

Tungusic Morphology in Old Japanese through the Lens of Borrowing Hierarchies

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Abstract:

The Tungusic language family consists of approximately a dozen endangered languages that are spoken in Siberia and northern China. Old Japanese and the Tungusic languages share a body of nominal and verbal morphology. In the current paper, the hypothesis that this shared morphology is the result of linguistic contact between Tungusic and Japanese, or borrowing from Tungusic into Japanese, is discussed and substantiated. To corroborate the linguistic contact hypothesis, fifteen etymologies are examined against the yardstick of Yaron Matras's (2007: 37-62; 2009: 218; 2011: 208-224) borrowing hierarchies, which are scales of borrowability. It can be observed that most shared morphological elements score relatively high in eight relevant borrowing hierarchies. Consequently, it is conceivable that these shared morphological elements can be attributed to linguistic contact (linguistic convergence).

Key Words: *Japanese, Old Japanese, proto-Japanese, Tungusic languages, proto-Tungusic, borrowing, language contact, borrowing hierarchies, nominal morphology, verbal morphology*

1. Introduction: The Tungusic Languages

The Tungusic languages form a language family and are spoken in Siberia and northern China. According to Ikegami (2001: 395), the Tungusic languages can be classified as below.

- (a) (Group I) Evenki, Solon, Negidal, Even (Lamut);
- (b) (Group II) Udehe, Oroch;
- (c) (Group III) Nanai (Goldi), Ulcha, Orok (Uilta);
- (d) (Group IV) Manchu.

2. Objectives of the Paper

Old Japanese and the Tungusic languages share nominal and verbal morphology in the sense that Old Japanese and the Tungusic languages possess morphological elements that exhibit similar forms and functions (cf. Murayama 1962: 165-166; Murayama 1988: 26-31; Itabashi 1988: 193-231; Itabashi 1989: 47-66; Itabashi 1990: 86-107; Itabashi 1991: 231-278; Itabashi 1993: 122-146; Itabashi 1996: 373-394; Vovin 1999: 177-192; Itabashi 2001: 108-110; Vovin 2003: 22-23; Robbeets 2005: 412-421; Itabashi 2012: 39-58).

The objective of the current research paper is to corroborate the hypothesis that it is possible for Old

Japanese and Tungusic to possess this shared morphology due to language contact (linguistic convergence). In other words, the hypothesis that this morphology has been borrowed from Tungusic into Japanese will be discussed and corroborated.

3. Research Methods

The research methods of the paper will be the principles of historical linguistics and contact linguistics. It is assumed that Japanese and Tungusic are not genetically related, but share common lexical elements (i.e., vocabulary) and grammatical elements (i.e., nominal and verbal morphological elements) due to language contact (cf. Vovin 2005: 71-132; Pauwels 2008: 75-76; Georg 2011: 25, 33, 34).

The methodology of historical linguistics will be used for the reconstruction of proto-Japanese and proto-Tungusic forms, based on attested linguistic material, and the reconstruction of the meanings of these proto-forms. Contact linguistics will be used in order to assess the probability of borrowing as an explanation for the existence of shared morphology in Old Japanese and Tungusic. Borrowing hierarchies, i.e., scales of borrowability (or, scales of likelihood of borrowing) of morphological elements from one language into another, have been postulated by Matras (2007: 37-62; 2009: 218; 2011: 208-224). The more examples of borrowing of a morphological element with a specific form and function from one language into another that have been documented in the literature, the higher the score on the scale of borrowability.

Shared elements between Old Japanese and Tungusic, i.e., elements in Old Japanese that are likely to be borrowings from Tungusic, will be evaluated and assessed using these borrowing hierarchies as a yardstick. If there is no specific documented attestation of borrowing of a certain type of morphological element from one language into another, then it is very unlikely that this element has been borrowed from Tungusic into Japanese. On the other hand, the higher the number of cases of borrowing of a specific type (e.g., plural marking) that is attested in specific linguistic contact situations, the more plausible the hypothesis of borrowing will become.

4. Matras's Borrowing Hierarchies

Matras (2007: 37-62; 2009: 161, 218; 2011: 208-224) provides several borrowing hierarchies (abbreviated as "BH") that cover morphology. Relevant BHs for the current paper are the following.

4.1. Borrowing Hierarchy 1

Derivation marker > classifier > plural marker > definiteness marker > case marker
 (Matras 2009: 218)

This BH 1 should be interpreted as follows: derivation markers occupy the highest position on the scale of borrowability. In other words, they are more likely to be borrowed than the items located on the right side of the BH, i.e., classifiers, plural markers, definiteness markers, and case markers.

4.2. Borrowing Hierarchy 2

Peripheral local relations > core local relations
 (Matras 2007: 42; Matras 2009: 161; Matras 2011: 214)

Likewise, this BH 2 for expressions of local relations should be interpreted as follows: expressions of peripheral local relations are more likely to be borrowed than items referring to core local relations. Peripheral local relations are cognitively more complex, because they entail “the creation of a conceptual relationship with reference to two or more rather than just one named object (‘between’), or to movement rather than a situation (‘around’, ‘across’), [...]” (Matras 2011: 214).

4.3. Borrowing Hierarchy 3

Indefinites > interrogatives > deixis, anaphora
 (Matras 2011: 220)

This BH 3 should be read as: indefinites are easier to borrow than interrogatives, and interrogatives are less resistant to borrowing than deixis.

4.4. Borrowing Hierarchy 4

Modality > aspect / *Aktionsart* > future tense > other tense / aspect
 (Matras 2007: 46; Matras 2011: 220)

This BH 4 stipulates that items expressing modality (weaker control) are more likely to be borrowed than items expressing aspect / *Aktionsart*, i.e., “the subjective-evaluative perspective on an action / event” (Matras 2011: 221). Furthermore, *Aktionsart* is higher on the scale of borrowability than future tense as well as other tenses or aspects.

