

Tungusic Elements in Old Japanese and Koguryō

Ruben G. A. PAUWELS
Faculty of Languages and Cultures, Kyushu University

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1. Introduction

There is a body of Tungusic loanwords in Japanese. Some of these loanwords have counterparts, or words that are similar form and meaning, in two other East Asian languages: Korean and (extinct) Koguryō (J. *Kōkurigo* 高句麗語). Based on whether Tungusic words have similar forms (1) only in Koguryō, (2) in Koguryō as well as in Korean, (3) in Koguryō as well as in Japanese, or (4) in Koguryō, Japanese, and Korean, the loanwords can be classified into four different groups. A first group of Tungusic words has only counterparts in Koguryō. In other words, it consists of Koguryō-Tungusic doublets. A second group of Tungusic words possesses counterparts in both Koguryō and Korean. Phrased otherwise, they constitute Koguryō-Korean-Tungusic triplets. A third group of Tungusic words has counterparts in both Koguryō and Japanese. Stated another way, they form a group of Koguryō-Japanese-Tungusic triplets. Lastly, a fourth group of Tungusic words even has counterparts in Koguryō, Japanese, and Korean. In other words, it is a group of Koguryō-Japanese-Tungusic-Korean quadruplets.

The goals of this paper are to:

- (1) Propose a new Koguryō-Tungusic etymology;
- (2) Add hitherto undiscovered Tungusic counterparts to etymologies involving Koguryō mentioned in the existing literature (Lewin 1976; Kiyose 1991; Itabashi 2003; Beckwith 2007; Robbeets 2007; Lee & Ramsey 2011; etc.);
- (3) Draw up an exhaustive inventory of plausible etymologies involving a Koguryō word that belong to one of the four above-mentioned groups.

2. Previous Research

2.1. The Relationship between Japanese and Tungusic

In Unger (1990), Japanese, Korean, and Tungusic are considered descendants of a Marco-Tungusic proto-language. This means that Japanese, Korean, and Tungusic are genetically related.

In Starostin (1991), Starostin et al. 2003 (EDAL), Robbeets (2005), etc., it is asserted that Japanese and Tungusic are genetically related (i.e., that they originate from a common ancestor language). Japanese and Tungusic form two separate branches of one major parent language called proto-Altaic. The proto-Altaic language family consists of five branches: Japanese, Korean,

Tungusic, Mongolic, and Turkic.

Vovin (2005) claims that the similarities that can be found between Japanese and Tungusic are due to language contact. He provides the following reasons why these similarities need to be attributed to language contact:

- (1) The small size of the shared lexicon (including basic vocabulary);
- (2) The lack of systematic, recurrent, and predictable phonological correspondences between the similar lexicons of Japanese and Tungusic;
- (3) The limited number of shared grammatical elements (morphology).

2.2. The Relationship between Japanese and Koguryō

Regarding the relationship between Japanese and Koguryō, Lewin (1976: 408) states: “[I]t can be assumed that Japanese was closely related to the Koguryō language and that in its core it belonged to the Puyō [夫余, 夫餘, 扶余, or 扶餘] group, or was at least close to it.”

Kiyose (1991: 265) concludes: “lexical correspondences [between Koguryō, Silla, Paekche, Middle Korean, Old Japanese, and Tungusic] are areal and not genetic, as a result of language contacts presumably occurring in very early stages.”

Janhunen (1996: 204) classifies the toponymical material in the Samguk Sagi as Pseudo-Koguryō or taxonomically as Para-Japanic, i.e. “a genetic branch parallel to the one from which modern Japanese and Ryukyu originated.”

Itabashi (2003: 182) posits that Japanese and Koguryō are genetically related, but that the latter has been less influenced by the Tungusic languages than Japanese, because Koguryō and Japanese split at an earlier stage, and only Japanese had contact with Tungusic. Moreover, all three Koguryō grammatical elements listed in Itabashi (2003: 157) appear to possess counterparts in Old Japanese (but not in Tungusic):

- (1) OJ. *no₂*, *na*, *ŋa* “genitive-attributive suffix, modifying suffix” (J. 属格・修飾辞) ~ Kog. **nə* (乃) “id.”;
- (2) OJ. *si* “genitive-attributive suffix, modifying suffix” (J. 属格・修飾辞) ~ Kog. **si* (斯) ~ **sí* (史) “id.”;
- (3) OJ. *-i* “derivational suffix to form nouns” (J. 派生名詞形成辞) ~ Kog. **u* (於) “id.” (?) (question mark added by Itabashi).

Beckwith (2007: 118-143) postulates a secure genetic relationship between Japanese and Koruryō and attempts to reconstruct Common Japanese-Koguryōic proto-forms. Beckwith (2007: 118-120) provides six Koguryō grammatical elements which can be linked to Old Japanese cognates:

- (1) OJ. *na*, *no₂* “genitive-attributive marker” ~ OKog. **na*, **nəy* (乃) “id.”

- (overlapping with Itabashi (2003: 157, (1)));
- (2) OJ. *na* “genitive-attributive marker” ~ OKog. **ɲ*, **ɲ* (隱) “genitive-attributive suffix morpheme”;
- (3) OJ. *-pu-* “verb derivational morpheme” ~ OKog. **pi* (比) “id.”;
- (4) OJ. *-si-* “adjective suffix morpheme” (found in 247 stems (quoting Martin 1987: 818)) ~ OKog. **si* (斯) ~ **śi* (史) “adjective-attributive suffix morpheme” (overlapping with Itabashi (2003: 157, (2)));
- (5) OJ. *-ti* (< **-tui*) “noun derivational morpheme” ~ OKog. **tsi* (次) (< **tu-i*) “id.”;
- (6) OJ. **wo* “diminutive prefix” ~ OKog. **ʊ* (鳥) “diminutive suffix”.

Beckwith (2007: 159) locates the homeland of Common Japanese-Koguryōic in south central China.

Robbeets (2007: 18) writes that “[T]he conclusion is drawn that although the data indicate [a genetic] affinity [of Koguryō] with Japanese, describing the affinity as ‘unmistakable’ is an overstatement.” The main reason for this conclusion is that “the Koguryō data by themselves are scarce, fragmentary and speculative” (Robbeets 2007: 18).

Lee and Ramsey (2011: 44) conclude that Koguryō “was related not just to Korean or Japanese, but to both. The corpora [of isoglosses] are too large and the words too basic to represent merely layers of cultural borrowing.”

2.3. The Relationship between Tungusic and Koguryō

Kiyose (1991: 265) attributes similarities between Tungusic and Koguryō to linguistic contact (cf. section 2.2.).

Itabashi (2003: 182) claims that, unlike Japanese, Koguryō has only undergone influence from Tungusic through contact (J. 接触). It should be emphasized that none of the three Koguryō grammatical elements listed in Itabashi (2003: 157) appears to possess Tungusic counterparts.

2.4. General Assessment of the Previous Research

The author of the current paper is inclined to adopt an “agnostic” position on the question whether Japanese and Koguryō, or Tungusic and Koguryō, are genetically related or not, because the body Koguryō lexical and grammatical (morphological) material based on which conclusions can be drawn on the nature of the various relations is too small. Regarding the question of the relation between Japanese and Koguryō, in Itabashi (2003: 139-159), only 111 Koguryō lexical items are listed; similarly, Beckwith (2007: 118-143, 251-252) provides only 119 words. Moreover, the number of grammatical morphemes to be compared is limited to three items in Itabashi (2003: 157) and six in Beckwith (2007: 118-120,

250), among which two morphemes are overlapping, so in total there are only seven different Koguryō grammatical morphemes that can be linked to Old Japanese.

Furthermore, different forms have been reconstructed for the same Koguryō etymon by different scholars. For example, Itabashi (2003: 145 (#22)) reconstructs the Koguryō word for “mouth” as **χurc* ~ **kurc* (忽次) ~ **kuar* (串) ~ **kuci* (古次), while Beckwith (2007: 128, 252) reconstructs the same word as **kuartsī*, **χuartsī* (忽次) ~ **kuair* (串) ~ **kotsī* (古次). In short, reconstructions of Koguryō forms are not always as reliable and stable as one would wish.

