Miyagawa 2001, 2003, 2005) appear in a position preceding the κ-*wh*-phrase, as Aldridge further demonstrates. In (9), the *wh*-phrase is shown to follow both the scrambled object, residing in [Spec,TP], and an adverb located in a position higher than the high *wh*-movement analysis would predict.

(9)   都称   斯良農   道   乃   長手   袁   久礼久礼等   伊可
       [tune   sira-nu   miti   no   nagate] wo   kurekure-to   ika-ni
       [normally know-NEG road GEN   journey]ACC in-dark   how-DAT

       可   由迦牟
       ka   yuka-mu
       κ   go-SUPP

       'How should I proceed in the dark on a journey on a road I normally do not know?'   (MYS 5.888a, ll. 1–4; from Aldridge 2009: 555)

Regarding the question that intrigues us most here, namely the synchronic and diachronic status of morphosyntactically encoded interrogativity, Aldridge (2009: 561) recognises that the κ particle had no interrogative force whatsoever, since (semantically) its function seems to have operated a focus-sensitivity role alone and (syntactically) its position, as Aldridge (2009) convincingly shows, is far lower for it to attain interrogative scope. Instead, she proposes that the mechanism of interrogative scope-taking is unselective binding for, at least, two reasons: (a) *wh*-items can appear inside islands, as Whitman (2001) first observed; and (b) *wh*-words function as indefinite variables.[4]

What we do know, and demonstrate below, is that κ developed its interrogative semantics and high syntactic position in the later periods, namely after the 14th century. Takamiya (2005) first observed the constant diachronic rise of the (indirectly) interrogative function of the *ka* particle, which we list in Tab. 3 and plot in Fig. 1. See also Kinuhata and Iwata (2009) for a diachronic analysis.

Table 3: Diachrony of questions with *ka* (か) in Japanese (Takamiya, 2005).

century	14th	15th	17th	18th	18-20th	19th	20th
# of tokens	1	9	31	23	34	40	121

Figure 1: Diachrony of *ka*-marked indirect questions in Japanese
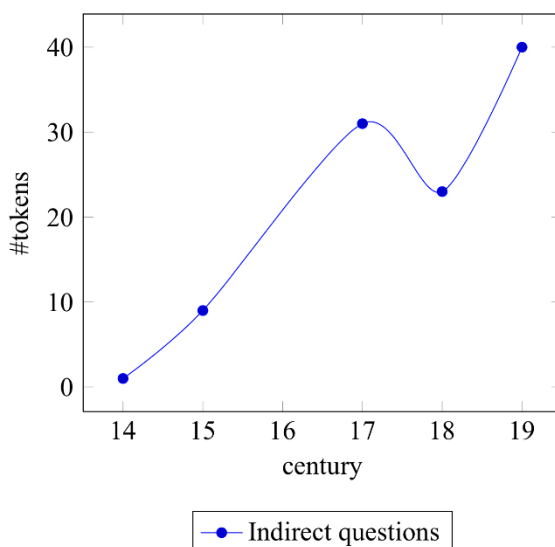
Also note that both *mo* (μ), another prominent OJ particle, and *ka* (κ) may co-occur simultaneously, which obtains a *kakarimusubi*-like construction featuring both an

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[4] A variable treatment of *wh*-terms in OJ is also defended in Mitrović (2014: ch. 5).

interrogative and a focus meaning. Since κ did not encode for interrogativity, we assume this is done by a silent Q-operator. The following two examples show the co-occurrence of mo (µ) and ka (κ) particles.

(10) 何物鴨   御狩   人之   折而   将挿頭
Nani-wo-**ka-mo** mikari=no fito-no   ori-te   kazasa-mu
what-ACC-**κ** + **µ** hunt-GEN   person-GEN pick-CONJ wear.on.hair-MOD.ADNOM

'What should the hunters pick and wear on their hair?'

(MSY 10.1974, ll. 3–5; Aldridge 2009: 550)

(11) 伊可爾   安良武   日能   等伎爾   **可母**   許恵   之良武
ika-ni   ara-mu   pi-no   toki-ni   **ka-mo**   kowe   sira-mu
how-DAT   be.MOD   day-GEN   time-DAT **κ** + **µ**   voice   know-MOD

比等能   比射乃   倍   和我   麻久良可武
pito-no   piza-no   pe   wa-ga   makuraka-mu
person.GEN   knee.GEN   on   1S-NOM   rest.head-SUPP

'On the day which will be like what will I rest my head on the knee of someone who understands me?'   (MYS5.810; Aldridge 2009: 560)

We therefore slightly rearticulate Nomura's generalisation so as to include the particle µ (*mo*) as being in a fixed position. (See Mitrović 2014 for details.)

(12)   Clausal left periphery in OJ (articulated):
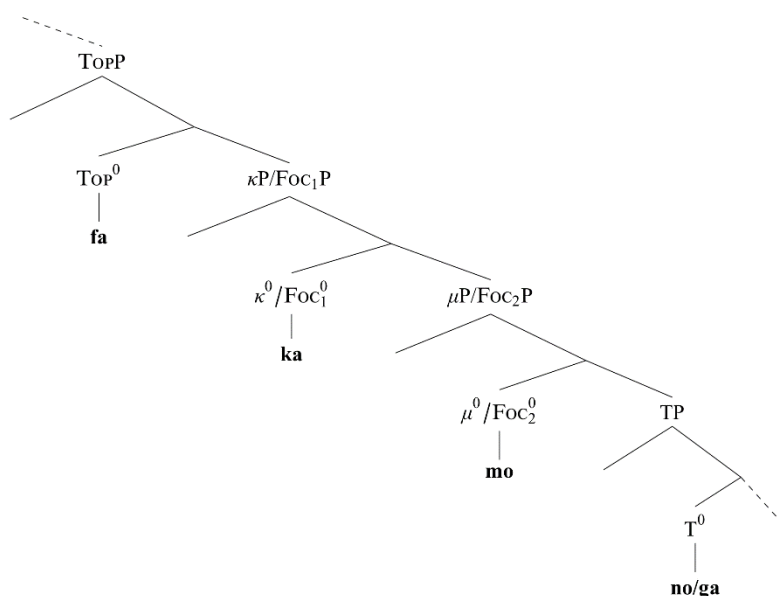
In Tab. 4, we list occurrences and types of particle composites in OJ as found in MYS. The fact that *mo* and *ka* occur in rather fixed positions confirms our conjecture of rearticulating Nomura's generalisation as stated in (12).

Table 4: The relative order of ka-phrases in MYS ($p < 0.005$) as per Nomura (1993b, a) and Wrona (2007).

particle sequence	# of tokens
ka mo ka mo	2
mo ka mo ka	0
mo ka mo	9
mo ka	60
mo ga	1
ga mo	3
ka mo	154
ga mo ga	0
ga mo ga mo	0
mo ga mo ga	0

Given Aldridge's (2009) evidence of the low position of κP, we simply relocate the κP-μP phrase couple to a lower position, along the lines of Aldridge's (2009) original proposal.

(13)   LOW FOCUS MOVEMENT (rearticulated)

[$_{TopP}$ Top [$_{TP}$ DP$_{NOM}$ [$_{FocP}$ Foc$_1$=**ka** [$_{FocP}$ Foc$_1$=**mo** [$_{vP}$ DP$_{GEN}$]]]]]

In CJ, the *ka-mo* particle composite was lost, as Frellesvig (2010: 241) convincingly shows, which parallels our diachronic analysis, stated in (14), according to which κ underwent eventual structural reanalysis from a lower pre-verbal TP-internal position to a higher CP-internal position.

(14)   a.   OJ/CJ: ≫   b. post-CJ/MdJ
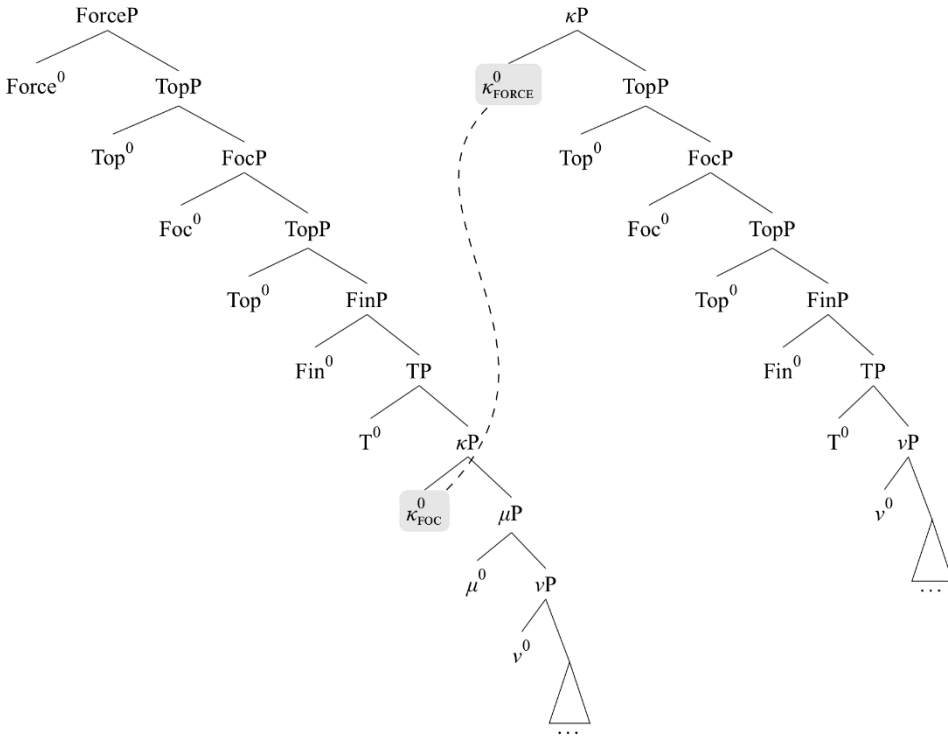
Semantically, the change is from a focus-sensitive to an interrogative operator. Conceptually, both focus and interrogative constructions share an alternative-semantic core in that they both raise alternatives. Technically, the focus hosts of OJ/CJ κ are generally DPs—predominantly, *wh*-words, as we have been exploring. The interrogative κ in the post-classical period is confined to propositional hosts. While focus-alternatives are type-ambivalent and contextually determined, polar question alternatives are type-fixed, i.e. confined to propositional types $\langle s,t \rangle$ and inherently binary.

In the next section, we motivate a syntactic structure for KM along with a compositional semantics.

3.   A compositional analysis of *kakarimusubi*

In this section, we review and adopt the recent proposal by Chierchia and Caponigro (2013) according to which free relatives (FRs) are derived from questions (Qs). We show that this account lends itself to an analysis of KM, which we have already overviewed. Before we move onto the two points of interest and application, let us first review Chierchia and Caponigro's (2013) derivation.

3.1 Setting up the formal system: questions and free **relatives**

The idea that relative and question expressions share a interrogative core is put forth up by Chierchia and Caponigro (2013), whom we follow so as to derive the κ-marked KM.