4.5. Borrowing Hierarchy 5

Obligation > necessity > possibility > ability > desire
 (Matras 2007: 45; Matras 2011: 220)

Items expressing obligation score the highest in BH 5. The second highest score can be assigned to items referring to necessity.

4.6. Borrowing Hierarchy 6

Concessive, conditional, causal, purpose > other subordinators

(Matras 2007: 56; Matras 2011: 220)

According to BH 6, concessive, conditional, causal and purpose subordinators are more easily borrowed from one language into another than other subordinators.

4.7. Borrowing Hierarchy 7

Greetings and similar formulae > question particles, conditional particles, modality particles > negation and other content particles

(Matras 2011: 222)

BH 7 covers speech acts as such (e.g., greetings), which are more prone to borrowing than speech act markers (e.g., conditional particles, modality particles). These are all categories that are related to the “speaker’s monitoring and directing of the interaction” (Matras 2009: 162).

4.8. Borrowing Hierarchy 8

Existential (copula) predication > lexical predication

(Matras 2011: 224)

Existential predication is a more likely candidate for borrowing than lexical predication, because the former entails “a linear arrangement of at least two arguments” (Matras 2011: 224) (and, consequently, requires an increase of processing load), while the latter is less complex.

5. List of Morphology Shared in Old Japanese and Tungusic

The list below is not exhaustive due to space limitations. In principle, only Evenki (Evk.), Nanai (Nan.), and Manchu (Man.) examples containing the relevant morphology will be provided in the list. Evenki can be considered the representative for the Northern Tungusic languages (or Group I, in Ikegami’s classification (2001: 395)), whereas Nanai represents the Southern Tungusic languages (or Group III). Where deemed necessary, example materials from other Tungusic languages will be given as well.

5.1. OJ. *-ra* (plural suffix)

OJ. *-ra* (JDB 808a) < pJ. *-ra << pT. *-l (nominal plural suffix) (Cincius 1949: 254; Benzing 1955: 1024 (76), §87; Ikegami 1989: 1078) (etymology proposed by: Miller 1971: 28-29).

- (a) Distribution and function in OJ.: OJ. *-ra* is only used to add to nouns referring to persons or living beings, whereas in Tungusic *-l* can be used with all types of nouns.
- (b) Example in OJ.: *Ami-no₂-Ura ni punano₂ri suramu wotome-ra ga tamamo no₂ suso₁ ni*. “On the hemline of the beautiful garment of the maidens who are probably boating in Ami-no-Ura” (Man’yōshū 万葉集 40) (quoted by JDB 808a).

- (c) Attestation in Tungusic: Evk. *-l* (Nedjalkov 1997: 141-142), Neg. *-l* (alongside *-sal* / *-sel*) (Cincius 1982: 20), Evn. *-l* (Malchukov 1995: 8) (cf. Cincius 1949: 254; Benzing 1955: 1024-1026 (76-78), §87; Ikegami 1989: 1078). The plural suffix is only attested in Northern Tungusic languages (or Group I).
- (d) Examples in Tungusic: Evk. *bira-l* “rivers”, *sulaki-l* “foxes”, *mō-l* “trees” (Nedjalkov 1997: 141), Neg. *žō-l*, *žō-sal* “houses”, *adel-i-l*, *adel-i-sal* “fishing nets”, *moj-l*, *moj-sal* “horses” (< *mojn* “horse”) (Cincius 1982: 20), Evn. *žū-l* “houses” (Malchukov 1995: 8).

5.2. OJ. *-tati* (plural suffix)

OJ. *-tati* (JDB 424c) < pJ. **-ta-ti* << pT. **-ta* / **-te* (nominal collective plural suffix) (Benzing 1955: 1019 (71), §80; 1020 (72), §81) (etymology proposed by: Itabashi 2001: 110).

Cf. Midd. Kor. *tólh* (plural suffix) (etymology proposed by: Whitman 1985: 217 (#67); and endorsed by Itabashi 2001: 110; Vovin 2010: 119-120; Lee & Ramsey 2011: 174), Mod. Kor. *-tul* (plural suffix) (KED 533b).

- (a) Function and distribution in OJ.: The suffix is attached to nouns referring to people and gods (Ōno 2002: 805a) and has an honorific nuance (JDB 424c; Ōno 2002: 805a; Vovin 2010: 120). Its distribution is limited to WOJ. (Vovin 2010: 120).
- (b) Example in OJ.: *omi_i-tati* “the nobles” (Vovin 2010: 120).
- (c) Attestation in Tungusic: Evk. *-tyl* (Vasilevič 1958: 793) ~ *-tyl* (plural suffix restricted to kinship terms) (Nedjalkov 1997: 142), Evn. *-tal* / *-tel* (plural suffix for kinship terms) (Malchukov 1995: 8), Ud. *-nta* (collective plural suffix) (Benzing 1020 (72), §81), Man. *-ta* / *-te* (Avrorin 2000: 89; Gorelova 2002: 135-136; Kawachi & Kiyose 2002: 47), attached to nouns “denoting the age of human beings, generations and relatives” (Gorelova 2002: 135).
- (d) Examples in Tungusic: Evk. *amin* “father”, *am-tyl* “fathers”, *enin* “mother”, *en-tyl* “mothers” (Nedjalkov 1997: 142), Evn. *aman* “father”, *am-til* “fathers; parents” (Malchukov 1995: 8), Ud. *aha-nata* “women”, *nī-nta* “men” (Benzing 1020 (72), §81), Man. *ama* “father”, *ama-ta* “fathers”; *eme* “mother”, *eme-te* “mothers” (Gorelova 2002: 135).

