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## Current Progress in Altaic Etymology<sup>[\*]</sup>

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Sergei Starostin, Anna Dybo, Oleg Mudrak, with assistance of Ilya Gruntov and Vladimir Glumov: *Etymological Dictionary of the Altaic Languages*, Part One [A-K], Part Two [L-Z], Part Three [Indices], Leiden-Boston: Brill 2003, published in the prestigious series *Handbook of Oriental Studies / Handbuch der Orientalistik* 8/1-3, edited by Denis Sinor & Nicola di Cosmo [ISSN 0169-8524]. These three volumes are of a respectable size: pp 1-858, 859-1556, 1557-2096 respectively.

The author's team proper consists of three scholars: Sergei Starostin, Anna Dybo and Oleg Mudrak. In the end of 80-ties I. Ševeršidze cooperated too. S. Starostin elaborated the data of the Japanese, Korean and Tungus languages, A. Dybo the Turkic and also Tungus languages, O. Mudrak the Chuvash, Mongolian and Jurchen languages, plus V. Glumov, compiling also the Tungus data, and I. Gruntov, compiling also the Mongolian data. The head of the author's team, Sergei Starostin, initiated his interest in Altaic from the historical phonetics of Japanese (1972, 1975a, 1975b, 1990, 1997). The preliminary sound correspondences and the lexicostatistic test among five Altaic branches were presented by Starostin in 1986. This study expanded into the monograph *Altajskaja problema i proisxoždenie japonskogo jazyka* (Moskva: Nauka 1991) where Starostin discussed the classical Altaic theory, following G.J. Ramstedt and N. Poppe (Turkic + Mongolian + Tungus, plus occasionally Korean), plus Korean and Japanese following especially S. Martin and R.A. Miller respectively. In his book Starostin demonstrated the phonetic correspondences in details, including the new rules established by him for the first time. He has also published the 100-word-lists of all Altaic languages here. A. Dybo has published, among others, a series of studies, analyzing in details the body-part-terms in Altaic (1985, 1986a, 1988a, 1988a, 1988b, 1989a, 1989b, 1989c, 1991a, 1992, 1995a, 1995d, 1996) or the Altaic lexicon in general (1997a, 1997b, 2000) or historical phonology of Turkic, Tungus or Altaic at all (1990, 1991, 1995b). She also belongs in the author's teams preparing the 'Comparative-historical grammar of Turkic languages' (*Sravnitel'no-istoričeskaja grammatika tjurkskix jazykov*, 4: *Leksika*, Moskva: Nauka 1997) and 'Etymological dictionary of Turkic languages' (*Ėtimologičeskij slovař*

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*tjurkskix jazykov: obščetjurkskie i mežtjurkskie leksičeskie osnovy na bukvy "k", "q"*, Moskva: Jazyki russkoj kul'tury 1997). In his publications O. Mudrak especially concentrates on two topics, historical phonology of Chuvash (1987, 1989, 1993, 1994) and reconstruction of Jurchen (1985, 1988). I. Gruntov has published an article on the historical phonology of Japanese in the Altaic context (2000).

The first version of the present review was finished in May 2005. This new version originates to up-to-date the sources on the one hand. The second reason consists in the unexpected death of the head of the author's team, Sergei Starostin, on 30th September 2005.

The *Etymological Dictionary of the Altaic Languages* (= EDAL) is open by *Preface* (pp. 7-9) where the purposes of the present dictionary and a short history of Altaic studies are described. The *Introduction* (pp. 11-236) starts with the Chapter One devoted to *The problem of Interlingual borrowings in Altaic languages* (pp. 13-21). Here it is demonstrated, how the phonetic criteria may serve to distinguish the borrowings from the inherited cognates, e.g. the correspondences of Turkic \*l, \*r (> late Turkic \*š, \*z, after the separation of the Bulgarian-Chuvash branch) vs. Mongolian \*š, \*s respectively indicate the borrowings from Turkic into Mongolian. In the Chapter Two the *Comparative phonology of Altaic Languages* is discussed. The authors start with the root-structure of the canonical type CV(C)CV, occasionally also CV for pronominal, auxiliary and some verbal roots, plus the trisyllabic pattern CVCVCV. The consonant inventory of the Altaic proto-language is reconstructed in the system:

p <sup>ç</sup>	p	b	m				
t <sup>ç</sup>	t	d	n	s	z-	-r-	l
č <sup>ç</sup>	č	,	ń	š	-j-	ř	í
k <sup>ç</sup>	k	g	ŋ				