Chierchia and Caponigro (2013) adopt a loose variant of Cecchetto and Donati's (2010) approach to free relatives and labelling, according to which interrogative and relative constructions share a common syntax, *modulo* the label of the root, on which the interpretation hinges. Take (15), taken from Cecchetto and Donati (2010), where the labelling algorithm at the root of the tree cannot readily determine a label (Λ) for the structure since the tree is essentially a set containing two subsetssets: $\{_{\Lambda:?}\{_{\Lambda:D}$ what$\}$ (the *wh*-term in [Spec, CP]) and $\{_{\Lambda:C}$ CP$\}\}$ (the CP without its left edge).

(15)   Cecchetto and Donati's (2010) labellability of Qs *vs.* FRs:
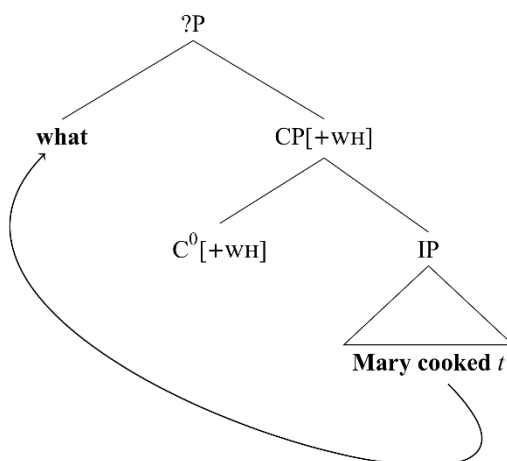
There is a theoretically presupposed idea in treating the Q/FR distinction, namely that they share a derivationally identical structure, *modulo* the final label, which is determined structure-externally, i.e. c-selectionally. In broad terms, if a head α merges above and combines with ?P in (15), ?P projects/labels as [C] if α subcategorises for [uC]; alternatively, if α subcategorises for [uD], ?P projects the [D] label as provided by what in [Spec,?P].[5]

Chierchia and Caponigro (2013) thus build on this idea that relatives, such as *Mary ate what John cooked*, are structurally—and thus interpretationally—embedded interrogatives. Note that this departs from traditional analyses, both syntactically, where relativisation is completely independent from interrogativity, as well as semantically,

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[5] The subcategorisation is notated using *u*ninterpretable categorial features ([uC]), as per minimalist assumptions (Chomsky 1995) briefly laid out in the previous section.

where the traditional view maintains that clauses with *wh*-terms are traditionally seen as property- or set-denoting λ-abstracts, as per Groenendijk and Stokhof (1983) and that there exist two distinct semantic shift of the (presumably homophonous) denotation of the *wh*-term. One type shift—TS1 in (16)—lifts the *wh*-term to the level of propositions, yielding a question. The other type shifting operation—TS2 in (16)—lowers the type of the *wh*-term to an *e*-type, presumably via an ι-operator (Partee 1987, *inter. al.*), yielding a FR. The following scheme in (16), taken from Chierchia and Caponigro (2013: 2, ex. 4), shows the traditional semantic split in the denotation of *wh*-terms.

(16)   The traditional approach to the denotation of wh-abstracts:

$$
\begin{array}{ccc}
[\![Q]\!] & & [\![FR]\!] \\
| & & | \\
| & & | \\
\lambda p[\exists x[p = \lambda w[\text{PERSON}_w(x) \wedge \text{CAME}_w(x)]]] & & \iota x[\text{PERSON}_w(x) \wedge \text{CAME}_w(x)] \\
& & \\
\text{TS1} & & \text{TS2} \\
& \text{'who came'} & \\
& \lambda x[\text{PERSON}_w(x) \wedge \text{CAME}_w(x)] &
\end{array}
$$
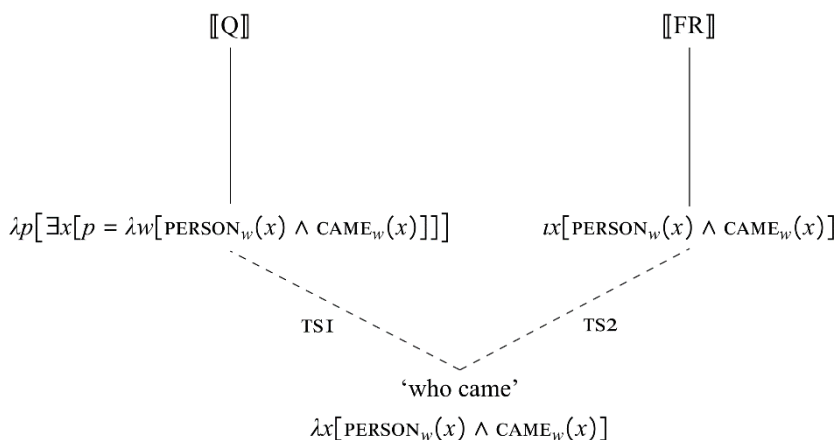
We will follow their work and apply it to the Japonic construction of KM. To do so, we expand the syntactic inventory of Chierchia and Caponigro's (2013) theory and attempt a syntactic/semantic derivation and interpretation of the of partially interrogative focus in pre-modern Japonic.

Before proceeding to the two sets of data and analyses, let us briefly expound on Chierchia and Caponigro's (2013) theory so as to understand the core motivations and technical building blocks of their system.

Empirically, Chierchia and Caponigro (2013) draw their motivation from an empirical generalisation, dubbed Caponigro's generalisation, taken from Chierchia and Caponigro (2013: 2, ex. 3)

(17)   CAPONIGRO'S GENERALISATION (Caponigro 2003, 2004)

If a language uses the wh-strategy to form both Qs and FRs, the wh-words found in FRs are always a subset of those found in Qs. Never the other way around. Never some other arbitrary relation between the two sets of wh-words.

Let us now turn to Chierchia and Caponigro's (2013) derivation of questions, which they build from a list of lexical entries in (18). The composition and interpretation is follows standard assumptions, modulo the excorporation of the question-forming head ($C^0_{[+Q]}$) from a clause head-complex. With respect to this mechanical move, Chierchia and Caponigro's (2013) adopt Shimada's (2007) head-unfolding model, which we will briefly introduce below. While $C^0_{[+Q]}$ creates a protoquestion, as assumed by Kartunnen (1977), and many others subsequently, it is simultaneously the element that derives the actual interrogative meaning. The common assumption is that $C^0_{[+Q]}$ cannot be interpreted *in situ* and so it must be merged at the root of the CP.

The derivation and interpretation of FR relies on the same building blocks, namely the excorporation of an operator from within the clause-head complex. The derivational difference between Qs and FRs, as we have observed in (15) on independent (labelling) grounds, following Cecchetto and Donati (2010), lies in the label of the CP (or ?P). Under Shimada's (2007) assumptions, the label is not determined CP-externally but rather CP-internally, by virtue of head-unfolding. For Chierchia and Caponigro (2013), the difference between Qs and FRs lies in the probing mechanism, i.e. whether it is a Q-forming or a FR-forming operator that excorporates from the clause-head complex. In their analysis of FRs, the excorporating head is a nominal operator, which Chierchia and Caponigro (2013) dub D_{REL}.

In the system we are adopting, D_{REL} functions as a nominal operator that extracts the Topical Property (TOPR) out a clause. TP is, in turn, defined as a singleton property of a question. This latter definition of TP, which underlies the notion of D_{REL}, thus relies on answerhood conditions, for which Chierchia and Caponigro (2013) adopt a Dayal-style Ans(werhood) operator. In (18), we provide the definitions of the three interdependent operators. Additionally definable is the short-asnwerhood operator (Ans^S), since all questions have short answers, which Chierchia and Caponigro (2013) take to be the very extractable property that D_{REL} delivers. Hence, D_{REL} denotes a (or rather the) short answer to a question (18d-i) or a type-lifted variant thereof in form of a generalised quantifier (GQ), as per (18d-ii).

(18)   a. $[\![Ans]\!]^w(Q) = \iota p \in Q[p_w \wedge \forall q \in Q[q_w \rightarrow p \subset q]]$

        b. $[\![Ans^S]\!]^w(Q) = \iota x[[\text{TOPR}]_w(x)]$

        c.   i. $[\![\text{TOPR}]\!] = \lambda P_{\langle s, \langle e, t \rangle \rangle} \forall w \forall x[P_w(x) \leftrightarrow \lambda w'[P_{w'}(x) = Ans_w(Q)]]$

               ii. $[\![\text{TOPR}]\!](Q) = \iota P \forall w \forall x[P_w(x) \leftrightarrow \lambda w'[P_{w'}(x) = Ans_w(Q)]]$

        d.   i. $[\![D_{REL}]\!]^w(Q) = [\![Ans^S]\!]^w(Q)$

               ii. $[\![D_{REL}]\!]^w(Q) = \lambda P \exists x[[\text{TOPR}(Q)]_w \wedge P_w(x)]$

For (18d-ii), however, the definition of Ans as it currently stands in (18c-i) will not suffice, hence a type-lowered variant of (18c-i) is given in (18c-ii). While Chierchia and Caponigro (2013) do not discuss the syntactic nature of the input to semantic interpretation, which obtains the two differential LFs for questions and free relatives, we now turn to the syntactic input of such LFs.

While the syntactic origin of $D_{(REL)}$ as head-sister of C^0 is stipulation in Chierchia and Caponigro's (2013) system, we reconcile this by adopting an articulated structure of C^0. We do so by adopting Rizzi's (1997) left-peripheral microscopy of the clause. Recall from (18) that both the Ans^S and the D_{REL} operators ontologically rest on and are built from the TOPR element.

It is my proposal here to locate the structural locus of TOPR in one of the two of Rizzi's (1997) Topic heads. I propose we treat the C-complex, the structure of which, and indeed the movement from which, yields the differential interpretation, in the following way. Assuming a rich micro-structure of the C head, following Rizzi (1997), we locate the different heads within the left periphery and assign them the semantic potential to yield as calculated meanings the entires in (18).

Before implementing the proposal, we additionally extend our proposal by adopting Shimada's (2007) model of head movement. A phrase-structural spine, like the one of a CP which can be represented as in (19a), is traditionally built in a bottom-to-top fashion. Shimada (2007) convincingly argues for the derivational procedure that is primarily the inverse of (19a) and 'unfolds' to a structure like the one in (19a) through successive excorporation (19b). The specific steps of the 'unfolding' steps are given in (19b-i) through (19b-iii).[6]

We do not go into any greater detail of Shimada's (2007) proposal; the reader is instead referred to the original work (Shimada 2007), or its application in Chierchia & Caponigro (2013) and Mitrović (2014: ch. 2).