5.3. OJ. *-ga* (genitive case suffix)

OJ. *-ga* (JDB 171d) < pJ. **-n-ka* (cf. Murayama 1957: 129; Itabashi 1991: 266-267, 274; Itabashi 2001: 108; Vovin 2003: 23) << pT. **-n-ki* (genitive case suffix, suffix to form denominal adjectives) (cf. Benzing 1955: 1027 (79), §88; 1038 (90), §105; Vovin 2003: 23) (etymology proposed by: Murayama 1957: 129-130; endorsed by Itabashi 1991: 267, 274; Itabashi 2001: 108; Vovin 2003: 23).

- (a) Function in OJ.: *-ga* expresses a relation of possession, belonging, etc. [“所有・所属などの関係”] (JDB 171d). Itabashi (1991: 243) states that it refers to “inalienable possession of the speaker”.
- (b) Example in OJ.: *Ukapi-ga to₂mo₂ pa yuku kapa no₂ kiyoki se go₂to₂ ni kagarisasi*. “The cormorant fishers light fires on each clear pool of the flowing river.” (Man'yōshū 万葉集 4011) (quoted by Itabashi 1991: 245).
- (c) Attestation in Tungusic: Evk. *-ŋi* (possessive suffix) (Vasilevič 1958: 780; Nedjalkov 1997: 82), Nan. *-ŋgi* (suffix of the predicative-possessive form) [“суффикс предикативно-притяжательной формы”] (Avrorin 1959: 186; Avrorin 1961: 284).

- (d) Examples in Tungusic: Evk. *Tar-il oro-r Amarča-yi (bi-si)*. “These reindeer are Amarča’s.” (Nedjalkov 1997: 124), Nan. *najygi* “(adjective) human, which belongs to the human” (cf. *naj* “(noun) human”), *indaygi* “canine, which belongs to the dog” (cf. *inda* “dog”) (Avrorin 1959: 186).

5.4. OJ. *-ra* (semi-fossilized locative-directive case suffix)

OJ. *-ra* < pJ. *-ra << pT. *-lā / *-du-lā (locative-directive case suffix) (Cincius 1949: 256; Benzing 1955: 1027 (79), §88; 1032 (84), §95; Ikegami 1989: 1078) (etymology proposed by: Miller 1971: 28-29; endorsed by Vovin 2003: 23).

Cf. Midd. Kor. *-la(ng)* (locative case suffix) < Old Kor. *-lang* [良] < pKor. **la-* / **-lang* (etymology proposed by: Vovin 2010: 56-58; endorsed by Itabashi 2012: 46, 48).

- (a) Function and distribution in OJ.: The suffix expresses location or direction and is attached to nouns referring to a place or time (Itabashi 2012: 48). Vovin (2010: 58) claims that it does not occur in Ryukyuan.
- (b) Example in OJ.: *Yamato₂ pa kuni₂-no₂ ma-po-ra ma* “Since Yamato is in the highest place of the country” (Nihonshoki Kayō 日本書紀歌謡 22 (720 A.D.)) (quoted by Vovin 2010: 57; Itabashi 2012: 48).
- (c) Attestation in Tungusic: Evk. *-lā* (Vasilevič 1958: 766) ~ *-la* “to, towards, in the direction of” (Nedjalkov 1997: 170), Nan. *-la* “to, towards” (Avrorin 1959: 163). Benzing (1955: 1032 (84), §95) writes that in Man. reflexes of the marker only exist in adverbs referring to a location [“in Ortsadverbien”].
- (d) Examples in Tungusic: Evk. *Asatkan mū-le buru-re-n.* “The girl fell in the water.” (Nedjalkov 1997: 170), Nan. *Nučikenžuen duente-le tutu-xe-či.* “The children ran towards the woods.” (Avrorin 1959: 181-182), Man. *do-la* “on the inside, interiorly” (Norman 2013: 78b), *wa-la* “underneath, under, low” (Norman 2013: 400b).

5.5. OJ. *-ri* (fossilized proative case suffix)

OJ. *-ri* < pJ. *-ri << pT. *-lī (proative case suffix) (Cincius 1949: 256; Benzing 1955: 1027 (79), §88; 1032 (84), §96; Ikegami 1989: 1078) (etymology proposed by: Itabashi 1990: 96; Itabashi 1993: 138).

Cf. *-li* in Midd. Kor. *i-li* “this way”, *ku-li* “that way”, *tye-li* “that way (there)” (etymology proposed by: Itabashi 1993: 138; Lee & Ramsey 2011: 22).

- (a) Function in OJ.: The case suffix originally expressed direction or location. However, it is not productive anymore and has only been preserved in fossilized form in a limited number of etyma.
- (b) Examples in OJ.: Itabashi (1990: 96) provides the following examples: OJ. *pida-ri* “left” (JDB 613a), *migi-ri* “right” (JDB 699b), *to-na-ri* “neighbor” (JDB 497b; Martin 1987: 550), *ata-ri* “vicinity” (JDB 27c; Martin 1987: 387), *poto-ri* “vicinity” (JDB 658d; Martin 1987: 416), *tawo-ri* “saddleback (between mountains)” (JDB 451d; not in Martin 1987).
- (c) Attestation in Tungusic: The case suffix is still productive and expresses motion along something or through something (Benzing 1955: 1032 (84), §96): Evk. *-lī* / *-dulī* (Vasilevič 1958: 768) ~ *-li* / *-duli* (after consonants) / *-tuli* (after consonants) (proative case marker) (Nedjalkov 1997: 142). However, the suffix does not exist in Nan., Ulch., Ork., and Man. (Cincius 1949: 256; Benzing 1955: 1027 (79), §88; Ikegami 1989: 1078).