3. Methodology

In the relevant literature (Lewin 1976; Kiyose 1991; Itabashi 2003; Beckwith 2007; Robbeets 2007; etc.), reconstructed Koguryō forms have been compared to Japanese, Korean, Tungusic, and other East Asian languages. For a Koguryō form to be included in the current paper it needs to possess at the very least, a look-alike in one or more Tungusic languages.

The Koguryō forms will be divided into four groups depending on whether they have:

- (1) Only counterparts in Tungusic;
- (2) Counterparts in Korean and Tungusic;
- (3) Counterparts in Japanese and Tungusic;
- (4) Counterparts in three East Asian languages: Japanese, Tungusic, and Korean.

If there are only Koguryō words that can be compared to Tungusic, these Koguryō words are mentioned first in the “List of Shared Lexical Material” below. They are followed by the reconstructed proto-Tungusic form. For etymologies newly proposed by the author, the attested forms in the individual Tungusic languages (based on which the proto-Tungusic form has been reconstructed) are provided in a note. Those Tungusic forms are cited from SSTM (and where applicable other sources).

If there are look-alike Japanese words, these Japanese words are mentioned before the Tungusic material in the “List of Shared Lexical Material” below, because they are considered to be loanwords from Tungusic, and because Japanese is closer to Koguryō. The Japanese words are followed by the corresponding proto-Tungusic donor word.

4. List of Shared Lexical Material

The reconstructions of all Koguryō forms are cited from Itabashi (2003). First the reconstructions are given, followed by the Chinese characters, an

English translation, and a Japanese translation (as given in Itabashi 2003). Kiyose’s (1991) and Beckwith’s (2007) reconstructions are provided as well, especially if they are different from Itabashi’s.

All Middle Korean and Modern Korean forms are transcribed in Yale Romanization (taken from Martin, Lee, & Chang 1967 (KED) for Modern Korean). The transcription of all Tungusic forms is based on the forms given in SSTM in Cyrillic script.

4.1. Group I: Koguryō-Tungusic Doublets

1. **Kog. *eci** (於支) “wing” (Lee & Ramsey 2011: 39-40) ~ **pTg. *xasa-** “wing” (SSTM I, 54a, s.v. *asakī*) (etymology proposed by: the author) [Notes: (1) According to SSTM, attested forms are: Evk. *asakī* “wing” (Vasilevič 1958: 37b), Sol. *asara* “hanging ends of a shaman’s belt” (Poppe 1931: 42a), Neg. *asaxi* “wing” (Cincius 1982: 193), Evn. *asi’qi* “wing” (SSTM) ~ *asikī* “shoulder blade (of a bird)” (Doerfer 1980: 43), Orch. *asi* “wing (of a bird)” (Avrorin & Lebedeva 1978: 164b), Nan. *χasar* “1. wing; 2. wheel of a steamboat (Russ. колесо парохода)” (Onenko 1980: 457a), Ulch. *χasal(i’)* “wing” (Sunik 1985: 250b), Ork. *χasa* “wing” (J. つばさ) (Ikegami 1997: 232), Man. *asxa* “1. wing (of a bird, insect); 2. something hanging from a belt (a knife, flint, purse, etc.); 3. iron scales (in the dorsal part of armor, under the plates) (Russ. железная чешуя (в спинной части лат, под бляхами))” (Zacharov 1875: 28a; Norman 2013: 23a). (2) In order for this etymology to be valid, proto-Northern Tungusic **asa-* “wing” needs to be compared to Kog. **eci* (於支).]
2. **Kog. *juel** (絶) “north (= behind) (北 (=後))” (Itabashi 1993: 126; Itabashi 2003: 161-162 (#71)) ~ **pTg. *juV-** “1. front; 2. forward” (SSTM I, 273, s.v. *žulē*) (etymology proposed by: Itabashi 1993: 126; Itabashi 2003: 161-162 (#71))
3. **Kog. *key** (皆) (< **kay*) ~ **keyc* “king (王)” (Itabashi 2003: 142 (#13)) / **kaī* (皆) (Kiyose 1991: 263) ~ **Jur. *ha’an** (哈安) “king, emperor (皇帝)” (SSTM I, 358b, s.v. *kaγankān*) (cf. Kane 1989: 265 (#653)) (etymology proposed by: Kiyose 1991: 263; Itabashi 2003: 142 (#13)) [Note: Cf. Wr. Mong. *qayan*, *qan*, Khal. *xaan* “khan, emperor, king” (Lessing 1960: 906b; Ozawa 1983: 438a).]
4. **Kog. *paik** (伯) “to encounter, to meet (遇~逢~迎)” (Itabashi 2003: 149 (#37)) / **bak-* (伯) (Kiyose 1991: 263) ~ **pTg. *baka-** “1. to find, to discover; 2. to meet, to encounter; 3. to get, to obtain; 4. to choose, to select, to recognize; 5. to bear,

to give birth” (SSTM I, 66b, s.v. *baka*) (etymology proposed by: Kiyose 1991: 258, 263; Itabashi 2003: 149 (#37))

5. **Kog.** **piriar* ~ **birər* (比烈) ~ **biri* (比里) “shallow (浅)” (Itabashi 2003: 150 (#39)) / **biri* (比里), **birör* (比烈) (Kiyose 1991: 263) ~ **Nan.** *biri* “shallow” (etymology proposed by: Kiyose 1991: 263; Itabashi 2003: 150 (#39)) [Note: Nan. *biri* “shallow” is not listed in neither SSTM nor Onenko (1980).]

4.2. Group II: Koguryō-Korean-Tungusic Triplets

6. **Kog.** **kir* ~ **kir* (斤尸) “letter, writing, marks, streaks (文)” (Itabashi 2003: 143 (#16)) / **kōr* (斤尸) (Kiyose 1991: 262) / **kir*, **kinlir* (斤尸) (Beckwith 2007: 126, 251) ~ **Midd. Kor.** *kūl* (Nam 1997: 184a) ~ **Man.** *hergen* “1. writing, written characters, letter; 2. design, lines of the palm; 3. receipt; 4. rank, title” (SSTM I, 482a, s.v. *hergen*) (cf. Zaxarov 1875: 414a; Norman 2013: 171a) (Kog.-Kor.-Tg. etymology proposed by: Kiyose 1991: 262; Itabashi 2003: 143 (#61)) [Note: According to SSTM, there are no cognates in other Tg. languages.]
7. **Kog.** **ma* (馬) “arm (臂)” (Itabashi 2003: 158 (#13)) / **mai* (馬) “arm, shoulder (臂)” (Beckwith 2007: 252) ~ **Midd. Kor.** *mey-* (Nam 1997: 555b), Kor. *mēy-ta* “to shoulder, to carry on one’s shoulder” (KED 616b) ~ **pTg.** **mūj-re* “1. shoulder; 2. shoulder bone” (SSTM I, 538a, s.v. *mīre*) (Tg.-Kor. etymology proposed by: Ramstedt 1949: 144-145; EDAL II, 931; Kog.-Tg. etymology proposed by: the author) [Notes: (1) According to SSTM, attested forms are: Evk. *mīre* “1. shoulder; 2. scapula, shoulder blade (of deer)” (Vasilevič 1958: 253a), Sol. *mīri* ~ *mīre* “shoulder” (Poppe 1931: 59a), Neg. *mīje* “id.” (Cincius 1982: 241), Evn. *mīr* “1. shoulder; 2. scapula, shoulder blade” (Doerfer 1980: 696), Ud. *müö* “neck” (Nikolaeva & Tolskaya 2001: 913), Orch. *mije* “1. shoulder; 2. scapula, shoulder blade” (Avrorin & Lebedeva 1978: 204a), Nan. *mejre* “1. shoulder; 2. chief, head, official, functionary” (Onenko 1980: 276a), *ηujre* “shoulder” (Onenko 1980: 285b), Ulch. *ηujre* “shoulder” (Sunik 1985: 220b), Ork. *mujre* “1. shoulder; 2. scapula, shoulder blade” (J. かた (肩)) (Ikegami 1997: 128), Man. *mejren* “1. shoulder, upper arm; 2. the sides of a bow grip; 3. two round grains (on the shoulders of officials); 4. side, flank, wing (in the army)” (Zaxarov 1875: 876b; Norman 2013: 261b), Jur. **meire* (妹勒) “shoulder (肩)” (Kane 1989: 320 (#910)). (2) According to Benzing (1955: 74-75 (1022-1023)), pTg. **mūj-re* is probably bimorphemic, and **-re* is a collective

suffix or even a dual suffix. (3) Cf. Wr. Mong. *mōri*, *mōrū(n)*, Khal. *mōr(ön)* “shoulder” (Lessing 1960: 549b; SSTM I, 538a, s.v. *mīre*; Ozawa 1983: 234a.)]