(19)   a. $[_{CP} \, C \, [_{TP} \, T \, [_{vP} \, v \, [_{VP} \, V \,]]]]$
       b. $[_v \, V \, [_v \, v \, [_T \, T \, [_C \, C \,]]]] \; > [_{CP} \, C \, [_{TP} \, T \, [_{vP} \, v \, [_{VP} \, V \,]]]]$
          i. $[_v \, V \, [_v \, v \, [_T \, T \, [_C \, C \,]]]] > [[_v \, v \, [_T \, T \, [_C \, C \,]]] \, [_v \, V \, t_v^1]]$
          ii. $[[_v \, v \, [_T \, T \, [_C \, C \,]]] \, [_v \, V \, t_v^1]] > [[_T \, T \, [_C \, C \,]] \, [[_v \, v \, t_T^2] \, [_v \, V \, t_v^1]]]$
          iii. $[[_T \, T \, [_C \, C \,]] \, [[_v \, v \, t_T^2] \, [_v \, V \, t_v^1]]] > [[_C \, C \,] [[_T \, \mathbf{T} \, t_C^3] \, [[_v \, \mathbf{v} \, t_T^2] \, [_v \, \mathbf{V} \, t_v^1]]]]$

We take the same excorporational procedure to extend to the articulated clausal projection, as per Rizzi's original fine-grained view of the left periphery (LP), which we state in original in (20a). Upon 'head unfolding' (20b), the LP takes the shape of (20a). Under this analysis (extended to the clausal LP), another options makes itself available technically, i.e, the availability of inconsistent excorporation of the last head complex containing $\{_{Λ:Top} \, Top^0, \, Force^0\}$.

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[6] We subscript traces (t) of movement with numerals which should be read procedurally as denoting successcive steps of excorporation. The terminal heads in (19b-iii) are given in bold for clarity.

(20)   a. Rizzi's (1997) take   b. Rizzi's (1997) LP
            on the finegrained LP: derived in line with imada (2007):
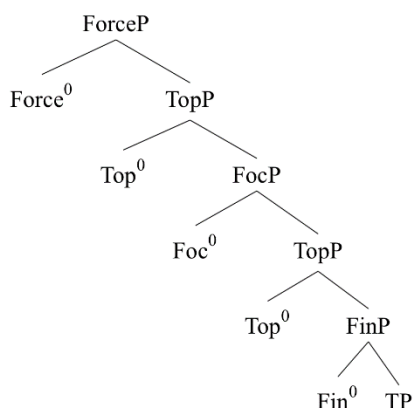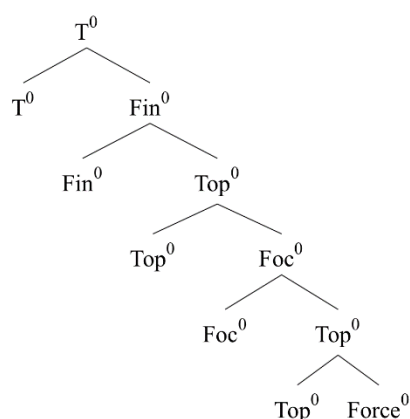
It seems reasonable to assume that while the full LP head-set unfolds, in line with Shimada's (2007) derivational assumptions, not all LP heads may be interpretationally active. Under the assumption that the richness of the LP is universally present, in one form or another, then conceptually, an inactive head may simply make no contribution. The inactivity can be stated in terms of F-valuation: non-locally through long-distance probing of a LP head within the clausal interior (e.g. *in situ* focus association, or topic); or, locally via [EPP]-like driven movement to specifiers of respective LP heads. If a LP head does not enter into any checking relation with an element within the clausal interior, a head can be said to be inactive. Semantically, inactive heads are ignored at LF, or are assigned identity function meaning so as to not make any meaningful (or at least pragmatically enriching) contribution. For convenience, we ignore the specifier slots and the recursivity notation of Topic projections that Rizzi (1997) states, and translate IP into TP since nothing will hinge on these modifications.

Semantically, we propose that the TOPR is part of the meaning of the high Topic head, i.e. $\llbracket \text{TOPR} \rrbracket \in \llbracket \text{Top}^0 \rrbracket$. The (potentially) non-exhaustive meaning of the Top head is taken to be D_{REL}. The reasons for height preference will become clear below.

Derivationally, we are concerned with the unfolding of heads up to the last point, when the C-head complex contains the high Topic head and the Force head ($\{ _{\Lambda:Top} \text{Top}^0,$ Force$^0\}$, cf. 20b), the former encoding for topicality (TOPR, under our assumption), the latter for interrogativity.

Given the need for the protoquestion (PQ) operator for the calculation of of both Q and FR meanings, itself of type $\langle\langle s,t\rangle t\rangle$, we stipulate its (syntactically silent) placement

in the LP, such that the following structural hierachy obtains: $\text{Force}^0 \rangle \text{Top}^0 \rangle \text{PQ} \rangle \text{Foc}^0.$[7]
Given the type mismatch of the head-complex containing $\{\text{Top}^0, \text{Force}^0\}$, one of the
heads moves out of the complex and is interpreted at the root, as per (21).

(21)
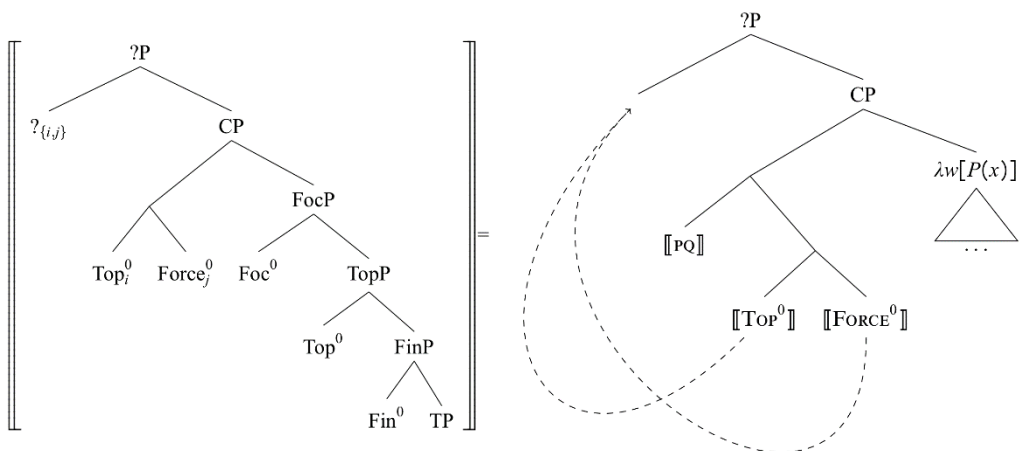
The head adjacency follows from Shimada's (2007) model applied to Rizzi's (1997)
dissection of the clause. We gain two advantages: firstly, the syntactic ontology of DREL
is no longer a stipulation as we are identifying it as Top^0. Secondly, Rizzi's (1997) LP
provides a head-adjacent relation between (the high) Top and Force by virtue of the head
unfolding derivational procedure of Shimada (2007). This way, we maintain, in slightly
more syntactically technical terms, Chierchia and Caponigro's (2013) assumption that
selection and excorporation of the second operator—C vs. DREL—is in fact a matter of
Agree relation.

3.2 Interpreting *kakarimusubi* from Focus and FR

We return to the case in hand, namely the derivation and compositonal interpretation
of *kakarimusubi*, the data of which we briefly restate below in (22) from (1).

(22)　敵見有　　　虎　　可　　吼登
　　　atami-taru　　twora　**ka**　poyu-ru
　　　iritated.STAT　tiger　**κ**　roar-ADN

'Is it [an irritated tiger]^F that is roaring?' (MYS 2.199)

Our analysis of *kakarimusubi* will rely on the technical foundations of Chierchia and Caponigro (2013) and the results of Aldridge (2009).

We take the *musubi* component of the construction, i.e. the presupposed content morphosyntactically marked with adnominal morphology, i.e. *-ru* in (22), to share the FR syntax and semantics as we have developed it. The *kakari* component results from movement of a segment contained within the *v*P to [Spec,κP], itself a slot in the left periphery of the *v*P, as Aldridge (2009) has independently motivated.

Under the present analysis, the adnominal marker is an exponent of the (semantically nominal) Top^0, hence movement of the remnant *v*P material—*poyu-* 'roar(ing)' in (22)—to its specifier position results in pronunciation of the specifier and head as an adnominally marked verbal element (*poyu+ru*). The focus-associating κ-marked DP then remnant-moves to the root of the clause.

We further adopt Whitman's (1997) analysis of KM as a cleft-like construction. Under a cleft-approach of Whitman (1997), the presupposition of the *musubi* constituent comes for free. (Delin, 1992) Given the biclausal nature of clefts, we take the κP subsequently to move successive cyclically across the clause boundary into the higher CP, which also contributes the interrogative meaning.

The derivation of our exemplar case in (22) is therefore the one given in (23). For simplicity, we ignore the copies from the internal structure of the moved material. We also make use of dashed nodes to ignore the intermediate projections that are not necessarily relevant to the derivation. Terminals on sites of pronunciation are marked in bold.

(23)
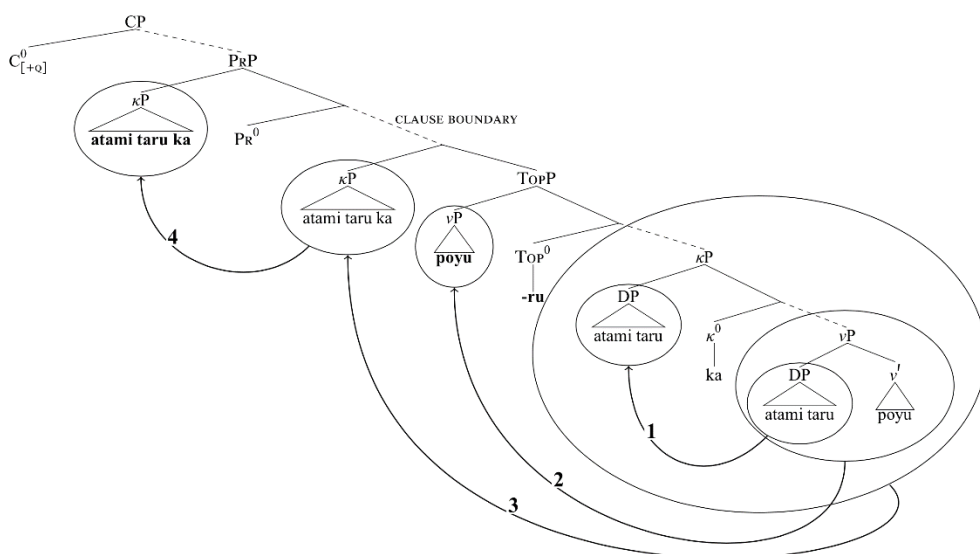
Under this analysis, the interpretation of the lower clause, containing (and denoting) the *musubi* presuppositional component of the proposition is the same as the interpretation of a FR under Chierchia and Caponigro's (2013) analysis. The association with focus takes place in the higher clause, which also, at least in the case of (23), encodes the interrogative meaning.