The system of basic consonant correspondences between five Altaic daughter protolanguages was established as follows (pp. 24-25):

Rule	Proto-Altaic	Proto-Turkic	Proto-Mongolian	Proto-Tungus	Proto-Korean	Proto-Japanese
1.	*p <sup>ç</sup> - *p <sup>ç</sup>	*Ø-, *j- *p	*h-, *j- *b, *h / -b	*p- *p	*p- *p	*p- *p
2.	*p- *p	*b- *b	*b-, h- *b	*p- *b	*p- *p	*p- *p
3.	*b-  *b	*b  *b	*b-  *h / [*R]b, b[Vg] / -b	*b-  *b	*p-  *b / -p	*p- / *b[a, ə, Vj] *p[*iV, *j] w

4.	*m- *m	*b- *m-	*m- *m	*m- *m	*m- *m	*m- *m
5.	*t'-  *t'	*t-, *dV [í, í, r]  *t	*t- / č[i]  *t / č[i] / -d	*t-  *t	*t-  *t	*t-  *t
6.	*t  *-t-	*d-  *t	*t- / č[i]  *t / č[i]	*d- / *ǰ[í]  *t	*t-  *r / -t	*t- / *d[i, ə] *t
7.	*d-  *d	*j-  *d	*d / ǰ[i]  *d / ǰ[i]	*d  *d	*t-  *r / -t	*d- / t[V+ *p', *t', *k' , *č'] *t / [*iV, *j]j
8.	*n- *n	*j- *-n-	*n- *n	*n- *n	*n- *n	*n- *n
9.	*r-  *l	*r-  *l	-r-  *l	*r-  *l	*r-  *r	*r, *t
10.	*s- *s	*s- *s	*s- *s	*s- *s	*s-, h- *s	*s- *s
11.	*z-  *č'	*j-  *č	*s-  *č	*s-  *č	*s-  *č	*s-  *t
12.	*č- *č	*d- *č	*d- / ǰ[i] *č	*s *ǰ-, *-s-	*č *č	*t- *-s-
13.	*ǰ *ǰ	*j- *j	*ǰ *ǰ	*ǰ *ǰ	*č- *č	*d- *j
14.	*ń- *ń	*j- *ń	*ǰ- *j, n	*ń- ń	*n- *ń	*m- *n, *m
15.	*r'  *l'	*r'  *l'	*r  *l	*r  *l	*r  *r	*r / t[i, u]
16.	*l'- *l'	*j *l'	*d- / ǰ[i] *l	*l *l	*n- *r	*n- *s
17.	*š- *š	*s- / *č[*A] *s	*s- / *č[*A] *s	*š- *š	*s- *s	*s- *s
18.	*j  *k'- *k'	*j  *k- *k	*j, h  *k, g[Vh] / -g	*j  *x- *k/x	*j, *∅  *k, h	*j, *∅  *k- *k
19.	*k- *k	*g- *k, g[(V)r]	*k-, -g- *g/-g	*k-, *g *k	*k- *∅, h / -k	*k- *k

23.	*g- *g	*g- *g	*g- *h [= γ], g[Vh] /-g	*g- *g	*k- *∅, h / -k	*k- *k / [*iV]∅
24.	*ŋ- *ŋ	*∅, *j- *ŋ	*∅, *j- / g[u] /n[a, o, e] *ŋ, n, m, h	*ŋ- *ŋ	*n- *ŋ, ∅	*∅ / *n- (/*m[i]-) *m / *n