8. **Kog. *mur** (勿) “roof-ridge beam; bridge” (Beckwith 2007: 252) ~ **Midd. Kor. molo** (Nam 1997: 620a), **Kor. malwu** (KED 561b) “ridge, top (of a roof, mountain)” ~ **pTg. *mulu** “roof-ridge” (SSTM I, 555b, s.v. *mulu* I) (Kor.-Tg. etymology proposed by: Ramstedt 1949: 139; Kog.-Tg. etymology proposed by: the author) [Note: According to SSTM, attested forms are: Neg. *mulu* “beam (of a roof) (Russ.: матица (у крыши))” (Cincius 1982: 243), Ud. *muže* “id.”, Nan. *mulu* “ridge of a roof (Russ.: конек)” (Onenko 1980: 272a), Man. *mulu* “1. ridge pole, beam; 2. support pole of a tent or yurt; 3. mountain ridge; 4. back line on a pelt” (Zaxarov 1875: 908b; Norman 2013: 274a).]
9. **Kog. *ur** (于戸) “having neighbors (有隣)” (Itabashi 2003: 156 (#62)) ~ **Midd. Kor. wul** (籬) (Nam 1997: 1129a), **wulh** (not in Nam 1997) “fence, hedge (垣)”, **Kor. wul** “(twig) fence, hedge, enclosure” (KED 1246a) ~ **Man. uri** “enclosure, fence, hollow, low spot” (Zaxarov 1875: 170b, 676a; not in SSTM; not in Norman 2013), “hollow spot dug in the ground and covered with grass to store rice” (J. 地を掘って米を貯蔵する草が生えた凹地) (Kawachi & Honda 2014: 1148a) (Kog.-Kor.-Tg. etymology proposed by: Itabashi 2003: 156 (#62)) [Note: Kog. **ur* (于戸) is not mentioned in neither Kiyose (1991) nor Beckwith (2007).]

4.3. Group III: Koguryō-Japanese-Tungusic Triplets

10. **Kog. *cinia** (次若) “head (of a bull) (頭)” (Itabashi 2003: 139 (#4)) / **Kog. *čīnīa** (次若) (Kiyose 1991: 264) ~ **OJ. tuno₁** “antler, horn” (JDB 472d; Martin 1987: 556; Ōno 2002: 885b) < pJ. **tunu(C)a* (etymology proposed by: Kiyose 1991: 264; Itabashi 2003: 139 (#4)) ← **pTg. (Even & Arman) *taŋn’a (?)** “horn, antler (of a deer, elk)” (SSTM II, 163b, s.v. *taŋn’a*) (J.-Tg. etymology proposed by: Vovin 1993: 131) [Notes: (1) According to SSTM, the only attested Tg. forms are: Evn. *taŋn’a* “horn, antler (of a deer, elk) (Doerfer 1980: 945), Arman *taŋl’a* “id.” (Doerfer & Knüppel 2013: 322b (#3059)). (2) Vovin (1993: 133 (fn. 10)) states: “Because [Even] occupies quite a peculiar position within the Tungusic I consider that [i.e., Even *taŋn’a*] a well-attested [Even] word may go back to PMT [i.e., pTg.].”]
11. **Kog. *gu** (仇) “child (童~童子)” (Itabashi 2003: 140 (#7); Beckwith 2007: 127, 251) ~ **OJ. ko₁** “child” (JDB 284a; Martin 1987: 452; Ōno 2002: 474a) < pJ.

- *ku(C)a* (etymology proposed by: Itabashi 2003: 140 (#7); Beckwith 2007: 127, 251) ← **pTg.** **kuŋa* “child, youngster, young person” (SSTM I, 433a, s.v. *kuŋā*) (J.-Tg. etymology proposed by: Murayama 1962: 163; Murayama 1988: 129-130)
12. **Kog.** **i-* (伊) “to enter (入)” (Kiyose 1991: 262; Itabashi 2003: 141 (#8)) ~ **OJ.** *ir-* (4G) “to enter” (JDB 106c; Ōno 2002: 142b) < pJ. **i-r-* (etymology proposed by: Kiyose 1991: 262; Itabashi 2003: 141 (#8)) ← **pTg.** *ī-* “to enter” (SSTM I, 293a, s.v. *ī* I) (J.-Tg. etymology proposed by: Murayama 1988: 23, 40, 54, 75) [Note: Martin (1987: 698) reconstructs pJ. **ira-*, without morpheme boundary, whereas Itabashi (2003: 141 (#8)) inserts a morpheme boundary.]
13. **Kog.** **jiuen* (順) “east (東 (=左))” (Itabashi 1993: 127-128; Itabashi 2003: 160 (#68)) ~ **OJ.** *yo2ko2* “horizontal, longwise” (JDB 793c; Martin 1987: 576; Ōno 2002: 1381a) < pJ. **yoko*, **OJ.** *yo2k-* (U2G, 4G) “to step back” (JDB 793b; Martin 1987: 786; Ōno 2002: 1380a) < pJ. **yoka-Ci-* / **yok-* ← **pTg.** **žegü-* “1. left; 2. east” (SSTM I, 282a, s.v. *žeyin*) (J.-Tg. etymology proposed by: Murayama 1974: 114-118; Itabashi 1993: 127-128; Kog.-J. etymology proposed by: Itabashi 2003: 160 (#68)) [Notes: (1) According to Ōno (2002: 1380a), *yok-* was a 4G verb in the Heian period. (2) Cf. Wr. Mong. *žegün*, Khal. *zūün* “1. east, eastern, Oriental; 2. left” (Lessing 1960: 1044a; SSTM I, 282b, s.v. *žeyin*; Ozawa 1983: 198b; Doerfer 1985: 23 (#41); Rozycki 1994: 127; Hangin 1997: 261b).]
14. **Kog.** **kan* (根) “head (首~頭)” (Itabashi 2003: 141 (#10); Beckwith 2007: 123) ~ **OJ.** *kabu* “head” (JDB 212c; Ōno 2002: 327c) < pJ. **kanpu* (Martin 1987: 431) (etymology proposed by: Itabashi 2003: 141 (#10); Beckwith 2007: 123) ← **pTg.** **kaba-* / **kapa-* “back of the head, nape” (SSTM I, 357b, s.v. *qawačič*) (J.-Tg. etymology proposed by: Pauwels 2008a: 85) [Notes: (1) According to SSTM, the only attested Tg. forms are: Evn. (Allajxov dialect) *qawar* “aperture, opening in the back of the head” (not in Doerfer 1980), *qawačič* “back of the head”. (2) Moreover, Arman possesses the noun *kāwas*, *kāwat* “back of the head, nape” (Doerfer & Knüppel 2013: 182a (#1566)).]
15. **Kog.** **kapi* (甲比) ~ **kap* (甲) “cave, cavern, hole (穴)” (Kiyose 1991: 263; Itabashi 2003: 141 (#11); Beckwith 2007: 123) ~ **OJ.** *kaFi* “gorge, ravine, canyon” (JDB 210d; Ōno 2002: 325c) < pJ. **kapi* (Martin 1987: 433) ← **pTg.** **kapV-* “1. gorge, ravine; 2. rock face, crag, cliff (on the shore of a river); 3. to