The interpretation of the lower clause (CP$_{low}$), turned into a DP along the lines explored above, is thus a presuppositional FR, while the higher CP involves a κ-headed focus construction and a question, as shown in (24).[8]

(24)   a. $\llbracket CP_{low} \rrbracket = \lambda P \exists x[x = \iota x[\text{ROARED}_w(x)] \wedge P_w(x)]$

   b. $\llbracket CP_{high} \setminus C_{[+Q]} \rrbracket = \text{EXH}_{[D]}(p) = p \wedge \forall q \in Alt(p)[[p \vdash\!\!/\, q] \rightarrow \neg q]$,
        where $p = \exists x[x = \iota x[\text{ROARED}_w(x)] \wedge \text{IRITATED-TIGER}_w(x)]$

   c. $\llbracket CP_{high:[+Q]} \rrbracket = \lambda q[\text{EXH}(p) = q \vee \text{EXH}(p) = \neg q]$,
        where $p = \lambda w \exists x[x = \iota x[\text{ROARED}_w(x)] \wedge \text{IRITATED-TIGER}_w(x)]$

Recall also the fact that KM was lost in the post-classical period, when the interrogative function of the κ-particle enters the language. This also shows the diachronic interlock between interrogative and cleft-like focus constructions involving FRs in an elegantly compatible way. We leave, however, the details of the diachronic procedures which gave rise to grammaticalised interrogativity of *ka* for further research.

4.   Conclusion

This paper has entertained a novel analysis of KM. We first reviewed the synchronic status of its syntax, noting the details of its diachronic decline from 12th through 17th centuries. (Watanabe 2002). Following Aldridge (2009), *int. al.*, we have identified a sub-clausal and pre-verbal syntactic position for the focus-sensitive *ka*-particle. In Section 3, we have attempted a mapping from syntax onto compositional semantics so as to derive the compositional interpretation of the KM. Having adopted Chierchia & Caponigro's (2013) analysis of FRs as embedded interrogatives, we proposed that the adnominality marking on the *musubi* presuppositional component has its exponential locus in the higher Top^0 nucleus of Rizzi's (1997) left-periphery system.

Primary source

MYS   Man'yōshū. (万葉集) ca. 759 AD. Text edition as per Frellesvig et al. (2014).

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[8] The assumption underlying the computation of focus semantics in (24) is the inherently exhaustive constrision of Focus (derived by the EXH-operator). For details on the EXH-based account, see Chierchia (2013).

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Assessing the Quality of Persian Translation of Orwell's *Nineteen Eighty-four* Based on House's Model: Overt-Covert Translation Distinction

Hossein Heidari TABRIZI
Islamic Azad University
heidaritabrizi@gmail.com

Azizeh CHALAK
Islamic Azad University
azizeh_chalak@yahoo.com

Amir Hossein TAHERIOUN
Islamic Azad University
ataherioun@gmail.com

Abstract

This study aimed to assess the quality of Persian translation of Orwell's (1949) *Nineteen Eighty-Four* by Balooch (2004) based on House's (1997) model of translation quality assessment. To do so, about 10 percent of the source text was randomly selected. The profile of the source text register was produced and the genre was realized. The source text profile was compared to the translation text profile. The result of this comparison was dimensional mismatches and overt errors. The dimensional mismatches were categorized based on different dimensions of register. The overt errors which were based on denotative mismatches and target system errors were categorized into omissions, additions, substitutions, and breaches of the target language system. Then, the frequencies of occurrences of subcategories of overt errors along with their percentages were calculated. The dimensional mismatches and a large number of major overt errors including omissions and substitutions indicated that the translation was not in accordance with the House's view stating that literary works needed to be translated overtly. Mismatches on different levels of register showed that the cultural filter was applied in translation and the second-level functional equivalence required for overt translation was not reached. Therefore, the Persian translation of Nineteen Eighty-Four did not fulfill the criteria to be an overt translation.

Keywords: translation; quality; assessment; House; *Nineteen Eighty-Four*; Orwell

Povzetek

Cilj študije je po House-ovem modelu oceniti kvaliteto prevoda Orwellovega *Nineteen Eighty-Four* (1949), ki ga je v perzijščino leta 2004 prevedel Balooch. Iz omenjenega dela je bilo naključno izbranega približno deset odstotkov teksta, iz katerega smo naredili profil izvornega besedila, ki je bil kasneje primerjan s profilom prevedenega besedila. Razultati so nakazali na dimenzijska neskladja in vidne napake. Dimenzijske neskladja so bila kategorizirana na osnovi različnih dimenzij registra. Vidne napake, ki so predvsem posledica denotativnega neskladja ali napak v ciljnem sistemu, so bile najpogosteje definirane kot opustitve, dopolnitve, zamenjave ali kršitve sistema ciljnega jezika. Podkategorije vidnih napak so bile analizirane statistično in za vsako podkategorijo podan je odstotek pojavitve. Tako dimenzijska neskladja kot tudi veliko številko osnovnih vidnih napak nakazujejo, da prevod ni v skladu s House-ovo idejo o odkritem prevajanju literarnih del. Neskladja na različnih nivojih registra kažejo na to, da je bil prevod kulturno prilagojen, zato ni izpolnil pogojev funkcijske primerljivosti in s tem t.i. odkritega prevoda.

Ključne besede: prevod; kvaliteta; ocena; House; *Nineteen Eighty-Four*; Orwell

1.   Introduction

According to Williams (2004), concern for excellence in translation, especially translation of literary and religious works, has existed for long time. There have been discussions, debates, and approaches about quality of translation and how good a translation of a text should be. Translators, translation companies and translation services of governments and international organizations must all be accountable for the quality of their product. Yet the question of how to judge that quality can be very difficult. This judgment is different from a person to another and it depends on type of the text. The serious issue is concerning the quality of translation of literary works. Every community has its own specific culture, traditions, and language with different structures. Consequently, every source text has its own linguistic, semantic, and pragmatic structures that can be different from those of target text. Thus, bearing this in mind, the translator should take a specific strategy to transfer intended meaning and structure of the original text into target text. Failing to recognize the structure of source text and the way of rendering the structure into target language affects the quality of translation. In Iran, there are translations especially in the field of literature that have low quality. It can be due to the fact Iranian translators are less familiar with or less interested in the translation quality and the criteria and standards by which translation should be evaluated. There should be reliable criteria and standards by which translation can be assessed and evaluated. These criteria and standards can work properly on the basis of a framework or a model. They differentiate a good translation from a bad one. They provide valuable information in which the translator's failure and mistakes in translation process are identified. This can help translators improve their performance by knowing their weaknesses and mistakes and as a result, the quality of the translation is enhanced. There are different models and approaches for assessing the quality of translation. One of them is House's (1997) model of translation quality assessment (TQA) which covers

almost all aspects in process of translation and has some advantages over other models due to its coverage issue and the easiness of use.

Several researchers used House's (1997) model to analyze the quality of translation of literary works. Mohebbipour (2010) in his article assessed the quality of Persian translation of Faulkner's *The Sound and the Fury*. He focused on distinction between overt and covert translation and stated that according to House, to translate literary works such as *The Sound and the Fury* the overt kind of translation needed to be applied. Then, for analysis of the text, he defined overt errors and covert errors and provided some Persian translation examples with their transcriptions for overt errors. Mohebbipour also provided word for word translation for errors that he found in translation. He calculated the frequency of the occurrences of errors and finally he used Chi-square to analyze the results of the study. By comparing ST profile with the TT one, only one mismatch in the tenor was found. There were also instances of overt errors such as wrong translation, omissions, additions, and wrong combination of elements in the translation. The researcher claimed that the translator had a good knowledge of TL syntax because there was no evidence of breach of TL system. Computing the frequency of errors through Chi-square, the result showed the statistically significant difference between two overtly and covert errors as well as the statistically significant difference among subcategories of overt errors. Gehrmann (2011) used the TQA model proposed by House (1997) to assess Swedish translation of Tolkien's *The Lord of the Rings*. The main work of the research was to provide the textual profiles of both ST and TT. By analyzing the profiles of the two texts, a number of mismatches on the dimensions of tenor and field were found. There were also overt errors caused by the semantic additions. The additions on the dimension of field caused a greater explicitness in the translation and increased aesthetic pleasure for the audience. However, this manipulated the readers' interpretation and imagination and as a result, the interpersonal function. The social attitude was changed on the dimension of tenor because the level of style becomes more literary by addition of qualifying adverbials. No errors were found on the dimensions of genre and tenor. Based on the translator's view about the translation in which translation was to be like an original of TT, Gehrmann concluded that the translation of *The Lord of the Rings* was a covert kind of translation.

The purpose of this research was to assess the quality of Persian translation of Orwell's (1949) *Nineteen Eighty-Four* by Balooch (2004) based on House's (1997) model of translation quality assessment (TQA). By using House's model, the translation strategies used by the translator became known. House mentions two types of strategies known as overt translation strategy and covert translation strategy that translators can use based on different types of texts. Distinction between overt translation and covert translation revealed the errors and mistakes made during the translation process as well as mismatches between ST and TT. Based on House's model of TQA, there are two main sources of errors in translation: (a) *overt errors* and (b) *covert errors*. Significance of overt errors in this study leaded the evaluation process into computing the frequency of occurrences of these errors in order to see whether a significant difference existed

between ST and TT based on House's distinction between overt and covert translation. Based on analysis of findings of the study, the following questions could be answered:

1. Which strategies has the translator most frequently used for translating Orwell's (1949) *Nineteen Eighty-Four* based on House's (1997) model of translation quality assessment?

2. To what extent has the quality of Persian translation of Orwell's *Nineteen Eighty-Four* been preserved based on House's model?

2.   Methodology

2.1 Participants

The researcher of this study was taken as the participant, since he selected materials and analyzed the data. However, for the matter of inter-rater reliability, another participant who was an MA student of English Translation was selected to study and to analyze the same extracted materials with the same theoretical framework. The purpose was replication of the research in the identical situations in order to see whether the same results were achieved or not.

2.2 Materials

For the purposes of this study, Orwell's (1949) *Nineteen Eighty-Four* was chosen as the case study. It is a classic novel which has influenced contemporary literature and some other artistic works such as popular music and movies. This book is considered as a dystopian science fiction containing several neologisms such as *Big Brother, doublethink,* and *Thought Police*. Some of these neologisms have been brought into language and become contemporary vernacular. The popularity and the fame of *Nineteen Eighty-Four* were the other reasons to choose this book as the case study. Since this study was a descriptive-comparative analysis of a translation by means of House's (1997) model of TQA, the materials consisted of *Nineteen Eighty-Four* and its Persian translation by Balooch (2004). Without considering the front matter and the appendix, *Nineteen Eighty-Four* has totally 234 pages (from page 5 to page 239) divided into three parts. In fact, the analysis of the whole book and comparing it with its Persian translation would have taken too much time. Moreover, specific features of the novel such as its language, characters, and style did not belong to certain parts of the text but they were distributed all over the text. Considering the above mentioned reasons, a systematic random sampling method was used to collect the data. Based on this method 10 percent of the book (about 23 pages) was selected as the sample. To find the frequency interval, 234 was divided by 23; the result was 10. Every 10th page of the book (source text)

included the pages of 15, 25, 35, 45, 55, 65, 75, 85, 95, 105, 115, 125, 135, 145, 155, 165, 175, 185, 195, 205, 215, 225, and 235 based on which the text analysis was performed and compared with the TT.