- (d) Examples in Tungusic: Evk. *Žav-il ejen-žere-Ø bira-li*. “The boats drift along the river.” (Nedjalkov 1997: 171); *Nuyartyn urke-li i-re-Ø*. “They entered through the door.” (Nedjalkov 1997: 171).

5.6. OJ. *-ti* (fossilized allative-directive case suffix)

OJ. *-ti* (JDB 83a; Itabashi 2001: 108) < pJ. *-ti << pT. *-ti (allative-directive case suffix) (Cincius 1949: 256; Benzing 1955: 1033 (85), §98; Ikegami 1989: 1078) (etymology proposed by: Itabashi 1990: 100; Itabashi 2001: 108).

- (a) Function in OJ.: The case marker expresses direction, but has a limited distribution.
- (b) Examples in OJ.: OJ. *ko₂-ti* “this way, this direction” (JDB 295d; Ōno 2002: 509b), *idu-ti* “where to” (JDB 83a; Ōno 2002: 115a) (both forms quoted by Murayama 1988: 26), *wo-ti* “that way, that direction” (JDB 835a; Ōno 2002: 1457c).
- (c) Attestation in Tungusic: The case suffix expresses direction (Cincius 1949: 256; Benzing 1955: 1033 (85); Ikegami 1989: 1078). The languages of Group I and II in Ikegami’s classification (2001: 395) have the bimorphemic allative suffix *-ti-kī (Cincius 1949: 256), which has evolved into Evk. *-tkī* ~ *-tikī* (Vasilevič 1958: 791-792), Ud. *-tigi* (Cincius 1949: 256; Benzing 1955: 1033 (85) §98; Ikegami 1989: 1078; Nikolaeva & Tolskaya 2001: 106). Nanai (Group III in Ikegami’s classification) possesses monosyllabic *-či* (< *-ti) (Avrorin 1959: 163-164, 182).
- (d) Examples in Tungusic: Evk. *Bejumimni hokto-kti tuksa-žara-n*. “The hunter is running to(wards) the road.” (Nedjalkov 1997: 170), Nan. *Sikse bue klube-či eneju*. “In the evening we go to the clubhouse.” (Avrorin 1959: 182).

5.7. OJ. *-tu* (fossilized locative-genitive case suffix)

OJ. *-tu* (JDB 458a) < pJ. *-tu << pT. *-dū (dative-locative case suffix) (Cincius 1949: 256; Benzing 1955: 1027 (79), §88; 1031 (83), §93; Ikegami 1989: 1078) (etymology proposed by: Murayama 1957: 130; Murayama 1962: 165, 166; endorsed by Miller 1971: 86-89; Itabashi 1996: 373-374, 381-383; Itabashi 2001: 108; Vovin 2003: 23).

Cf. Midd. Kor. *-s* (genitive case suffix) < Old Kor. *-ti* [叱] < pKor. *-*ti* (etymology proposed by: Martin 1990: 485; endorsed by Itabashi 2012: 47).

- (a) Function and distribution in OJ.: The case suffix *-tu* (JDB 458a; Itabashi 1996: 374) expresses locative case. Itabashi (2012: 47-48) states that, by the Nara period, *-tu* had become fossilized. According to Vovin (2010: 53), *-tu* is not attested in Ryukyuan.
- (b) Examples in OJ.: The suffix has been preserved in compounds consisting of nouns (cf. JDB 458a; Itabashi 1996: 374): OJ. *nipa-tu-to₂ri* “chicken” (literally “fowl in the garden”), *sa-no-tu-to₂ri* “pheasant” (literally “bird in the field”), *oki-tu-to₂ri* “sea bird”, *ama-tu-kami₁* (JDB 43b) “gods of heaven”, *pina-tu-me* (JDB 458a) “country girl”.
- (c) Attestation in Tungusic: pT. *-dū is a dative case suffix (Cincius 1949: 256; Benzing 1955: 1031 (83), §93) and locative case suffix (Benzing 1955: 1032 (84), §95; Ikegami 1989: 1078). When locative pT. *-lā is added, the result is *-dū-lā (Cincius 1949: 257; Benzing 1955: 1031 (83), §93; 1032 (84), §95). Descendants of pT. *-dū are: Evk. *-dū* (Vasilevič 1958: 754) ~ *-du* (dative-locative) (Nedjalkov 1997: 169), Nan. *-du* (dative-locative) (Avrorin 1959: 163), Man. *-de* (dative) (Gorelova 2002: 169).

182-183).

- (d) Examples in Tungusic: Evk. *lamu-du* “in the sea”, *tatkit-tu* “in / at school”, *ure-l-du* “in the mountains” (locative) (Nedjalkov 1997: 169), Nan. *ogda-du* “in the boat” (locative) (Avrorin 1959: 163, 180), Man. *Abka-de hengkile-mbi*. “[I] kowtow to heaven.” (dative) (Gorelova 2002: 183).

5.8. OJ. **-am-** (verbal tentative suffix)

OJ. *-am-* (Vovin 2010: 87) < pJ. *-[*V*]*m*[*V*] (Vovin 2010: 87) << pT. *-*mu-* (verbal optative suffix) (Benzing 1955: 1069 (121)) (etymology proposed by: Vovin 1999: 189; endorsed by Itabashi 2001: 110; Vovin 2003: 22; Vovin 2010: 87).

Cf. Midd. Kor. *-ma* (intention suffix) (Vovin 2001: 194-195; Vovin 2010: 87) < pKor. *-*ma* (etymology proposed by: Vovin 1999: 189; Vovin 2003: 22).