squeeze, to press; 4. pincers, tongs, 5. crab” (SSTM I, 378b, s.v. *kapčǎ*) (J.-Tg. etymology proposed by: the author) [Notes: (1) According to Ōno (2002: 325c) and Robbeets (2005: 107), OJ. *kaFi_l* is derived from the verb *kaF-* (4G) “to cross, to intersect”. (2) According to SSTM, attested forms are: Evk. *kapčan* “1. gorge, ravine; 2. cliffs (on the banks of a river)” (Vasilevič 1958: 193b), *kapčǎ* “to press, to clasp” (Vasilevič 1958: 193b), Sol. *xarčǎ* “to squeeze (with pincers)” (Poppe 1931: 78b), Neg. *kapčǎ^o* “to press, to clasp” (Cincius 1982: 230), Evn. *qawi^oŋa* “crab” (not in Doerfer 1980), Arman *qawal^oŋā* “crab” (Doerfer & Knüppel 2013: 182 (#1565)), Ud. *kapčǎ* “layer”, Orch. *kappi* (< **kapčǎ*) “flat” (not in Avrorin & Lebedeva 1978), Nan. *qapi^ora-* (Onenko 1980: 209b), *qapi^orago-* (not in Onenko 1980) “to squeeze, to press”, *χapsi^o* “1. valley; 2. slope of a mountain” (Onenko 1980: 455a), Ulch. *qapu^ora-* “to squeeze, to press” (Sunik 1985: 203a), Ork. *qapi^ora*, *qapi^oraqu^o* “1. clamp, clip, vise; 2. (coal) tongs, poker; 3. snare, trap” (Ikegami 1997: 95), Man. *qapara-* “1. to be flat, to be pressed flat, to be pressed together” (Zaxarov 1875: 254b; Norman 2013: 227b), *χafiraxun* “1. pressing, critical; 2. narrow, cramped” (Zaxarov 1875: 398b; Norman 2013: 160a). (3) Cf. Wr. Mong. *xabčayai* ~ *xabčiyai*, Khal. *xavcgaj* “1. gorge, ravine, cliff, bluff; 2. narrow passage”, Wr. Mong. *xabčǎ*, Khal. *xavci-* “to squeeze, to clamp, to pinch, to exert pressure, to oppress, to compel, to force out” (Lessing 1960: 896a; SSTM I, 378b, s.v. *kapčǎ*; Ozawa 1983: 440b, 441a).]

16. **OKog. *keyr, Kog. *keylir** (皆尸) “canine tooth (牙)” (Beckwith 2007: 125, 251; Robbeets 2007: 10) ~ **OJ. ki** (JDB: 237b) ~ **ki_l** (Ōno 2002: 357b) < **ki₂* [sic!] (Martin 1987: 449) “tusk, fang, ivory, canine tooth” < pJ. **ko-(C)i* / **ku-(C)i* (Martin 1987: 449) ← **pTg. *xū-kte** “1. tooth; 2. canine (tooth), fang, tusk” (SSTM I, 300a, s.v. *ikte*) (Kog.-J. etymology proposed by: Beckwith 2007: 125; J.-Tg. etymology proposed by: EDAL I, 815; Robbeets 2005: 307, 371, 614) [Notes: (1) According to JDB, it is not clear whether the vowel in OJ. *ki* is *i_l* or *i₂*. (2) The reflex of pT. initial **x-* is irregular in Ulch. *ikte* (SSTM) / *iqte* (Sunik 1985: 197b) and Ork. *ikte* “tooth” (J. くま・いぬの犬歯) (Ikegami 1997: 78). Furthermore, Ikegami (1997: 78) asserts that *ikte* in Ork. is not Ork. but Kili. However, initial *x-* in Nan. (Najxin) *xukte* (Onenko 1980: 476b) and initial *w-* in Man. *wejxe* (Zaxarov 1875: 1112a; Norman 2013: 403b, s.v. *weihe*) and Jur. **weihe* (未黑) “teeth (齒)” (Kane 1989: 315 (#886)) are the ground for the reconstruction of initial **x-* in pT. **xū-kte*.]

17. **Kog. *kor** (居尸) “heart, mind (心)” (Itabashi 2003: 143 (#17)) / ***kōr** (居尸) (Kiyose 1991: 264) ~ **OJ. ko₂ko₂ro₂** (JDB 287b; Martin 1987: 454; Ōno 2002:

488c-489a) < pJ. **koko-ro* (Murayama 1962: 161; Murayama 1988: 16) < pTg. **xuku-* “1. breast; 2. to suck (a breast)” (SSTM II, 254b-255b, s.v. *uku-* I) (Kog.-J. etymology proposed by: Kiyose 1991: 264; Itabashi 2003: 143 (#17); J.-Tg. etymology proposed by: Murayama 1962: 161; Murayama 1988: 16, 79; Itabashi 2001: 102; EDAL I, 713-714; Robbeets 2005: 401 (#22))

18. Kog. **xurc* ~ **kurec* (忽次) ~ **kuar* (串) ~ **kuci* (古次) “mouth (口)” (Itabashi 2003: 145 (#22)) / **hurčī* (忽次) ~ **kučī* (古次) (Kiyose 1991: 264) / OKog. **kuartsī*, Kog. **xuar̥tsī* (忽次) ~ **kuair* (串) ~ **kotsī* (古次) (Beckwith 2007: 128, 252) ~ OJ. *kuti* (JDB 261c; Ōno 2002: 413b) < pJ. **kutu-(C)i* (cf. Martin 1987: 467) (Kog.-J. etymology proposed by: Kiyose 1991: 264; Itabashi 2003: 145 (#22); Beckwith 2007: 128) < pTg. **kuta-* “1. stomach; 2. crop, craw (of a bird); 3. esophagus, gullet; 4. throat; 5. Adam’s apple; 6. greedy, avid for” (SSTM I, 439b, s.v. *qu^ota*) (Tg. counterpart added by: the author) [Notes: (1) Martin (1987: 467) reconstructs pJ. **kutu-Ci* based on OJ. *kutu-wa* “bit (in a horse’s mouth)”. (2) According to SSTM, attested Tg. forms are: Nan. *qota* “1. stomach; 2. esophagus, gullet; 3. throat; 4. Adam’s apple” (Onenko 1980: 228b), Ulch. *qu^ota* “1. stomach; 2. crop, craw (of a bird)” (Sunik 1985: 207b), *qu^otan-* (SSTM; not in Sunik 1985), *qu^otambu^o-* (not in SSTM; Sunik 1985: 207b) “to be greedy, to be mean”, *qu^otala-* “to swallow, to eat” (not in SSTM; Sunik 1985: 207b), Ork. *qu^ota* “greedy, avid for” (J. けちな) (Ikegami 1997: 109).]
19. Kog. **xuar* (忽) ~ **kuar* (骨) “walled city, fort, fortified place (城)” (Whitman 1990: 522; Kiyose 1991: 262; Itabashi 2003: 145 (#23)) ~ OJ. *ki₂* “fort, fortress, enclosure, stockade” (JDB 236d; Martin 1987: 449; Ōno 2002: 357b) < pJ. **ku(C)i* (cf. Whitman 1990: 522) (Kog.-J. etymology proposed by: Itabashi 2003: 145 (#23)) < pTg. **kurV* “fence, enclosure” (SSTM I, 436b, s.v. *kurē*) (Tg. component added by: the author) [Notes: (1) According to SSTM, attested forms are: Evk. *kurē* “1. fence, hedge; 2. enclosure, pen (for reindeer); 3. yard (for cattle)” (Vasilevič 1958: 223a), Neg. *kurī* “1. fence, hedge; 2. enclosure, pen (for reindeer)” (Cincius 1982: 235), Evn. *kur’ē* “id.” (Doerfer 1980: 640), Ork. *kurei* ~ *kurej* ~ *kureji* “fence, hedge” (J. さく(柵)) (Ikegami 1997: 108), Man. *kuran* ~ *kuren* “1. fence, enclosure; 2. yard (for cattle); 3. courtyard, hotel, guesthouse, tea-room; 4. (military) headquarters; 5. committee, society; 6. squadron, detachment” (Zaxarov 1875: 294a; Norman 2013: 241b). (2) Cf. Wr. Mong. *kūrije(n)*, Khal. *xūree(n)* “anything girding, encircling, or enclosed: fence, enclosure, yard; camp; monastery; border, edging” (Lessing 1960: 506a; SSTM I, 436b, s.v. *kurē*; Ozawa 1983: 508b). (3) Beckwith (2007: 41, 170-171)

links Kog. **χuər* (忽) ~ **kuər* (骨) (< OKog. **kuru* (溝漚)) “ring fort” to OJ. *kuruma* “wheel” and OJ. *kur-* “to turn around, to spin”, or, in an alternative etymology, to OJ. *kura* “storehouse, treasury”.]