2.3 Theoretical Framework

House's (1997) model of translation quality assessment was used as a theoretical framework for this research. Unlike some other models which consider the text consisting of separate elements, House's model takes the text as a whole phenomenon. The model is functional and encompasses different dimensions of text such as linguistic, pragmatic and discourse. House's (1997) model involves textual and register analysis of profiles of both the source and target text. Register analysis of ST and TT profile can be realized via lexical, syntactic, and textual means. Textual means comprises theme-dynamics, clausal linkage, and iconic linkage. The model operates at different levels of analysis. It begins from the level of 'individual textual function'; then, goes to the levels of register and genre; and finally ends at the level of 'language/text'. The level of register analysis covers three dimensions of *field*, *tenor*, and *mode*. Field refers to analysis of subject matter and social action. Tenor covers participant relationship including author's provenance and stance, social role relationship and social attitude. Mode refers to channel or medium of communication and participation in the text. Comparing ST profile with TT profile bring about mismatches between the two profiles. Dimensional errors and mismatches are referred to as covert errors, whereas, mismatches of the denotative meanings or breaches of target language system are overt errors. House also presumes two kinds of translation, namely as covert and overt translation. A covert translation is a translation that appears as if it produces in the target culture. On the other hand, an overt translation is a translation that the cultural features of the source text are purposefully retained. After analysis of ST, TT, mismatches and errors, the translation can be recognized as either covert or overt one. While overt translation and its original text need be matched at the levels of genre, register, and language/text, in covert translation only genre and the primary level function have to be matched with the original text. It is worth mentioning that according to House, overt translation is suitable for the texts such as literary works, fictions, moral anecdotes, comedy dialogues, and historic speeches, while covert translation covers text types including scientific texts, tourist information booklets, economic texts, journalistic texts, and advertisements.

2.4 Procedures

At first, based on House's (1997) model, the ST was analyzed and its profile including the register was obtained. Based on register analysis of ST, ST genre was realized. Then, a statement of function was made for the source text. Then, the same steps were taken for the TT, that is, TT profile was obtained. The TT profile was analyzed and compared with the ST profile. The results were mismatches and errors including lexical, syntactic, textual mismatches. They categorized into two groups of

covert errors and overt errors. The frequency of occurrences of the overt errors was calculated. It should be mentioned that the unit of errors recognized in the study was phrase. Each phrase contained one or more errors. Every single error was taken into account in the process of calculation of the frequency of occurrences. Each error and mismatch was provided with a description and an example from ST and TT. A statement of quality was made based on the results of analysis ST and TT. Finally, the type of translation was recognized based House's distinction between overt and covert translation.

Since this study was based on House's (1997) model and this model was a non-quantitative and descriptive-explanatory one, a non-statistical and descriptive method was used in order to analyze the data. By comparing the randomly selected parts of the source text with their Persian counterparts in the translated text, some mismatches and errors were revealed. The dimensional errors were referred to as covert errors; while, those errors related to denotative mismatches or target system errors were referred to as overt errors. Because of significance role of overt errors in translation quality assessment of literary translations, the frequency of occurrences of overt errors and their percentages were computed. House suggests overt kind of translation for literary works. Therefore, the translation was assessed against the criteria and characteristics that an overt translation needed to have. In other words, the ST and TT profiles were analyzed to see whether the second level functional equivalence was achieved and consequently, whether at this level the target text matched genre, register, text and linguistic strategies of the source text. If these criteria were fulfilled, the translation would be assumed as an overt kind of translation. On the contrary, if the translation did not match with the source text on dimensions of register and language/text and instead, applied a cultural filter, then, the translation could be assumed as a covert kind of translation.

3.   Findings

3.5 Source Text (ST) Profile

To describe the dimension of FIELD, it should be said that *Nineteen Eighty-Four* is a dystopian novel. It is a classic novel which is very famous and popular among other literary works. The story is designed to be read by adults. Lexical means applied on field were use of neologisms such as *Big Brother, doublethink,* and *Thought Police*, use of no technical academic terms, presence of several collocations and idioms such as p. 15 *act a part;* p. 105 *the coast is clear;* and instances of informal words like *damn* and *negroid.* The story mostly contained short simple clauses and sentences. However, there were several instances of long sentences consisted of short subordinate clauses and phrases. Orwell (1949) often used the punctuations such as semicolon, colon, and comma within

the text. The author often began the sentences with adverbs, conjunctions, and relative pronouns: p. 25 *what he had written…;* and p. 85 *Then he went….* Strong cohesion was achieved through repetitions and iconic linkage: p. 65 *and then, for…, and then a voice…;* p. 135 *if I confess…, if I refuse….* There were also theme dynamics especially sequences of theme-rheme, anaphoric referencing by means of pro-forms for noun phrases, adverbials, clauses or sentences, and instances of clausal linkage: *when, as, but, and, that is, therefore.* On TENOR, author's temporal, geographical and social provenance was unmarked, contemporary middle class standard British English. The author's personal (emotional and intellectual) stance provoked a sense of fear for readers. The author was against totalitarianism and dictatorship. He used special lexical items to provide a sense of fear for readers: p. 85 *torture chamber.* Several intensifiers, adjectives and adverbs were identified including *violently, horrible,* and *deadly.* There were frequent uses of narrative and descriptive structures to describe a dictatorial society: p. 25 *and in front of him there lay not death but annihilation.* For social role relationship, the author put himself on a par with his addressees. The author acted as a narrator who told the story to the audience. He got readers involve in the story by using second single personal pronoun in an ordinary way without any authority. Although some informal words and idioms were used, the text did not contain technical and complicated word. The syntactic means applied were uses of personal pronouns and possessive adjectives in monologue, and dialogic parts: p. 15 *always the eyes watching you…,* and p. 235 *we must meet again.* The author most often talked about the Winston. That could suggest that the entire passage was described from Winston's point of view. Social attitude was consultative and informal. It was consultative and conversational because the text contained conversations and there was also participation between addressees. Therefore, no great social distance between author and audience could be seen. It was informal because there were contractions and informal lexical items such as slangs especially in the dialogues of characters of the novel. The lexical means applied here were use of colloquial, informal lexical items, use of idioms, use of gambits such as p. 75 *the point is,* p. 185 *to tell you the truth,* and use of lexical items indicating vagueness, for example *kind of, sort of.* The syntactic means were frequent use of single quotation marks ('…') for direct speeches, frequent use of contractions like p. 95 *you'll have to…,* and presence of elliptical structures: p. 145 *any question?* p. 135 *why not?* On MODE, the medium was complex because the text was written to be read as if spoken. The lexical means were use of colloquial lexical items and presence of interjections including p. 115 *but look!* and p. 185 *Ah, Smith! he said you too!* The syntactic means were presence of elliptical structures, use of single quotation marks ('…') for marking direct speeches between characters, use of personal pronouns especially first and second personal pronouns, frequencies of contractions, frequencies of short coordinated clauses especially in dialogic parts linked with *comma* and *and.* There was also use of dash (-) rarely in narrator's speech and more frequently in conversations between characters to show a short pause in the speaker's ongoing speech: p. 215 *but always - do not forget this, Winston - always there will be the intoxication.* The text was etic because there were references to readers, links to the particular participants through the frequent uses of

deictic personal pronouns, and involvement of addresser and addresses together. There were also redundancy through repetition and iconic linkage in the text. Participation was complex because there was a monologue with several instances of readers being directly addressed and with built-in dialogic parts. Predominance third person personal and possessive pronouns indicated narrative format of story. There were also other types of pronouns in dialogic and conversational parts especially first and second personal and possessive pronouns to indicate a direct conversational interaction inside the story. Frequent switches in the text between monologue format of the text and dialogic utterances between characters were seen as well. The text was predominantly etic drawing its readers into the text through ample uses of deictic pronouns: p. 205 *we bring him to our side*. GENRE was dystopian novel and science fiction.

3.6 Statement of Function

The function of *Nineteen Eighty-Four* mostly consisted of an interpersonal functional component. The ideational functional component was also implicitly present in the text, in that the text informed its readers about certain events involving the protagonist and the other characters depicted in the text. The author's intention was to warn people about totalitarian societies such as communist countries by providing a similar society which would exist in future. The interpersonal function was marked through the GENRE, since the author focused on the character of Winston who lived in a totalitarian society and described his thoughts, beliefs, and challenges. On the dimension of FIELD, the interpersonal function was present due to using colloquial lexical items, absence of technical academic terms, almost simple syntactic structures, and redundancy through repetition and iconic linkage. On TENOR, the consultative style level marked through informal lexical items, contractions, gambits, ellipses and repetitions supported interpersonal function. The MODE had also the interpersonal functional component because the medium of the text is 'written to be read as if spoken' and the participation was marked by frequent dialogic parts interspersed in the monologic framework.

3.7 Comparison of Original and Translation

On FIELD, there were lexical mismatches because the informality of words was reduced: *thick negroid lips* vs *labhāyī mutuvarim va bar āmadah*. There were also syntactic mismatches because some of long sentences consisting of several subordinated clauses in the original text were translated into separate short sentences: p. 235 *He made a halfhearted attempt to catch up, then slowed down, turned, and made off in the opposite direction.* vs *ibtidā bā bī maylī saʻy kard bi ū birisad. baʻd qadam hā rā āhistah kard, charkhīd va dar jahati mukhālif bi rāh uftād*. On TENOR, there were syntactic mismatches in social role relationship, since the second personal pronoun of *you* in monologue parts was translated differently in Persian, and instead impersonal pronouns

such as *insān, fard* were used. As a result, interpersonal effectiveness and the involvement of readers in the story were reduced. Lexical mismatches were seen in social attitude since some of informal lexical items and idioms are markedly more formal in Persian translation. That widened the distance between the author and readers: p. 125 *a lot of rubbish* vs *muhmal bāfīhā*. On MODE, there were lexical mismatches in medium because some of colloquial and informal lexical items were translated to more formal lexical items in Persian (see lexical mismatches in TENOR).

3.8 Overt Errors

This section presents overt errors and their four subcategories of omissions, additions, substitutions, and breaches of the target language system. For each group one example is provided.

3.8.1 Omissions

Omissions refer to those missed parts in the translation text which have not been translated by the translator.

Table 1: Omissions.

ST	TT	Explanation
p. 65 *And the tone of the music changed too*.	_	The translator missed the whole sentence. The overt translation for this sentence is: *Va tuni āhang avaẕ shud.*

3.8.2 Additions

Additions occur when the translator adds extra elements in translation that do not match with the original text.

Table 2: Additions.