- (a) Function in OJ.: The suffix can indicate probability, volition (Vovin 1999: 189; 2010: 87), and future (Lewin 1990: 160-161).
- (b) Examples in OJ.: *ika-m-u* “[I] want/will probably go”, “[you] should go”, *ko₂ro₂s-am-u* “[s]he] intends to kill”, *ko₁pi₂-m-u* “[I] will love” (Vovin 1999: 189; Vovin 2010: 87).
- (c) Attestation in Tungusic: pT. *-*mu-* marks the optative, i.e., “want(s) to do [something]” [“tun wollen”] (Benzing 1955: 1069 (121)). Descendants are: Evk. *-mu-* “wish to perform an action” (Nedjalkov 1997: 267), Neg. *-musi-* “the wish to complete an action” [“желание совершить действие”] (Cincius 1982: 23), Ud. *-mūi-* “a wish or the internal (physical) necessity to accomplish a particular action” (Nikolaeva & Tolskaya 2001: 323), Nan. *-mosi- / -musi-* “organic necessity” [“органическая потребности”] (Avrorin 1961: 64).
- (d) Examples in Tungusic: Evk. *žem-mu-* “to be hungry” (literally “want to eat”), *duku-mu-* “want to write”, *haval-mu-* “want to work” (Nedjalkov 1997: 267), Nan. *že-musi-* “to be hungry, to feel hungry” (from *žep-* “to eat”), *omi-musi-* “to be thirsty, to feel thirsty, to want to smoke, to feel like smoking” (from *omi-* “to drink, to smoke”) (Avrorin 1961: 64).

5.9. OJ. **-an-** (verbal negative suffix)

OJ. *-an-* < pJ. *-*an*[*V*]- (Vovin 1999: 179; Frellesvig 2008: 184; Vovin 2010: 77) << pT. *-*āna* “1. not, no; 2. does not exist, is not” (SSTM I, 41a, s.v. *ān* II) (etymology proposed by: Vovin 1999: 179; Vovin 2003: 22).

Cf. Midd. Kor. *ani* (negative marker), Kor. *ani* “no, not” (KED 1068a; Martin 1992: 315) (etymology proposed by: Ramstedt 1949: 10; endorsed by SSTM I, 41a, s.v. *ān* II; Whitman 1985: 244 (#324); Vovin 1999: 179; Itabashi 2001: 109).

- (a) Function and distribution in OJ.: Western OJ. *-an-* is a verbal negative suffix (Vovin 1999: 179; Vovin 2010: 77).
- (b) Examples in OJ.: *kij₁k-an-u uta* “a poem that [I] do not hear” (Vovin 1999: 179); *ko₂ko₂ro₂-yu mo₂ omop-an-u ap₁nta-ni* “while [I] did not think even in [literally: from] my heart” (Man'yōshū 万葉集 V: 794) (ca. 759 A.D.) (quoted and translated by Vovin 2010: 77).
- (c) Attestation in Tungusic: pT. *-*āna* “1. not, no; 2. does not exist, is not” (SSTM I, 41a, s.v. *ān* II). In Evk., the etymon is not attested. According to SSTM (I, 41a, s.v. *ān* II), attested forms are: Evn.

(Arman), *ān* ~ *āŋ* ~ *jān* “1. not, no; 2. without”, Orch. *an* “1. not, no; 2. does not exist”, Nan. *anā*, *anāži*, *ananiam* “1. not, no; 2. without” (cf. Avrorin 1959: 196, 245; Avrorin 1961: 280), Ulch. *ana* “1. not, no; 2. without” (cf. Sunik 1985: 172b), Ork. *anā* “1. not, no; 2. does not exist” [“*な*”] (cf. Ikegami 1997: 8, 278b).

- (d) Examples in Tungusic: Nan. *Gujče ana žog-du yegden*. “It is light in a house without roof.” [“В доме без крыши светло.”] (Avrorin 1959: 196), Ork. *Buda anā*. “There is no rice.” [“米はない。”], *Anā esiwi yennē*. “I’m not going.” [“いや, 我は行かぬ。”] (Ikegami 1997: 8).

5.10. OJ. *-ba* / *-a-ba* (conditional suffix)

OJ. *-ba* / *-a-ba* (JDB 571a) < pJ. *-n(-)pa- (?) << pT. *-pa / *-pe (conditional gerund [“условное деепричастие”] (Avrorin 1961: 152); “converbum perfecti-conditionalis” (Alonso de la Fuente 2011: 43)) (etymology proposed by: the author).

- (a) Function in OJ.: The suffix expresses a condition.
- (b) Examples in OJ.: *ina-ba* “if [they] go away” (Kojiki 古事記 5) (Martin 1987: 105), *uta-ba* “if [we] strike” (Kojiki 古事記 11) (Martin 1987: 105).
- (c) Attestation in Tungusic: Nan. *-pi* ~ (in case of plural subject) *-pari* / *-peri* (conditional gerund) [“условное деепричастие”] (Avrorin 1961: 152), Ulch. *-pi* / *-pi* ~ (plural) *-pari* / *-peri* (conditional gerund) [“условное деепричастие”] (Sunik 1985: 47), Ork. *-pa* ~ *-pe* (conditional-temporal gerund [“условно-временное деепричастие”] (Petrova 1967: 113) or perfect conditional (Alonso de la Fuente 2011: 44)), Man. *-fi* ~ *-pi* ~ *-mpi* (perfect converb) (Gorelova 2002: 276).
- (d) Examples in Tungusic: Nan. *Bajsi dao-pi, mapa morimbi gelegu-lu-he-ni*. “After he arrived at the opposite bank, the old man started searching for his horse” [“На противоположный берег переехав, старик свою лошадь стал искать.”] (Avrorin 1961: 151), Man. *Si boo-de isina-fi, majige teye-fi, buda je-fi, dere obo-fi, jai ji-ki*. [-ki optative] “After you have arrived home, rested a little, eaten a meal, washed [your] face, then come.” (Gorelova 2002: 276).