20. **Kog.** **ma* (馬) “hard (not soft) (堅)” (Kiyose 1991: 263; Itabashi 2003: 145 (#24)) ~ **OJ.** *maga* “something bad, disaster” (JDB 664d; Ōno 2002: 1212a) < pJ. **manka* (Martin 1987: 470) ← **pTg.** **manga* “hard, tough, difficult” (SSTM I, 529a-530a, s.v. *maṅa*) (Kog.-Tg. etymology proposed by: Kiyose 1991: 263; Itabashi 2003: 145 (#24); added J.-Tg. etymology proposed by: Murayama 1962: 159; Murayama 1988: 15, 24, 32, 40, 54, 87)
21. **Kog.** ***na* (~ **nay*) (奈) “bamboo (竹)” (Itabashi 2003: 155 (#60); Beckwith 2007: 132) ~ **OJ.** *no₂* “arrow bamboo, bamboo for making arrows” (JDB 562b; Ōno 2002: 1033c) < pJ. **no* ← **pTg.** **n’u’rV* “arrow” (SSTM I, 648a, s.v. *n’ur*) (Kog.-J. etymology proposed by: Itabashi 2003: 155 (#60); Beckwith 2007: 132; Tg. counterpart added by: the author) [Notes: (1) According to SSTM, attested Tg. forms are: Evk. *n’ur* “1. arrow; 2. stripe (on fur shoes)” (Vasilevič 1958: 308b), Sol. *niru* (Poppe 1931: 62a) ~ *nu’r* (Poppe 1931: 63a) ~ *nu’ru^o* (Poppe 1931: 63a) “arrow”, Neg. *n’oj* “1. arrow (with a metal arrowhead); 2. arrowhead” (Cincius 1982: 251), Evn. *n’u’r* “arrowhead” (Doerfer 1980: 803), Arman *n’ör* “id.” (Doerfer & Knüppel 2013: 246a (#2309)), Man. *niru* “1. large arrow for shooting game and people; 2. a *niru*, a banner company of a hundred men; 3. (佐領) the head of a banner, captain” (Zaxarov 1875: 236b; Norman 2013: 287b), Jur. **niru* (捏魯) “arrow (箭)” (Kane 1989: 251 (#580)).]
22. **Kog.** **namī* (内米) “pond, lake” (池, 長池) (Itabashi 2003: 147 (#31)) / **namī* (内米) (Kiyose 1991: 263) ~ **OJ.** *namī* “wave” (JDB 533a; Martin 1987: 492; Ōno 2002: 994a) < pJ. **namī* ← **pTg.** **nāmu* “sea, ocean” (SSTM I, 490b, s.v. *lāmu*) (Kog.-J.-Tg. etymology proposed by: Kiyose 1991: 263; Itabashi 2003: 147 (#31); cf. Murayama 1962: 159; Murayama 1988: 81; EDAL II, 866-867) [Note: Cf. Paekche **namu* ~ **namī* “sea” (Martin 1987: 492; quoting Toh 1981: 28).]
23. **Kog.** **nanin* (難隱) “seven (七)” (Itabashi 2003: 148 (#33)) / **nanin* (難隱) (Kiyose 1991: 263) / **OKog.** **nan* (難) (Beckwith 2007: 133, 252) ~ **OJ.** *nana-* “seven” (JDB 527c; Ōno 2002: 983b, 984b) < pJ. **nana-* ← **pTg.** **nadan* “seven” (SSTM I, 576b-577b, s.v. *nadan*) (Kor.-J.-Tg. etymology proposed by: Lewin 1976: 408; Whitman 1990: 521; Kiyose 1991: 263; Itabashi 2003: 148 (#33); Robbeets 2005: 407; J.-Tg. etymology proposed by: Murayama 1962: 159; Murayama

1988: 15, 81; EDAL II, 959-960)

24. **Kog.** **usiyam* (烏斯舍) “hare, rabbit (兔)” (Itabashi 2003: 153 (#53)) / **ušiyam* (烏斯舍) (Kiyose 1991: 263) / **osiyam* (烏斯舍) (Beckwith 2007: 67, 141, 254) / **wosaham* (烏斯舍) (Lee & Ramsey 2011: 41) ~ **OJ.** *usagi* “hare, rabbit” (JDB 114b; Martin 1987: 564; Ōno 2002: 157c) (etymology proposed by: Kiyose 1991: 263; Itabashi 2003: 153 (#53); Beckwith 2007: 67, 141) ~ **Man.** *užirxi* “1. (dark gray) hare (with spots and standing, resembling a wild cat); 2. (wild) cat, manul, cat of the steppes, Felis manul” (SSTM II, 250a, s.v. *užirxi*) (cf. Zaxarov 1875: 168a; Norman 2013: 386a) (Tg. component added by: the author) [Note: According to SSTM, the etymon is only attested in Man.]
25. **Kog.** **u* (烏) “pig (猪)” (Itabashi 2003: 155 (#59)) / **u* (烏) “pig (猪)” (Beckwith 2007: 141, 254) ~ **OJ.** *wi* “wild boar” (JDB 824b; Martin 1987: 420; Ōno 2002: 1441c) < pJ. **wi* (Kog.-J. etymology proposed by: Itabashi 2003: 155 (#59); Beckwith 2007: 141) ← **pTg.** **bejū* (noun) “ungulate (wild) animal (like deer)”, **bejū-* (verb) “to hunt” (SSTM I, 121a-122a, s.v. *bejū-*) (J.-Tg. etymology proposed by: EDAL I, 336)
26. **Kog.** ***tan* (**tan* (旦)) ~ **twən* (頓) ~ **təən* (吞) “valley (谷)” (Itabashi 2003: 155 (#61)) / **tan* (旦) ~ **twən* (頓) ~ **təən* (吞) ~ **təwan* (湍) (Beckwith 2007: 72, 136, 253) / **tan* (旦) ~ **twon* (頓) ~ **thon* (吞) (Lee & Ramsey 2011: 41) ~ **OJ.** *tani* “valley” (JDB 433c; Martin 1987: 541; Ōno 2002: 817a) < pJ. **tani* ← **pTg.** **tēnV-* ~ **tējV-* “1. plain, lowland; 2. (low) bank, shore; 3. forest, wood(s), taiga; 4. (large) tree; 5. puddle, pool, hole (filled with water); 6. pass, passage” (SSTM II, 235a, s.v. *tēn*) (Kog.-J. etymology proposed by: Itabashi 2003: 155 (#61); Lee & Ramsey 2011: 41; J.-Tg. etymology proposed by: EDAL II, 1417)
27. **Kog.** ***wir* (**uyir* ([未]乙) ~ **uir* (於乙)) “spring, source (原); well (泉井)” (Itabashi 2003: 156 (#63)) / **oir* (於乙) “fountain” (Kiyose 1991: 264) ~ **OJ.** *wi* “well” (JDB 824a; Ōno 2002: 1441c) < pJ. **wi* (author) / **wo-Ci* (Itabashi 2003: 156 (#63)) / **wu-Ci* (Itabashi 2003: 156 (#63)) ← **pTg.** **bira* “1. river; 2. spring, source” (SSTM I, 84a, s.v. *bira*) (Kog.-J. etymology proposed by: Itabashi 2003: 156 (#63); J.-Tg. etymology proposed by: EDAL I, 359; Robbeets 2005: 404)