ST	TT	Explanation
p. 205 We bring him over to our side,	Mā ū rā *jisman va rūhan* bi jibhayi khudimān mulhaq mīkunīm.	*jisman va rūhan* means *physically and mentally* in English. However, such words did not exist in the original text.

3.8.3   Substitutions

This section contains errors which are due to either *wrong selections* or *wrong combinations*.

Table 3: Substitutions.

ST	TT	Explanation
p. 225 Also he knew that somewhere or other she was still alive and needed *his* help.	Dar ẕimn mīdānist ū zindah ast va bi kumaki *vīnstūn* nīyāz dārad.	The subject of the sentence (*he*) refers to Winston. Instead of using the name *vīnstūn* for adjective pronoun of *his* which distorts the meaning of sentence, it is better to translate the sentence like this: *Dar ẕimn mīdānist ū zindah ast va bi kumakash nīyāz dārad.*

3.8.4   Breaches of the Target Language System

Breaches of the target language system are due to either ungrammaticality, that is, clear breaches of the target language system, or dubious acceptability, that is, breaches of the norm of usage. No instance of breaches of the TL system was found for ungrammaticality.

Table 4: Dubious acceptability.

ST	TT	Explanation
p. 65 He noticed that both Aaronson and Rutherford *had broken noses*.	Vīnstūn daryāft ki *bīnīyi ārunsun va rādirfūrd har du shikastigī dārad*.	The clause *had broken noses* was literally translated by the translator. However, it is not common in Persian to use the verb *dāshtan* for *shikastigī*. Instead, this should have been translated like this: *Vīnstūn daryāft ki bīnīyi ārunsun va rādirfūrd shikastah ast.*

The frequency of occurrences of each type of overt errors was calculated as follows:

Table 5: Frequency of occurrences of overt errors.

Types of Errors	Frequency	Percentage
Omissions	76	25 %
Additions	34	11 %
Substitutions	196	63 %
Breaches of the TL System	2	1 %
Total	**308**	**100 %**

As it is shown in the Table 5, the largest group belongs to the category of substitutions with 63% and the smallest one is the breaches of TL system with only 1% of total errors. Between the two extremes, there are the category of omissions with 25%, which is the largest category after the substitutions, and the category of additions with 11% of the total errors.

4. Discussion and Conclusion

According to House (1997), the overt kind of translation is needed for translation of literary works. Since *Nineteen Eighty-Four* is a literary work, therefore, in this study, the judgment for assessing the quality of translation was based on the criteria and standards defined for overt translation. That was why a considerable attention was paid for overt errors in the process of translation quality assessment. The analysis of original and translation revealed a number of mismatches along the dimensions of FIELD, TENOR, and MODE. These mismatches caused a change of the interpersonal functional component. There were also a large number of overt errors that affected the ideational component and the transmission of information. On FIELD, the long sentences in the ST were translated into several short sentences. As a result, a greater explicitness was made in translation. The interpersonal functional component was changed because the explicitness in translation directed readers' imagination and interpretation much more closely. On TENOR, the interpersonal functional component was changed because the second personal pronoun in the monologue parts of the original was substituted with the impersonal pronoun in the translation. Some of informal lexical items were translated more formal. Accordingly, the style level was changed in several instances and it became less informal as well. On MODE, there was a change in informality of the text which was similar to TENOR. Although, there were a number of dimensional mismatches in the translation, but GENRE remained unchanged.

The greater amount of loss was due to overt errors where a total number of 308 overt errors were identified. Out of this number, 196 errors (about 63% of total number of errors) belonged to substitutions which constituted the largest group of overt errors. Omissions, additions, and the breaches of the TL system allocated 76, 34, and 2 errors

(about 25%, 11%, 1% of total errors) respectively. The omissions and substitutions were assumed as major errors; while, additions and breaches of TL system were minor ones. Omissions were major errors because the translator intentionally or unintentionally missed and omitted several parts of the text that in most of the cases were not justifiable. Overt errors of substitutions were caused by wrong selections and wrong combinations in translation. This type of errors was due to the fact wrong equivalents were selected in translation. Additions used by the translator caused more clarification, explicitness, and redundancy in the text. In most of the cases, additions were neither necessary nor justifiable. Breaches of the TL system that had the lowest frequency of occurrences among the others did not have so much effect on the quality of translation.

To answer question one, the findings of the study including dimensional mismatches and overt errors should be taken into account. In other words, the translator's translation strategies could be revealed through the analysis of dimensional mismatches in general and analysis of overt errors in particular. According to the analysis, the strategies used by the translator were omissions, additions, substitutions, and use of cultural filter. However, the most frequent strategy used in translation was substitutions with 196 items. After substitution, omissions and additions were respectively the most frequent strategies used by the translator.

To answer question two of research and finally make the statement of quality, the criteria and features needed for overt translation should be borne in mind. It is obvious that in some parts of the text, the translator did not take account of denotative meanings of the words of the original. The author's style was not paid so much attention. In several cases, the translator manipulated the text which did not sound to be reasonable. In other words, it can be said that most of the text under the study was not translated overtly. Therefore, it can be concluded that based on the large number of overt errors including major errors such as omissions and substitutions, the criteria of overt translation were not fulfilled by the translator. Further, the application of the cultural filter to some parts of translation indicated changes at the levels of register (including dimensions of FIELD, TENOR, and MODE). There was more explicitness in the translation that affected the interpersonal functional component. Thus, the second-level functional equivalence required for overt translation was not reached. In addition, the visibility of the translator needed for overt translation was not seen in some parts of the translation. As a result, the Persian translation of *Nineteen Eighty-Four* by Balooch (2004) could not be assumed as an overt translation but reversely a covert translation.

The findings of this study can be compared to Gehrmann's (2011) research on quality assessment of Swedish translation of Tolkien's *The Lord of the Rings*. Like this study, Gehrmann analyzed textual profiles of both ST and TT and provided examples for them. He found a number of mismatches along the dimensions of tenor and field. He also detected the overt errors which were only caused by semantic additions and other types of overt errors were ignored. Unlike the current study, he did not calculate the frequencies of occurrences of each error. Finally, he concluded that the translation was

a covert kind of translation. His conclusion mostly relied on analysis of dimensional errors.

The translation quality assessment of *Nineteen Eighty-Four* not only recognized the problematic areas including mismatches and errors in this particular translation but also revealed some facts about translation of literary works. This study showed what problems and difficulties a literary translator had to face with and what strategies he applied in the process of translation. The frequent strategies used by the translator in translation of such a literary work were omissions and substitutions which in most of the cases were not justifiable. A large number of errors found in this Persian translation of the popular literary work underline the significance of translation quality assessment for literary works in Iran. There can be Persian translations of many literary works that need to be reviewed and revised. Taking into account a theoretical framework as House's (1997) model in translation such can help translators detect and avoid mistakes and errors in translation process.

The findings of this study can be helpful for literary translators to get familiar with problems in translation of literary as well as strategies used to cope with such problems. Omissions and substitutions are the most frequent errors in Persian translation of *Nineteen Eighty-Four.* The editors of translation can also recognize the above-mentioned errors in literary translation and remove them in the process of reviewing and editing translation. The instructors and would-be translators can use the findings of the study in the process of learning and teaching translation. The major limitation of the study was this fact that House's (1997) model of TQA consisted of several different parts and it took into account almost all aspects of translation. Therefore, in this study, analyzing a number of pages took so much time and it became s a monotonous task. In this study, only the frequencies of occurrences of overt errors were computed. For further research, the frequencies of occurrences of dimensional mismatches can be calculated as well. Overt errors can be subdivided into more categories. The quality of translation of *Nineteen Eighty-Four* can be assessed by means of the other models of TQA and the results can be compared with those ones of this study. A similar study (translation quality assessment) can be done with literary texts in other languages. Additionally, other types of text with different genres can be assessed with House's model.

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KOREAN AND JAPANESE AS CHINESE-CHARACTERS CULTURAL SPHERES

Takuya OKIMORI
Rikkyo University
okimori@rikkyo.ac.jp

Abstract

A Phonemic and Acoustic Analysis of Hindko Fricatives

Haroon Ur RASHID
University of Azad Jammun & Kashmir
kharoon914@gmail.com

Abdul Qadir KHAN
University of Azad Jammun & Kashmir
draqkhan73@yahoo.com

Abstract

The Hindko language is mainly spoken in the province of Khyber Pukhtunkhaw, Pakistan. It relates to the Indo-Aryan family of languages. This paper focusses on the phonemic and acoustic analysis of Hindko fricatives. The phonemic analysis identifies that Hindko has eight fricatives. The acoustic analysis aims to explore temporal and spectral characteristics of these fricatives. The acoustic analysis discloses that Hindko fricatives are distinguishable on the basis of the temporal properties such as friction duration and spectral cues like turbulence noise.

Keywords: Hindko; phonemic; acoustic; temporal properties; spectral cues; friction

Povzetek

Jezik Hindko priprada indo-iranski jezikovni družini in ga govorijo predvsem v pakistanski provinci Khyber Pukhtunkhaw. Ta raziskava se osredotoča na fonemsko in akustično analizo pripornikov Hindka. S fonemskega vidika ima Hindko osem pripornikov, ki so nadalje analizirani z vidika časovnih in spektralnih značilnosti. Akustične analize kažejo, da je mogoče Hindko pripornike razločiti tako glede na njihove časovne značilnosti, kot je na primer trajanje frikcije, ali pa na spektralne značilnosti, kot je na primer turbulentni hrup.

Ključne besede: Hindko; fonemsko; akustično; časovne lastnosti; spektralni pokazatelji; frikcija (trenje)

1.   Introduction

Hindko belongs to the Indo-Aryan family of languages that has several dialects on a regional basis (Lothers & Lothers, 2010). Hazara dialect is one of its main dialects that is spoken in Hazara division; Khyber Pukhtunkhaw province of Pakistan. The majority of Hindko speakers live in this area (Haroon & Sohail, 2011).

This paper presents a phonemic and acoustic analysis of Hindko fricatives. The next section offers a phonemic analysis of Hindko fricatives aiming to identify the fricatives that includes minimal pairs, voicing contrast and distribution of phonemes in words at initial, medial and end positions. The third main section describes the acoustic cues for fricatives. It reports the relevant literature on acoustic cues with a purpose to provide a foundation for the study and further states the methodology. In addition, this section also divulges the results of the study and states the intrinsic and extrinsic acoustic cues for Hindko fricatives. The last section concludes this study.

2.   Phonemic Analysis

The fricatives are characterized by the movement of an active articulator to passive articulator without resulting in contact, but not in the center of the vocal tract, and the air is forced to pass through a narrow passage between articulators yielding friction. The phonemic analysis is presented on the basis of the minimal pairs, voicing distribution contrasts and word level distribution at initial, medial and end positions. This section also offers the outcome of the analysis.