5.11. OJ. *-ki₁* (perfective suffix)

OJ. *-ki₁* (JDB 236b; Martin 1987: 808; Vovin 1999: 186) < pJ. *-ki (Vovin 1999: 186) << pT. *-kV (> *-xV) (perfective suffix) (Cincius 1949: 277; Benzing 1955: 1088 (140), §146; Menges 1968: 39) (etymology proposed by: Vovin 1999: 186-187; endorsed by Itabashi 2001: 110; Vovin 2003: 22).

Cf. Midd. Kor. *-ke* / *-ka* / *-Ge* / *-Ga* (perfective suffix) (etymology proposed by: Vovin 1999: 186).

- (a) Function and distribution in OJ.: Perfective retrospective suffix (Vovin 1999: 186). According to Vovin (2010: 85), there are neither EOJ. nor Ryukyuan attestations.
- (b) Examples in OJ.: *omop-i₁-ki₁* “[I] have an experience of thinking about you” (Vovin 1999: 186).
- (c) Attestation in Tungusic: The suffix is not attested in the Northern Tungusic languages (Group I) (Benzing 1955: 1088 (140), §146). It is attested only in Ud., Orch. (both Group II), Nan., Ulch. (both Group III), and Man. (Group IV). Attested forms are: Ud. *-ha* (Benzing 1955: 1088 (140), §146), Orch. *-xa* (Benzing 1955: 1088 (140), §146), Nan. *-xan* / *-xen* ~ *-kin* (Benzing 1955: 1088 (140), §146; Avrorin 1961: 67, 79), Ulch. *-xa(n)* / *-xe(n)* / *-xo(n)* (Benzing 1955: 1088 (140), §146; Sunik 1985: 43), Man. *-ha* / *-he* / *-ho* (Benzing 1955: 1088 (140), §146; Gorelova 2002: 241).

- (d) Examples in Tungusic: Nan. *Ele bologo-xa-ni*. “Autumn has come already.” [“Уже заосенило.”] (Avrorin 1961: 67), Man. *gene-he* “[somebody] went”, *wa-ha* “[somebody] killed” (Benzing 1955: 1088 (140), §146), Man. *enduri saksaha-i sinda-ha fulgihan tubihe* “the red fruit that the divine magpie put [on her clothes]” (Manju-i Yargiyan Kooli [満洲実録] 3a) (17th century) (Vovin 1999: 187).

5.12. OJ. *-masi* (subjunctive suffix)

OJ. *-masi* (JDB 673c) < pJ. *-masi (?) / *-ma-si (?) << pT. *-mčā / *-mčē (subjunctive mood suffix) [“сослагательное наклонение”] (Cincius 1949: 280-281) (etymology proposed by: Vovin 1999: 189-190; Vovin 2003: 22).

- (a) Function in OJ.: Subjunctive suffix (Vovin 1999: 189). JDB (673d) and Lewin (1990: 175) claim that the suffix may be bimorphemic. If both sources are correct, this etymology needs to be rejected.
- (b) Examples in OJ.: *sira-masi* “[he / she] would know”, *ika-masi* “[he / she] would go” (Vovin 1999: 189).
- (c) Attestation in Tungusic: Evk. *-mčā* / *-mčē* / *-mčō* (subjunctive mood suffix [“суффикс сослагательного наклонения”]) (Vasilevič 1958: 776) or conditional mood suffix (Nedjalkov 1997: 261)), Neg. *-mčā* / *-mčē* (subjunctive mood) (Cincius 1982: 33), Evn. *-mči* (Cincius 1949: 280), Ud. *-musa* (Cincius 1949: 281), Orch. *-muča* (Cincius 1949: 281), Nan. *-mčā* / *-mčē* (Avrorin 1961: 136-137), Ulch. *-mčā* / *-mčē* / *-mčō* (Sunik 1985: 45). All suffixes express subjunctive mood. There is no attestation in Man. (Cincius 1949: 281).
- (d) Examples in Tungusic: Evk. *Si dukuvun-ma tang-mi, tara-ve sā-mča-s*. “If you read the letter, you would know (about) that” (Nedjalkov 1997: 261), Nan. *Min-du miočan bičin osini, mi miočala-mča-i*. “If I had a gun, I would shoot.” [“Если бы у меня было ружье, я бы выстрелил.”] (Avrorin 1961: 137).

5.13. OJ. *-n-* (perfective suffix)

OJ. *-n-* (Vovin 2010: 86) < pJ. *-n- << pT. *-n (perfective suffix) (etymology proposed by: Vovin 1999: 188; endorsed by Itabashi 2001: 110; Vovin 2003: 22).

Cf. Midd. Kor. *-n* (perfective / realis attributive inflectional marker) (cf. Martin 1992: 261) (etymology proposed by: Whitman 1985: 240 (#279); Vovin 2010: 86).

- (a) Function and distribution in OJ.: It is a perfective suffix. It occurs in EOJ. as well, while there are no traces in Ryukyuan (Vovin 2010: 86).
- (b) Examples in OJ.: *ko-ra-ni sayar-i-n-u*. “[I] have been kept from [leaving this world] by [my] children.” (Man'yōshū 万葉集 V: 899) (Vovin 1999: 188; Vovin 2010: 86).
- (c) Attestation in Tungusic: The pT. suffix *-n- has been preserved in Nan. *-xa-n* / *-xe-n* (Benzing 1955: 1088 (140), §146; Avrorin 1961: 67, 79), Ulch. *-xa(n)* / *-xe(n)* / *-xo(n)* (Benzing 1955: 1088 (140), §146; Sunik 1985: 43).
- (d) Example in Tungusic: Ulch. *yenexe(n)* “having gone away” [“ушедший”] (Sunik 1985: 43).