4.4. Group IV: Koguryō-Japanese-Tungusic-Korean Quadruplets

28. **Kog.** **acin* (阿珍) “poor, exhausted (窮)” (Itabashi 2003: 157) / **hatsir*, **atsin* (阿珍) (in which **h-* is a laryngeal) (Beckwith 2007: 251) ~ **OJ.** *asi* “bad, evil” (JDB 20b; Martin 1987: 826; Ōno 2002: 24c) (etymology proposed by: Beckwith 2007: 111) ← **pST.** **ečV-* “1. to feel shy, timid, embarrassed; 2. to feel uncomfortable, unsatisfied; 3. to feel hostility, enmity” (SSTM II, 471b, s.v. *ečise-*) (Tg. added by: the author) ~ **Midd. Kor.** *achi-et*, *achyet-* “to hate” (Nam 1997: 1015b) (J.-Kor. etymology proposed by: Whitman 1985: 244 (#320); Robbeets 2005: 253, 352) [Notes: (2) According to SSTM, attested forms are: Nan. *ečisi-* “1. to feel shy, timid, embarrassed; 2. to feel uncomfortable, unsatisfied with a disorderly accumulation of cumbersome matters (Russ. испытывать неудобство, недовольство от беспорядочного нагромождения громоздких вещей); 3. to feel hostility, enmity for someone and desire to escape from it as soon as possible (Russ. испытывать неприязнь к кому-либо и желать как можно скорее избавиться от нее)” (Onenko 1980: 539), Ulch. *ečise-* “to feel shy, timid, embarrassed” (not in Sunik 1985). (2) Whitman (1985: 244 (#320)) analyzes Midd. Kor. *achi-et* “to hate” as *achi-* + *ēt-* “to get”. Robbeets (2005: 253) subscribes this analysis.]
29. **Kog.** **kar* (加戸) “to plough (犁)” (Whitman 1990: 524; Kiyose 1991: 262; Itabashi 2003: 142 (#12)) ~ **OJ.** *kar-* (4G) “to trim, to prune, to mow, to cut” (JDB 233b; Ōno 2002: 348a) < pJ. **kar-*, OJ. *kara-suki* “plow” (JDB 230c; Ōno 2002: 345c) < pJ. **kara-suki* (?) ~ **Man.** *χalχan* “plowshare” (SSTM I, 460b, s.v. *χalχan* I) (OJ-Tg. etymology proposed by: Itabashi 2003: 142 (#12)) ~ **Midd. Kor.** *kalay* “plow” (Nam 1997: 6a), *kal-* “to plow” (耕) (Nam 1997: 28b), Kor. *kalay* “three-man plow; spade” (KED 10b), *kāl-ta* “to plow, to cultivate, to till” (KED 44a) (J.-Kor. etymology proposed by: Whitman 1985: 220 (#103)) [Note: According to SSTM, the word is only attested in: Man. *χalχa* (not in Norman 2013), *χalχan* (Norman 2013: 163b), *χalga* (not in SSTM; Norman 2013: 163b) “plowshare”, Jur. **ufu hal[h]an* (兀浦哈郎) “plow, plowshare” (Kane 1989: 254 (#598)).]
30. **Kog.** **kamur* (今勿) “black (黒)” (Itabashi 2003: 142-143 (#14)) / **kemür* (今勿) (Kiyose 1991: 262) ~ **OJ.** *kuro₁-si* “black” (JDB 277d; Martin 1987: 464; Ōno 2002: 438a) < pJ. **kuru(C)a-* / **kuru(C)o-* ← **pTg.** **gulu-* “1. to smoke (meat, fish); 2. to mix with sooth”, **gulu-kse* “sooth” (SSTM I, 147b, s.v. *gī-*) (J.-Tg. etymology proposed by: Pauwels 2009b: 105) ~ **Midd. Kor.** *kem-* “black” (Nam 1997: 66b), Kor. *kēm-ta* “1. to be black, to be dark; 2. to be black-hearted, to be wicked, to be evil-hearted” (KED 101a) (J.-Kor. etymology proposed by:

Martin 1966: 228 (#47); not in Whitman 1985; Kog.-OJ.-Midd. Kor. etymology proposed by: Kiyose 1991: 262; Itabashi 2003: 142-143 (#14) [Note: OJ. *kuroi-si* can only be a phonological fit to Kog. **kəmur* (今勿) if one hypothesizes that metathesis occurred.]

31. **Kog.** **koyoi* (古衣) “crane (鵞)” (Itabashi 2003: 144 (#18)) / **koyōi* (古衣) “crane” (Kiyose 1991: 262) / **kofiy* (古衣) “swan, Cygnus beweckii (鵞)” (Beckwith 2007: 129) ~ **OJ.** *kukuFi*₁ (JDB 254a), *kuguFi* (Ōno 2002: 402c) “swan” < pJ. **kukupi* ← **pTg.** **kūku* “swan” (SSTM I, 426-427, s.v. *kūku* I) ~ **Midd. Kor.** *kohae* “swan (鵞)” (Nam 1997: 105a), *kohwae* “id.” (Nam 1997: 105b), not attested in Modern Korean (Kog.-Midd. Kor. etymology proposed by: Itabashi 2003: 144 (#18); Tg. added by: the author) [Note: According to SSTM, attested Tg. forms are: Ud. *kūxi* “swan”, Orch. *kūku* “id.” (Avrorin & Ledebeva 1978: 198b), Nan. (Najxin) *kūku* “id.” (Onenko 1980: 232a), Ulch. *kūku* “id.” (Sunik 1985: 206b), Ork. *kukku* ~ *kuku* “id.” (not in Ikegami 1997).]
32. **Kog.** **kwər* (骨) “yellow (黄)” (Whitman 1990: 522; Itabashi 2003: 158 (#9); Beckwith 2007: 127, 252) ~ **OJ.** *ki*₂ “yellow” (JDB 237c; Martin 1987: 449) ~ *ki* (Ōno 2002: 357b) < pJ. **ku-(C)i* / **ko-(C)i* (cf. Martin 1987: 449) ← **pTg.** **xol(i)-* (adjective) “1. yellow; 2. gray, brown (of the hair of animals), roan” (SSTM I, 469b, s.v. *xolig*) (Kog.-OJ. etymology proposed by: Beckwith 2007: 127; J.-Tg. etymology proposed by: Robbeets 2004: 113 (#84)) ~ **Midd. Kor.** *kwūl* “copper” (Nam 1997: 139b), Kor. *kwuli* “id.” (KED 200a) (J.-Kor. etymology proposed by: Whitman 1985: 133-134, 226 (#161); Robbeets 2005: 407) [Note: Cf. Wr. Mong. *küreŋ*, Khal. *xüren* “(dark) brown, maroon (especially of fur), chestnut; deep violet” (J. 肉褐色の, 褐色の (赤と黒の混合色)) (Lessing 1660: 505a; Ozawa 1983: 508b; Hangin 1997: 706a)]
33. **Kog.** **mey* (買) “1. river (川); 2. water (水)” (Itabashi 2003: 146 (#28)) / **me* (買) (Kiyose 1991: 261) / **mey* ~ **mey* (買) (Beckwith 2007: 130, 252) ~ **OJ.** *mi*₁*du* “water” (JDB 707b; Martin 1987: 483; Ōno 2002: 1260c) ~ *mi*₁- (JDB 694d; Martin 1987: 476; Ōno 2002: 1245c) < pJ. **me-* (cf. Martin 1987: 483; Whitman 2012: 26) ← **pTg.** **mō* “water” (SSTM I, 548a, s.v. *mū* I) (J.-Tg. etymology proposed by: EDAL II, 935-936) ~ **Midd. Kor.** *mūl* “water (水)” (Nam 1997: 602a), Kor. *mul* “1. water; 2. liquid; 3. flood, inundation; 4. sap; juice; 5. freshness (of fish)” (KED 675a) (Kog.-J.-Kor.-Tg. etymology proposed by: Itabashi 2003: 146-147 (#28); J.-Kor. etymology proposed by: Ramstedt 1949: 154; Martin 1966: 246 (#257); Miller 1971: 74; Whitman 1985: 238

(#266); Starostin 1991: 134, 139; EDAL II, 935-936; Robbeets 2005: 312, 313, 364 [Note: OJ. *mi₁*-“water” is used only in compounds (Ōno 2002: 1245c).]