2.1 Minimal Pairs

Table 1: Minimal pairs of Hindko fricatives.

f	farək	difference	varək	page
v	vakət̪	time	fakət̪	only
s	soval	question	zoval	dusk
z	zəd̪d̪	reach	səd̪d̪	call
ʃ	ʃəll	freeze	səll	make hole
x	xəmm	curve	ɤəmm	sorrow
ɤ	ɤalaf	cover	xalaf	against
ħ	ħalət̪	condition	ɤalət̪	wrong

2.2 Voicing Contrast

The following table presents voicing contrast between fricatives.

Table 2: Voicing contrast of fricatives.

f	vs	v	fətt	quick	vətt	anger
s	vs	z	sɑrɑ	whole	zɑrɑ	tiny
ʃ	-	-	ʃal	big scarf-	-	
x	vs	ɣ	xɑr	enmity	ɣɑr	cave
-	-	ɦ	-	-	ɦɑl	condition

Table 2 shows that the voicing contrast is not found for /ʃ/ and /ɦ/ as these do not have their respective counter parts.

2.3 Word level distribution

Word level distribution of the Hindko fricatives is given below:

Table 3: Word level distribution of fricatives.

	Initial		**Medial**		**Final**	
f	fədʒri	dawn	xəfkɑn	unrest	lef	quilt
v	velɑ	free	sɑvɑ	green	sev	apple
s	sɑ	breath	pɑsɑ	side	lus	not well lit
z	zɪmmi	land	mizmɑn	guest	d̪ərəz	small gap
ʃ	ʃola	bridegroom	peʃi	a prayer	rəʃʃ	crowded time
x	xət̪t̪	trimming	moxərr	an animal	t̪obɑx	plate disease
ɣ	ɣənd̪lã	a vegetable	d̪iɣər	a prayer	oɣ	a support time
ɦ	ɦəkk	make move	d̪eɦɑɽ	a day	-	

Table 3 demonstrates that all the fricatives exist word initially, medially and finally except /ɦ/ as it does not occur at word final position.

This phonemic analysis illustrates that Hindko has eight fricatives that are articulated from five different places namely labio-dental/f, v/, alveolar /s, z/, palatal /ʃ/, velar /x, ɣ/ and glottal /ɦ/. The voicing contrast is found at three places of articulation that are labio-dental /f, v/, alveolar /s, z/ and velar /x, ɣ/ while palatal /ʃ/ and glottal /ɦ/ are without this contrast. This means that Hindko has four voiceless /f, s, x, ʃ/ and four

voiced /v, z, ɤ, ɦ/ fricative phonemes. Their occurrence in words is found at all positions except glottal /ɦ/ which is restricted to only word initial and medial positions.

3.   Acoustic Analysis

Phonetically, groups of consonants differ from each other in a variety of acoustic parameters intrinsically as well as extrinsically. Kent and Read (1996) assert that consonant groups differ considerably in their acoustic cues; due to this are difficult to describe with a single set of acoustic properties. Some consonants are articulated with a complete air blockage while other are produced with a partial blockage. Some differ in release. Such differences constitute different groups of consonants, i-e. stops, fricatives, affricates, etc. All these have different distinguishing acoustic properties. Following sub-section first reports acoustic studies on fricative then states the methodology; and then discusses the acoustic properties of Hindko fricatives.

3.1 Acoustic Studies on Fricative

Davenport and Hannahs (2005) claim that fricatives are accompanied by a periodic vibration in the higher frequencies and main resonant frequencies. It rises as the size of the oral cavity decrease. Ladefoged (2001) found that fricatives exhibit random noise pattern in higher frequency range but conditioned to the place of articulation. Pickett (1999) believes that the overall shape of the fricatives is known by the shape and size of the cavity in front of the constriction. Kent and Read (1996) link fricatives identification with the formation of narrow constriction in the oral tract, the development of turbulent air passage and the generation of turbulence noise. There is a fair amount of studies on English fricatives (such as Hughes & Halle, 1956; Tomiak 1990; Jongman et al 2000; etc.) whereas only a limited number of studies on fricatives in other languages (such as Halle, 1959 on Russian; Norlin, 1983 on Cairo Arabic; etc.). Clearly, fricatives are distinguishable on the basis of various acoustic properties like spectral shape, duration and formant transition. This section reports friction duration, preceding vowel duration (V_1), following vowel duration (V_2) and formant transition of Hindko fricatives. As given in section 2.1, Hindko has eight fricative segments articulated from five different places of articulation. These appear in voicing pairs except palatal /ʃ/ that has no voiced counterpart and glottal /ɦ/ that is without voiceless counterpart.

3.2 Methodology

The methodology used for this study is as given below:

3.2.1   Participants

In total, ten Hindko speakers (five male and five female) participated in the study. The participants were born in Hazara Hindko dialectal area. All these are either in their twenties or thirties. Eight of them are graduate students while two are teachers at the university of AJ&K. All the participants are multilingual. At home, they speak Hindko while elsewhere Urdu. However, classroom communication is in English to a great extent. None of them reported any history of language impairment. All of them had received no phonetic training and knowledge of this kind of experiment.

3.2.2   Stimuli

The stimuli contain Hindko words and non-words with a vowel-consonant-vowel (VCV) context, where C is the target fricative. To minimize variation from the vowel context, the same vowel /i/ is used both in preceding (V_1) and following (V_2) the target C. For recording, a list of eight Hindko fricatives is prepared, which was written in Hindko script, as shown in the table below:

Table 4: List of target fricatives in iCi sequence.

Fricatives	Voiceless	Voiced
Labio-dental	ifi	ivi
Alveolar	isi	izi
Palatal	iʃi	-
Velar	ixi	iɣi
Glottal	-	iɦi

3.2.3   Procedure

Each participant repeated the 8 stimuli 3 times for a total of 24 stimuli per participant. Totally, 240 tokens (8 fricatives x 3 repetitions x 10 participants) were analyzed to determine acoustic cues. Before recording, a brief session of instruction regarding how and what to do was held. For familiarization, each participant rehearsed the target words. The list of target words was given and for each repetition the order was changed. The data were recorded using high fidelity microphone directly on PRAAT software package (Boersma, 2012). A statistical package for social sciences (SPSS) was used for statistical analysis where possible.

4.   Results and discussion

The following table shows the mean values of temporal properties in milliseconds (ms) and formant-1 (F_1) and formant-2 (F_2) in Hertz (Hz).

Table 5: Mean durations of V_1, V_2, Friction (ms), F_1-F_2: V_1 and–F_1-F_2: V_2 of Hindko fricatives.

	Dur.-V_1	Dur. V_2	Dur. Friction	F_1-F_2: V_1	F_1-F_2: V_2
ifi	176	246	132	331-1668	325-1692
ivi	206	246	90	310-1732	321-1692
isi	183	244	137	317-1679	319-1713
izi	196	239	111	311-1685	315-1706
iʃi	181	265	135	319-1801	326-1794
ixi	191	264	116	333-1721	339-1702
iɣi	210	250	98	328-1710	330-1712
iɦi	197	220	89	307-1684	325-1672

Table 5 illustrates the mean duration of V_1, V_2, friction (ms) and F_1- F_2 of V_1 as well as V_2 for each of the fricatives in Hindko. For instance, the longest friction duration is 137 ms of alveolar voiceless fricative /s/ while the shortest is 89 ms of glottal voiced fricative /ɦ/. The table also exhibits differences between durations of proceeding vowel, following vowel and frication among fricatives. To check the significance statistically a pairwise independent sample t-test was applied testing the difference between the duration of V_1 and V_2, friction duration between voiced and voiceless fricatives and V_1 duration between voiced and voiceless fricatives. The results reject the null hypothesis that there is no difference. The difference between these pairs is highly significant as the P-value (0.00, 0.003, 0.006) which is smaller than 0.05 the level of significance. Hence, duration of V_1 and V_2, friction duration between voiced and voiceless and duration of V_1 between voiced and voiceless fricatives are clearly distinguishing acoustic cues for Hindko fricatives. All this is clearly visible in the spectrograms.

4.1 Spectral cues of Hindko fricatives

The following spectrograms given in Figures 1-5, with respect of the place of articulation of Hindko fricatives, exhibit the difference between them. In the spectrogram, the straight line is drawn to indicate duration of friction; the rectangle shows high frequency range indicating turbulent air and its concentration, the lower circle F_1 and upper circle F_2 at the onset position.

4.1.1 Labio-dental /f/ and /v/
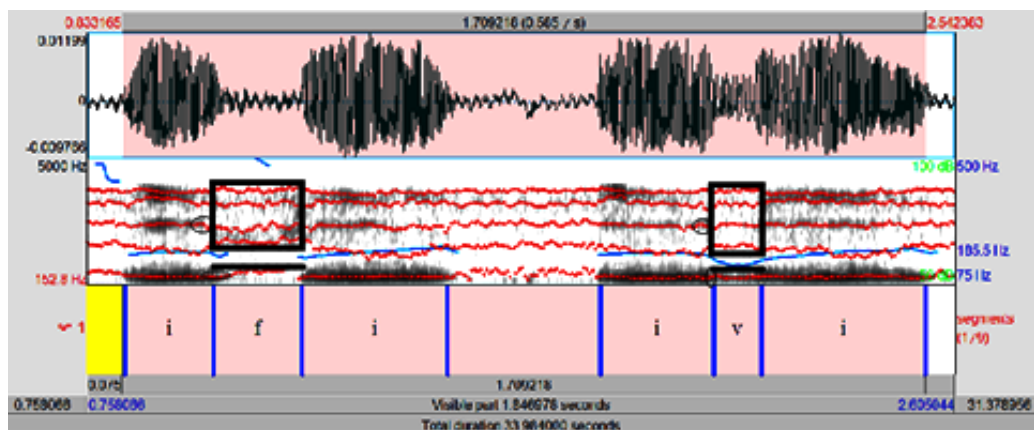
Figure 1: Spectrogram of labio-dental fricatives voiceless /f/ and voiced /v/.

This spectrogram given above indicates the durational difference between preceding and following vowels by segment marking, friction of /f/ and /v/ and the turbulent air in the high frequency range as in the rectangular area the noise is visible. In addition to, it shows that F_1 and F_2 falls at onset position of /f/ as well as /v/ while at offset position both F_1 and F_2 rise for voiceless /f/ and the same is true to its voiced counterpart /v/.

4.1.2 Alveolar /s/ and /z/
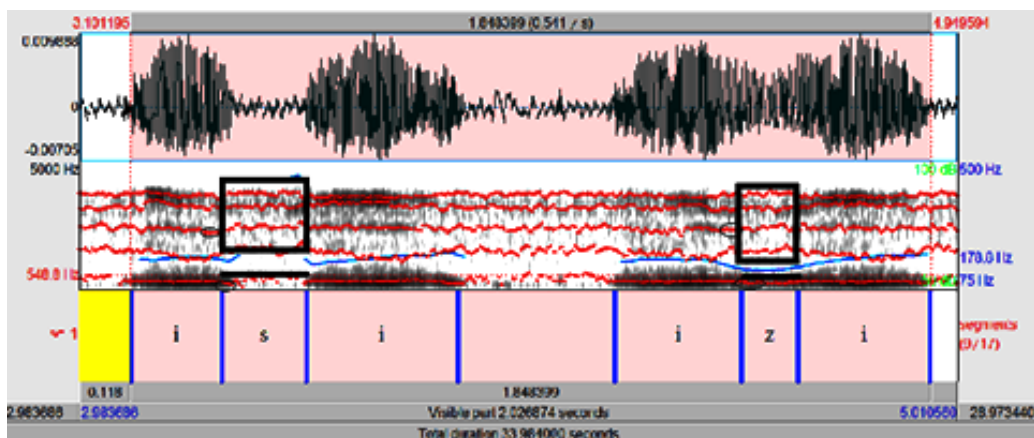
Figure 2: Spectrogram of Alveolar fricatives voiceless /s/ and voiced /z/.