5.14. OJ. *i-* (interrogative pronominal root)

OJ. *i-* < pJ. *e- << pT. *ja- (interrogative pronominal root) (Cincius 1949: 265; Benzing 1955: 1062 (114), §127; SSTM I, 286a, s.v. *ē°*; Ikegami 1989: 1080) (etymology proposed by: Miller 1971: 185; endorsed by Itabashi 1996: 382).

Cf. Midd. Kor. *e-* “which?; what?”, *eture* “in what place?”, *etuy* “where?” (etymology proposed by: Whitman 1985: 217-218, 245 (#338)).

- (a) Function in OJ.: This interrogative pronominal root can be extended by adding *-du-* or *-ka-*. OJ. *-du-* < pJ. *-ntu- << pT. *-dū (locative-dative case suffix) (Itabashi 1996: 382).
- (b) Examples in OJ.: Combination with *-du-*: OJ *itu* “when?” (JDB 80d), *iduko / iduku* “where?” (JDB 82c), *idura* “where?, in what place?” (JDB 84b), *idure* “which?” (JDB 84c), *iduti* “which way?; in what direction?” (JDB 83a). Combination with *-ka-*: OJ. *ika* “how?” (JDB 66a).
- (c) Attestation in Tungusic: Evk. ē^o-, Sol. ī-, Neg. ē^o-, Evn. āe-, Ud. *ja-* ~ *je-*, Orch. *ja-* ~ *je-*, and Man. *ja-*, all meaning “what?” (SSTM I, 286a-288b, s.v. ē^o). SSTM (I, 286a-288b, s.v. ē^o) and Ikegami (1989: 1080) consider pT. **ja-* and **xa-* (cf. Nan. *xaj* “who?; what?”) as separate etyma. Evk. has ē^o “what?; how?” (Vasilevič 1958: 152a; Nedjalkov 1997: 340), ē^o*kūn* “who?; what?” (Nedjalkov 1997: 9, 214). In Evk. interrogative pronouns can be modified into indefinite pronouns by adding *-wal / -wel / -wol / -mal / -mel / -mol* (Vasilevič 1958: 746). In Man. *ja* “what?; which?”; *ja-de* “where?”; *ja-či* “from where?” can be observed (Gorelova 2002: 219).
- (d) Examples in Tungusic: Evk. Ē^o*kūn tari bi-si-n?* “What is that?” (Nedjalkov 1997: 9), Man. *Ja iči gene-re be sa-rkū.* “[Someone] does not know towards which side he will go.” (Gorelova 2002: 221).

5.15. OJ. *wi-* “1. to be, to exist; 2. to sit”

OJ. *wi-* (JDB 825d; Martin 1987: 698) < pJ. **wi-* << pT. **bi-* / **bisi-* “to be” (Benzing 1955: 1072 (124), §133, 1093 (145), §73; SSTM I, 79b, s.v. *bi-*) (etymology proposed by: Ramstedt 1949: 68; Ramstedt 1957: 44; endorsed by Murayama 1962: 109; Miller 1971: 37; Murayama 1988: 88, 112; Itabashi 2001: 103; Robbeets 2005: 319).

Cf. Written Mongolian *bui* “to be, to exist” (Lessing 1960: 132a), Khalkha *buj, bij* “to be, to exist” (Ozawa 1983: 51b) (etymology proposed by: Murayama 1988: 112).

6. Assessment of the Shared Morphology through the Lens of Borrowing Hierarchies

6.1. Borrowing Hierarchy 1

Derivation marker > classifier > plural marker > definiteness marker > case marker
(Matras 2009: 218)

OJ. possesses two plural suffixes (i.e., *-ra* and *-ta-* in the compound suffix *-ta-ti*) and multiple case suffixes that are shared with Tungusic. Plural suffixes are in the middle of BH 1. Case markers are hard to borrow. However, cases expressing certain semantic categories are more borrowable than other cases (cf. Borrowing Hierarchy 2, below).

6.2. Borrowing Hierarchy 2

Peripheral local relations > core local relations

(Matras 2007: 42; Matras 2009: 161; Matras 2011: 214)

Among the case markers expressing local relations, OJ. has a locative-directive case suffix (i.e., *-ra*), a proative case suffix (i.e., *-ri*), an allative-directive case suffix (i.e., *-ti*), and a locative case suffix (i.e., *-tu*) which exhibit similarities in shape and function with pT. **-lā*, **-lī*, **-ti*, and **-dū* respectively. The locative-directive, proative, and allative-directive case suffixes express peripheral local relations: direction toward something, movement along or through something, and direction toward something respectively. The fact that these suffixes express cognitively more complex local relations makes them more borrowable than other suffixes.

6.3. Borrowing Hierarchy 3

Indefinites > interrogatives > deixis, anaphora

(Matras 2011: 220)

The OJ. interrogative pronominal root *i-* which is shared with pT. **ja-* falls under the category “interrogatives” in BH 3. Indefinites are easier to borrow than interrogatives. Furthermore, in Tungusic indefinite pronouns are derived from interrogative pronouns through addition of a particle. For example, in Evk. *-wal* / *-wel* / *-wol* / *-mal* / *-mel* / *-mol* change an interrogative pronoun into an indefinite pronoun (Vasilevič 1958: 746) (e.g., *ē^okūn-mal* “something”, derived from *ē^okūn* “what?” (Vasilevič 1958: 551b)). In Nan. *-nu* fulfills this function (e.g., *uj-nu* “somebody”, derived from *uj* “who?”) (Avrorin 1959: 273). This is similar to the way derivation works in Japanese. In this sense, Japanese indefinite pronouns probably possess a link with Tungusic as well.