34. **Kog.** **na* (奴) “land, earth (壤)” (Itabashi 2003: 148 (#34)) / **na* (内, 奴, 惱, 那) (Kiyose 1991: 262) / **OKog.** **na*, **Kog.** **naw* (惱) ~ **nʷaj* (内) “land, earth (壤)” ~ **naj* (乃) “province, prefecture (州)” (Beckwith 2007: 132, 252) ~ **OJ.** *na* “land, earth” (not in JDB; Martin 1987: 490; Ōno 2002: 1001b), OJ. *na-wi* “earthquake” (JDB 539d; Ōno 2002: 1001b) < pJ. **na* (cf. Martin 1987: 490) < **pTg.** **nā* “1. earth; 2. place” (SSTM I, 572a-573b, s.v. *nā*) (J.-Tg. etymology proposed by: Murayama 1962: 164; Murayama 1988: 47, 88) ~ **Midd. Kor.** *nā-láh* “country, land, state” (Nam 1997: 255a), Kor. *nala* “1. country, land, state, empire, kingdom, one’s homeland, fatherland, mother country; 2. world, realm” (KED 287b) (Kog.-J.-Kor.-Tg. etymology proposed by: Itabashi 2003: 148 (#34); J.-Kor. etymology proposed by: Ramstedt 1949: 161) [Note: According to Lee and Ramsey (2011: 24), Midd. Kor. *-láh* is a suffix.]
35. **Kog.** **patan* (波旦) “ocean, sea (海)” (Kiyose 1991: 264; Itabashi 2003: 149 (#38)) ~ **OJ.** *wata* “sea, ocean” (JDB 819a; Martin 1987: 569; Ōno 2002: 1431a) < pJ. **wata* < **pT.** **wāta* “wave” (SSTM II, 27b-28a, s.v. *ōta*) (J.-Tg. etymology proposed by: the author) ~ **Midd. Kor.** *pātáh* “sea, ocean” (Nam 1997: 641a), **Midd. Kor.** *pālól* “id.” (Nam 1997: 644a), Mod. Kor. *pata* “1. sea, ocean; 2. wide expanse” (KED 703b) (J.-Kor. etymology proposed by: Martin 1966: 240 (#190); Whitman 1985: 182, 204, 213 (#50); Ōno 2002: 1431a) [Note: According to SSTM, attested forms are: Evk. *ōta* “wave, billow, roller” (not in Vasilevič 1958), Neg. *wāta* “(large) wave” (Cincius 1982: 202), Evn. *ōta* (SSTM) ~ *ōtā* (Doerfer 1980: 870) “1. wave; 2. surf, breakers; 3. storm”, *ōta-* (SSTM) ~ *ōtā-* (Doerfer 1980: 870-871) “1. to splash, to smash (of waves); 2. to be agitated, to be choppy (of water)”, Arman *ōta* “1. wave; 2. surf, breakers; 3. choppiness; 4. storm” (Doerfer & Knüppel 2013: 278a (#2671)), *ōtā-* “1. to splash, to smash (of waves); 2. to be agitated, to be choppy (of water)” (Doerfer & Knüppel 2013: 278b (#2672)), Nan. *wāta* “wave” (Onenko 1980: 91a), *wāta-* “to be agitated, to be choppy (of water)” (Onenko 1980: 91a), Ulch. *wāta* “wave” (Sunik 1985: 181a), *wāta-* “to be agitated, to be choppy (of water)” (Sunik 1985: 181a).]
36. **Kog.** **sirap* (尸臘) “white (白)” (Itabashi 2003: 151 (#43)) / **širap* (尸臘) “white” (Kiyose 1991: 264) ~ **OJ.** *siro₁-si* (JDB 377c; Martin 1987: 526; Ōno 2002: 692c, 693b) < pJ. **siru(C)a* / **siro(C)a*, **OJ.** *sira-* (in compounds) (JDB 351b; Martin 1987: 525; Ōno 2002: 686b) < pJ. **sira*; OJ. *sirak-* (L2G) “to become

white” (JDB 351d; Ōno 2002: 687a) < pJ. **sira-ka-Ci-* (Kog.-J. etymology proposed by: Kiyose 1991: 264; Itabashi 2003: 151 (#43)) < pT. **silV-* “1. pink, rose-colored; 2. orange” (SSTM II, 85b, s.v. *silei*) (J.-Tg. etymology proposed by: Pauwels 2009b: 105) ~ **Midd. Kor.** *syēy-* (Whitman 1985: 234 (#228); Nam 1997: 851b-852a) “to gray, to turn gray (said of hair)” ~ **Midd. Kor.** *hoy-* (Nam 1997: 1467a), Kor. *huy-ta* “1. to be white, to be fair; 2. to be gray, to be hoary” (KED 1898b) (J.-Kor. etymology proposed by: Whitman 1985: 168, 234 (#228), 236 (#244); Robbeets 2005: 407; Whitman 2012: 30 (#2)) [Note: According to SSTM, the word is only attested in Orok (Uilta): *silei* “1. pink, rose-colored; 2. orange” (SSTM) ~ *siloi* “not very dark color” (J. あまり濃くない色の) (Ikegami 1997: 183).]

37. **Kog.** **śamiar* ~ **śamyiar* (沙熱) “cool (清)” (Beckwith 2007: 136, 253) ~ **OJ.** *samu-si* (JDB 340d; Ōno 2002: 588b) < pJ. **sanpu-* (Martin 1987: 839) < pTg. **sebu-* “cool” (SSTM II, 146a, s.v. *serun*) (J.-Tg. etymology proposed by: Pauwels 2008b: 168; Pauwels 2009a: 173) ~ **Midd. Kor.** *sánól-* [*sanāl-*] “cold, cold to the touch” (Nam 1997: 794b), Kor. *sanul ha-ta* ~ *ssanul ha-ta* “1. to be chilly, to be icy; 2. (one’s manner) to be cool, chilly, distant” (KED 869b) (Whitman 1985: 166) [Notes: (1) Martin (1987: 839) reconstructs pJ. **sanpu-*, which is based on dialect forms possessing medial *-b-* instead of *-m-*. (2) According to SSTM, attested forms are: Evk. *serun* (← Mong.) “coolness” (Vasilevič 1958: 621a), Sol. *serū^o* (← Mong.) “fresh” (Poppe 1931: 67a), Nan. *sēr* “cool, fresh” (Onenko 1980: 386a), *serguē* “id.” (Onenko 1980: 386b, 387a), *seū-seū* (Najxin) “id.” (not in Onenko 1980), *sewur-sewur* (Bikin) “id.” (not in Onenko 1980), *sēr bī-* (Najxin) “cold, fresh” (not in Onenko 1980), *sewur-sewur bī-* (Bikin) “id.” (not in Onenko 1980), *sergulu-* (Bikin) “to become cool” (not in Onenko 1980), *serū* (Najxin) (SSTM) ~ *serūn* (Onenko 1980: 387a) “1. cool; 2. coolness”, *serge* (Bikin) “id.” (not in Onenko 1980), *seru(n-)* (Bikin) “id.” (not in Onenko 1980), *serūsi-* “to freshen up” (Onenko 1980: 387a), Ulch. *sewuruli* ~ *seuruli* “cool, fresh” (Sunik 1985: 237b), *sewu-sewu* “id.” (Sunik 1985: 236b), *seurusu-* “to feel cool” (not in Sunik 1985), *seudeku* “sunshade, parasol” (Sunik 1985: 237b), Man. *serguweken*, *seruken* “rather cool, rather fresh” (Zaxarov 1875: 590a; Norman 2013: 317b), *serguwen* “cool, fresh” (Zaxarov 1875: 590b; Norman 2013: 317a), *serguweša-* ~ *serguweše-* “1. to freshen up, to become cool, to cool down; 2. to catch a cold” (Zaxarov 1875: 591a; Norman 2013: 317b), Jur. **serkun* (塞兒空) “cool, fresh (涼)” (Kane 1989: 202 (#343)). (3) According to SSTM and Rozycki (1994: 178), Evk. *serun*, Sol. *serū^o*, and Nan. *serū* are borrowings from Mong. However, Nan. *sewur-sewur*, Ulch. *sewuruli*, etc. are

definitely not borrowed but inherited Tungusic words. Cf. Wr. Mong. *serigün* “1. cool, fresh; 2. coolness, freshness”, Khal. *serüü(n)* “id.” (Lessing 1960: 691a; Ozawa 1983: 348b), Wr. Mong. *serigüken* “somewhat cool, somewhat fresh, rather cool, rather fresh, rather refreshing”, Khal. *serüüxen* “id.” (Lessing 1960: 691a; Ozawa 1983: 349a).]