Figure 2 reveals the durational differences of vowels, friction and turbulence in the high frequency range for /s/ and /z/. The absence of voice bar for /s/ demonstrates that it is voiceless while the presence of voice bar for /z/ that it is voiced. Further, it shows that

F_1 drops at onset position while F_2 rises for /s/ and /z/ as well. But at offset F_1 rises and F_2 falls for both of these. The locus frequency of Hindko alveolar segments is 1600-1800 Hz. So, it can be claimed that F_2 transition for alveolar fricatives depends on neighboring vowel.

4.1.3   Palatal /ʃ/

Hindko has only one palatal fricative /ʃ/ which is voiceless. It implies that it does not form pair.
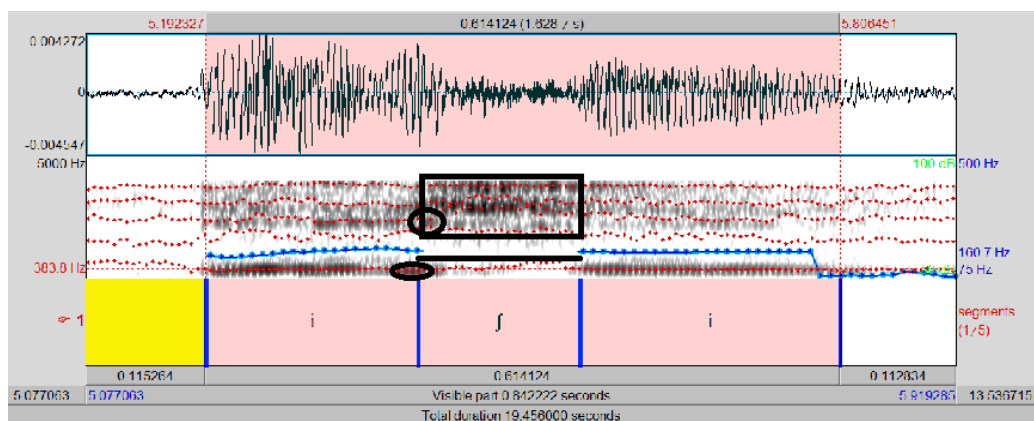

Figure 3: Spectrogram of Palatal voiceless fricative /ʃ/.

The spectrogram given above in Figure 3 besides differentiating the duration difference of V_1 and V_2, reflects the friction duration of the voiceless fricative /ʃ/. The rectangle clearly shows the turbulent air is more than labio-dental and alveolar fricatives as shown in the spectrograms given in Figures 1 and 2 respectively. It is due to more area of the cavity in front of the constriction than labio-dental and alveolar segments supporting the claim by Pickett (1999) that the overall shape of the fricatives is known by the shape and size of the cavity in front of the constriction. In fact, the tube after constriction is long, thus, low frequencies come out and black bands also come down on spectrogram as can be seen in the spectrogram. Heins and Stevens (1961) identify a low frequency noise region for /ʃ/. In Figure 3, dark bands are visible at about 2200 Hz and above. F_1 drops at onset and offset positions. The spectrogram also reflects that F_2 rise at onset while fall at offset. The locus frequency for /ʃ/ is around 2000 Hz.

4.1.4   Velar /x/ and /ɣ/

The articulation of velar fricatives /x/ and /ɣ/ involves velum and back of the tongue, so, results in the long tube in front of the cavity.
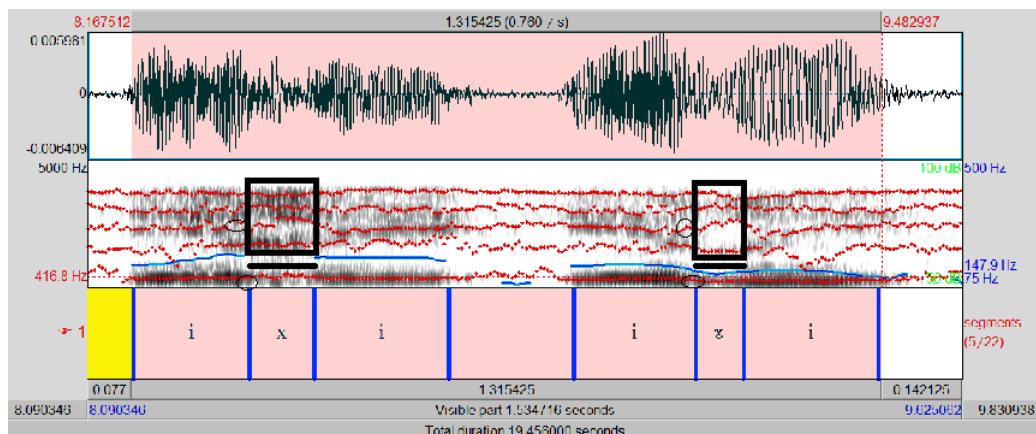
Figure 4: Spectrogram of velar fricatives voiceless /x/ and voiced /ɣ/.

Figure 4 shows two dark bands of frequencies in the spectrogram. One is about 1100 Hz and the other is about 3300 Hz. This is clearly seen for voiceless /x/ than voiced /ɣ/. The spectrogram further reveals that F_1 drops at onset position while goes slightly upward. F_2 demonstrates a rise at the onset but a sharp fall at offset as it has a locus frequency around 1200 Hz.

4.1.5   Glottal /ɦ/

The glottal fricative /ɦ/ is voiced in Hindko. There is no other fricative in Hindko produced from this place of articulation. As shown in Table v, it like other fricatives demonstrates a significant difference of V_1 and V_2 and friction duration in contrast with other voiceless fricatives. The formants are like vowels but fainter than vowels as shown in the spectrogram of voiced /ɦ/ below:
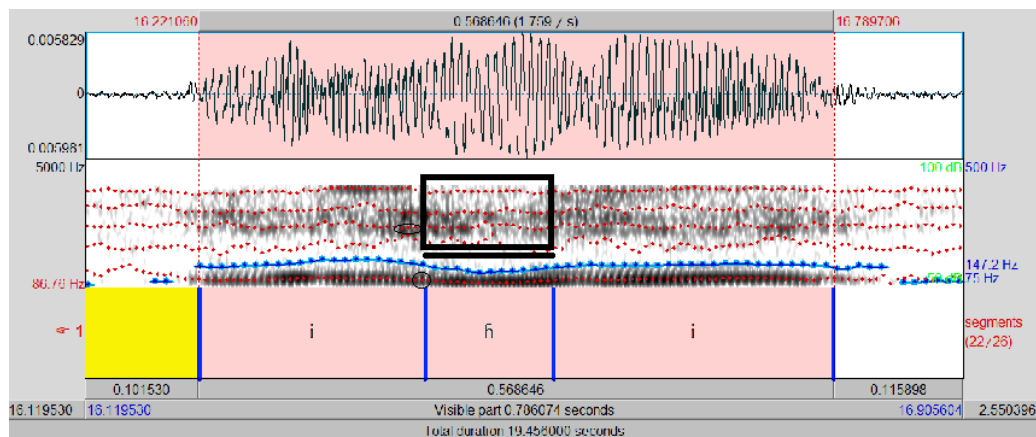
Figure 5: Spectrogram of glottal voiced fricative /ɦ/.

Turbulence noise is visible in all the fricatives. In regard with this Hindko fricatives can be further classified into strident and non-strident. Strident fricatives are produced with more energy than the non-strident fricatives. The spectrograms in Figures 1-5 show that the turbulence noise is strong for strident /s, z, ʃ / and weak for non-strident /f, v, x, ɤ, ɦ/.

5.   Findings

This study on the acoustic cues of fricatives in Hindko finds that:

    a.   Duration of V_1 is shorter than V_2; duration of V_1 of voiced fricative is more than voiceless fricative.

    b.   Friction duration is longer of voiceless fricatives than voiced ones. The longest fricative is voiceless alveolar /s/ and the shortest glottal voiced /ɦ/.

    c.   The paired t-test results show the difference between the duration of V_1 and V_2; friction duration of voiceless and voiced and V_1 duration difference of voiced and voiceless fricatives are highly significant.

    d.   Turbulence noise is present in all fricatives but it is strong for strident /s, z, ʃ / and weak for non-strident /f, v, x, ɤ, ɦ/.

    e.   Voicing pairs (voiceless-voiced) are found at three places of articulation namely labio-dental /f, v/, alveolar /s, z/ and velar /x, ɤ/ while palatal /ʃ/ is voiceless and glottal /ɦ/ is voiced without their respective counterparts.

    f. F_2 shows that formant transitions are in the direction of locus frequency of each fricative.

6.   Conclusion

This work offers a phonemic and acoustic analysis of Hindko fricatives. The phonemic analysis demonstrates that Hindko has eight fricatives articulated from five different places of articulation. These are labio-dental /f, v/; alveolar /s, z/; palatal /ʃ/, velar /x, ɤ/ and glottal /ɦ/. The voicing contrast is absent for palatal voiceless /ʃ/ and glottal voiced /ɦ/ while, the labio-dental, alveolar and velar fricatives form voicing pairs. These fricatives are studied acoustically.

The acoustic analysis reveals that Hindko fricatives are distinguishable on the basis of acoustic cues which are adjacent vowels duration, friction duration, formant transition and turbulence noise. The duration of V_1 is shorter than V_2; duration of V_1 of voiced fricative is more than voiceless fricative. The friction trend is as it is longer for voiceless fricatives than voiced ones. The longest fricative is voiceless alveolar /s/ and the shortest

glottal voiced /ɦ/. The statistical analysis proves that these differences are significant. As far as turbulence noise is concerned, it is present in all fricatives as can be seen in the spectrogram given above. However, it is strong for strident /s, z, ʃ/ and weak for non-strident /f, v, x, ɤ, ɦ/. The glottal fricative /ɦ/ has vowel like formants. Finally, the formant transition is in the direction of locus points of the respective place of articulation of fricative segments.

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JAPONSKI ZAPIS SLOVENSKIH ENOZLOŽNIH IZREK: TRANSKRIPCIJA IN FONOLOŠKE OMEJITVE PRI PRENOSU GLASOVNE PODOBE

Nina GOLOB
University of Ljubljana
nina.golob@ff.uni-lj.si

Abstract