6.4. Borrowing Hierarchy 4

Modality > aspect / *Aktionsart* > future tense > other tense / aspect

(Matras 2007: 46; Matras 2011: 220)

OJ. *-masi* is a subjunctive suffix, which bears similarities with the pT. subjunctive suffix **-mčā* / **-mčē*. Subjunctive mood is a type of modality, which is the highest on the scale of borrowability. Furthermore, OJ. possesses two perfective suffixes *-ki₁* and *-n*, which are similar to pT. **-kV-* and **-n* respectively. Perfective can be considered as a type of aspect / *Aktionsart*, which is also high on the spectrum of borrowability. Therefore, it is plausible that OJ. *-ki₁* and *-n* could have been borrowed from Tungusic.

6.5. Borrowing Hierarchy 5

Obligation > necessity > possibility > ability > desire

(Matras 2007: 45; Matras 2009: 162; Matras 2011: 220)

The OJ. tentative suffix *-am-* may fall within the categories “obligation” or “necessity” (e.g., OJ. *ika-m-u* “you should go”), which are categories that score the highest or second highest on the scale of borrowability.

6.6. Borrowing Hierarchy 6

Concessive, conditional, causal, purpose > other subordinators
 (Matras 2007: 56; Matras 2011: 220)

Japanese and Tungusic share a conditional suffix: OJ. *-ba* / *-a-ba* and pT. **-pa(i)* respectively. Conditional subordinators are more borrowable than other subordinators.

6.7. Borrowing Hierarchy 7

Greetings and similar formulae > question particles, conditional particles, modality particles > negation and other content particles
 (Matras 2011: 222)

There is a problem here: negation is the least susceptible to borrowing in comparison with “greetings and similar formulae” on the one hand and “question particles, conditional particles, modality particles” on the other hand. Nevertheless, Japanese, Tungusic, and Korean share a negation marker.

6.8. Borrowing Hierarchy 8

Existential (copula) predication > lexical predication
 (Matras 2011: 224)

Japanese and Tungusic share existential predication: namely OJ. *wi-* “1. to be, to exist; 2. to sit” and pT. **bi-* “to be”.

7. Summarizing Diagrams on Tungusic Morphology in Old Japanese

For the sake of clarity, the proposed Old Japanese morphological elements that have been borrowed from Tungusic have been visualized in various diagrams below. In the diagrams, different shades of gray or black (with white lettering) have been used depending on the score on Matras’s scales of borrowability.

For fields containing grammatical categories that score the highest on Matras’s scales of borrowability, light gray has been used. For fields with categories in the middle of the scales of borrowability, darker gray has been used. For fields with categories that have the lowest score on the scales of borrowability, black with white lettering has been used.

The more a morphological item is located at the left-hand side of the diagrams below, the higher it

scores on the scale of borrowability. Conversely, the more an item is situated at the right-hand side of the diagrams, the less likely it is to be borrowed.

Borrowing Hierarchy 1

derivation marker	classifier	plural marker OJ. -ra OJ. -ta-	definiteness marker	case marker OJ. -ga OJ. -ra OJ. -ri OJ. -ti OJ. -tu
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Borrowing Hierarchy 2

peripheral local relations OJ. -ra (if it is directive case marker) OJ. -ri OJ. -ti	core local relations OJ. -ra (if it is locative case marker) OJ. -tu
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Borrowing Hierarchy 3

indefinitives OJ. <i>i</i> -	interrogatives OJ. <i>i</i> -	deixis / anaphora
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Borrowing Hierarchy 4

modality OJ. -masi	aspect / <i>Aktionsart</i> OJ. -kl ^l OJ. -n	future tense OJ. -am- (if it is future)	other tenses / aspects
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Borrowing Hierarchy 5

obligation OJ. -am- ("you should go")	necessity OJ. -am-	possibility	ability	desire
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Borrowing Hierarchy 6

concessive, conditional, causal, purpose OJ. -ba / -a-ba	other subordinators
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Borrowing Hierarchy 7

greetings and similar formulae	question / conditional / modality particles	negation & other content particles OJ. -an-
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Borrowing Hierarchy 8

existential (copula) predication OJ. wi-	lexical predication
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Based on the shading above, it is possible to conclude the following.

- (1) There are no substantial problems in BHs 3, 4, 5, 6, and 8, because they have no black marking at all
- (2) The most problematic are BHs 1 and 7. No shared morphology can be found in categories having a high score in BHs 1 and 7 (i.e., at the left side of the BHs in question).

8. Conclusion

Based on the summarizing diagrams above, one may conclude that most morphological elements that are shared in Old Japanese and Tungusic score relatively high in eight relevant borrowing hierarchies postulated by Yaron Matras (2007; 2009; 2011). This means that they belong to grammatical categories that are relatively likely to be borrowed. Consequently, in this stage of the research, it is conceivable that these shared morphological elements are the result of linguistic contact (linguistic convergence), or borrowing.

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Abbreviations

A > B (in borrowing hierarchies) = A is more susceptible to borrowing than B

A < B = A originates from B; A developed from B

A << B = A is borrowed from B

C = unspecified consonant, or unknown consonant

EOJ. = Eastern Old Japanese

Evk. = Evenki

Evn. = Even (also called “Lamut”)

J. = Japanese

Kor. = Korean

Man. = Manchu

Midd. Kor. = Middle Korean

Nan. = Nanai (also called “Goldi”)

Neg. = Negidal

OJ. = Old Japanese

OKor. = Old Korean

Orch. = Oroch

Ork. = Orok (also called “Uiulta”)

pJ. = proto-Japanese

pKor. = proto-Korean

pT. = proto-Tungusic

Sol. = Solon

Ud. = Udehe (also transcribed “Udihe”, “Udekhe” or “Udeghe”)

Ulch. = Ulcha (also transcribed “Ulch” or “Olcha”)

V = unspecified vowel, or unknown vowel

WOJ. = Western Old Japanese

* [before a word or marker / suffix] = reconstructed form (unattested form)

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