38. **Kog.** **tawnpi* (冬非) “round (円)” (Itabashi 2003: 152 (#49); not in Beckwith 2007) ~ **J.** *toguro* “coil (of a snake, rope, etc.)” < pJ. **tonku-ro* ← **pTg.** **tonga-* “1. circle; 2. ring” (SSTM II, 198a, s.v. *toŋollo*) (J.-Tg. etymology proposed by: Starostin 1991: 64; EDAL II, 1459; Robbeets 2005: 296, 349, 367, 411 (#8), 869-870; Robbeets 2008: 360) ~ **Midd. Kor.** *tongkoli-* (圈了) (Nam 1997: 426b), **Kor.** *tongkul-ta* “to be round, circular, globular, spherical” (KED 487a) (Tg.-Kor. etymology proposed by: Ramstedt 1949: 273; SSTM II, 198a, s.v. *toŋollo*)
39. **Kog.** **tu* ~ **dzi(ir)* ~ **tsi(ir)* (助乙) “road (道)” (Itabashi 2003: 153 (#52)) / **tšir* ~ **džir* (助乙) (Beckwith 2007: 254) ~ **OJ.** *mi-ti* “way, road, street, path” (JDB 705c; Martin 1987: 481; Ōno 2002: 1258b) < pJ. **mi-ti* (cf. Itabashi 2003: 153), **OJ.** *ti* “road, path” (JDB 452b; Martin 1987: 481; Ōno 2002: 836b) < pJ. **ti* (cf. Martin 1978: 546) ← **pT.** **tō-* “1. to step, to tread (on); 2. track; 3. path, trail, road; 4. stirrup” (SSTM II, 202b-203a, s.v. *tū-*) (J.-Tg. etymology proposed by: the author) ~ **Kor.** *thi* “road” (bound noun as in *kokay thi* “steep twisting road over a mountain range” (cf. KED 134b)) (Robbeets 2007: 13) [Notes: (1) According to Martin (1987: 545) (cf. also Ōno (2002: 851a) for OJ. *timata*), the second morpheme *-ti* in OJ. *mi-ti* is the same root as *ti-* in OJ. *ti-mata* “1. forked road, crossroads, 2. street” (JDB 456d; Martin 1987: 546; Ōno 2002: 851a) (< pJ. **ti-mata* (Martin 1987: 546)), OJ. *oFo-ti* (until Muromachi Period) (JDB 158c; Ōno 2002: 244b), *oFo-di* “main road, highway” (Martin 1987: 511; Ōno 2002: 244b) (< pJ. **opo-ti* (Martin 1987: 511)). (2) According to Ōno (2002: 1258b), OJ. *mi-* is a prefix that refers to things that belong to the *kami* [神] (“the gods”). (3) According to SSTM, attested forms are: Evk. *tū-* “1. to step, to tread (on); 2. to make an impression (on something)” (Vasilevič 1958: 396a), *tūkte* “track” (Vasilevič 1958: 399a), *tūmŋek* “path” (not in Vasilevič 1958), Neg. *tu^oasan* “track” (Cincius 1982: 278), Evn. *tō-* “1. to step, to tread (on); 2. to trample down; 3. to walk, to stride” (not in Doerfer 1980), Ud. *tum^he* “beaten track, even road”, Man. *tufon* ~ *tufun* “stirrup” (Zaxarov 1875: 764b; Norman 2013: 372b), *tufule-* “to put one’s foot in a stirrup” (Zaxarov 1875: 764b; Norman 2013: 372b).]

5. Conclusions

Due to the limited size of the Koguryō lexicon, the author remains agnostic as regards the nature of the relation of Koguryō with adjacent languages (especially Korean, Japanese, and Tungusic).

In this paper, an attempt has been made to fill the lacunae in two- or three-way etymologies that (1) connect Koguryō lexical material to surrounding languages (mainly Japanese and Korean) and (2) have been published in previous research. To several plausible and established etymologies involving the Koguryō lexicon, Tungusic lexical counterparts have been added. More specifically, the following sixteen Tungusic lexemes have been added by the author (numbering below corresponds to numbering in section 4.):

1. Kog. **eci* (於支) “wing”; pTg. **xasa-* “wing”;
7. Kog. **mai* (馬) “arm, shoulder”; pTg. **mūj-re* “1. shoulder; 2. shoulder bone”;
8. Kog. **mur* (勿) “roof-ridge beam; bridge”; pTg. **mulu* “roof-ridge”;
14. Kog. **kan* (根) “head”; pTg. **kaba- / *kapa-* “back of the head, nape”;
15. Kog. **kapi* (甲比) ~ **kap* (甲) “cave, cavern, hole”; pTg. **kapV-* “1. gorge, ravine; 2. rock face, crag, cliff (on the shore of a river)”;
18. Kog. **χurc* ~ **kurc* (忽次) ~ **kuar* (串) ~ **kuci* (古次) “mouth”; pTg. **kuta-* “1. stomach; 2. crop, craw (of a bird); 3. esophagus, gullet; 4. throat”;
19. Kog. **χuər* (忽) ~ **kuər* (骨) “walled city, fort, fortified place”; pTg. **kurV* “fence, enclosure”;
21. Kog. **na* (~ **naγ*) (奈) “bamboo”; pTg. **n'u'rV* “arrow”;
24. Kog. **usiyam* (烏斯含) “hare, rabbit”; Man. *uǰirxi* “(dark gray) hare”;
28. Kog. **acin* (阿珍) “poor, exhausted”; pST. **ečV-* “1. to feel shy, timid, embarrassed; 2. to feel uncomfortable, unsatisfied; 3. to feel hostility, enmity”;
30. Kog. **kəmur* (今勿) “black”; pTg. **gulu-* “1. to smoke (meat, fish); 2. to mix with sooth”, **gulu-kse* “sooth”;
31. Kog. **koγoi* (古衣) “crane”; pTg. **kūku* “swan”;
35. Kog. **patan* (波旦) “ocean, sea”; pT. **wāta* “wave”;
36. Kog. **sirap* (尸臘) “white”; pT. **silV-* “1. pink, rose-colored; 2. orange”;
37. Kog. **samiar* ~ **samyiar* (沙熱) “cool”; pTg. **sebu-* “cool”;
39. Kog. **tu* ~ **dzi(ir)* ~ **tsi(ir)* (助乙) “road”; pT. **tō-* “1. to step, to tread (on); 2. track; 3. path, trail, road; 4. stirrup”.

Itabashi (2003: 159) claims that 21 out of 111 Koguryō words (18.9%) have Tungusic cognates (同源語). However, in this paper, 39 out of 111 Koguryō words (35.1%) have Tungusic counterparts. This evidence strongly indicates that, irrespective of the nature of the relationship (genetic or contact induced), the relationship between Koguryō and Tungusic is even closer than hitherto assumed.

However, so far no matches between Tungusic and Koguryō grammatical elements (morphemes) have been found. There may be at least two explanations for this fact: (1) Koguryō morphemes that match Tungusic counterpart are lost; or (2) the two languages are not genetically related and consequently do not share morphological elements.

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Abbreviations

* [before words or suffixes] = reconstructed (proto-)form (i.e., not attested form)

4G = quadrigrade verb (J.: *yodan dōshi* 四段動詞)

A ← B = A has been borrowed from B

A < B = A genetically originates from B

C = unspecified consonant, or unknown consonant (in reconstructed proto-form)

Evk. = Evenki

Evn. = Even (also called “Lamut”)

J. = Modern Japanese

Jur. = Jurchen (J.: *Joshingo* 女真語 / Kor.: *Yōjin’ō* / *Yecin’e* 여진어)

Khal. = Khalkha

Kog. = Koguryō (J.: *Kōkurigo* 高句麗語 / Kor.: *Koguryō* / *Kokwulyee* 고구려어)

Kor. = Modern Korean

L2G = lower bigrade verb (J.: *shimo nidan dōshi* 下二段動詞)

Man. = Manchu (J. *Manshūgo* 滿州語 or 滿洲語 / Kor. *Manjuō* / *Mancwue* 만주어)

Midd. Kor. = Middle Korean

Nan. = Nanai (also called “Gold” or “Goldi”)

Neg. = Negidal

OJ. = Old Japanese

OKog. = Old Koguryō

Orch. = Orochi

Ork. = Orok (also called “Uilta”)

pJ. = proto-Japanese

pKor. = proto-Korean

pTg. = proto-Tungusic

pST. = proto-South Tungusic (reconstructed based on Nanai, Ulcha, and Orok forms)

Russ. = Russian

Sol. = Solon

Tg. = Tungusic

U2G = upper bigrade verb (J.: *kami nidan dōshi* 上二段動詞)

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

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

V = unspecified vowel, or unknown vowel (in reconstructed proto-form)

Wr. Mong. = Written Mongolian

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