In the following text (pp. 25-90) all consonant correspondences are commented in details. In the end of this part a synoptic table of the consonant clusters is presented. Very important is the explanation of the problem of Khalaj *h-* (pp. 26-28). For G. Doerfer it is always a witness of the Altaic \**p'*- (1971, 1981-82). The authors of EDAL conclude: 'absence of *h-* in Khalaj is therefore an almost certain sign of \**∅*- (or \**ŋ*) in Altaic, but its presence may be original or secondary.'

The most radical change in confrontation with the 'classical' Altaic reconstructions were realized in vocalism (pp. 90-135). The authors reconstruct five vowels \**i*, \**e*, \**u*, \**o*, \**a* and three diphthongs \**iu*, \**io*, \**ia* which have to occur only in the first syllable. They admit that the diphthongs could also be reinterpreted as \**ü*, \**ö*, \**ä* respectively. The most revolutionary change consists in the idea of the influence of the vowel of the last syllable (usually lost) on the preceding vowel, i.e. *umlaut*. It means, the quality of the vowel of the first syllable in the Altaic proto-language should depend on the quality of the vowels of the following syllable(s). A similar principle is accepted in Uralic & Fenno-Ugric linguistics for a long time. Tungus languages preserved the vocalic system best of all; that is why they are quoted at the first column. The authors summarized the vocalic correspondences as follows (pp. 92-93):

Proto-Altaic	Proto-Tungu	Proto-Mongolian	Proto-Turkic	Proto-Japanese	Middle Korean
	s				
*a...a	a	a	a (Pa-/Pa-)	a	A
*a...e	a	a [i]	a-, i	ə	A
*a...i	a	a [e]	e [a]	i	A [i]
*a...o	a	a [i, e]	o (ja, aj)	a	ǎ [o]
*a...u	e	a [U]	a	u	A [U]
*e...a	e	a [e]	a (a) [e]	a	A
*e...e	e	e (ja-)	e (eR; ja-)	ə	A [i, i]
*e...i	e	e [i]	e (eR; ja-)	i	i [i, A]
*e...o	e	a [e, Pü/Pö, üP/öp]	a [e]	ə [a]	ǎ [U]
*e...u	e	e [a, Po, oP]	e [a, a]	u	U [a]

*i...a	i	i	ï [i]	a	A
*i...e	i	e [i]	e (eR)	i	i [ï]
*i...i	i	i (Pe)	i	i	I
*i...o	i	i	ï	i [ə]	U [ï]
*i...u	i	i	ï [i]	u	i [ï]
*o...a	U	U	o	a	Ā
*o...e	U	ö [ü, o]	ö [o]	ə	ï [U]
*o...i	U	ö	ö [o]	u	U
*o...o	U	u	o	ə	Ā
*o...u	U	U	o	u	ă [U]
*u...a	U	a [U]	u [o]	a	A
*u...e	u	U [ü, o]	ü	ua (Pa-)	ă [A]
*u...i	u	ü [ö]	ü [u]	u	U [ï]
*u...o	U	U	u	ə	U [ï]
*u...u	U	U	u	u	U
*ïa...a	ia (Si)	a	ia, ja [e]	a	ă (Pa, aP)
*ïa...e	i	i [a, e]	ia, ja	ə	i [(j)ə]
*ïa...i	ia (Si)	i [e]	ia, ja [e]	i	ă [(j)ə]
*ïa...o	U	e	ia, ja, Pa	a	ă [U]
*ïa...u	U	a, U	e, a, Pa	u	U [(j)ə]
*ïo...a	U	a, U	ia, ja, Pa	a	U [ă]
*ïo...e	U	e, ö	e, a, Pa	ə [u]	U [jə]
*ïo...i	U	i [e, ö]	ia, ja, Pa	i	U [ă]
*ïo...o	i	ö [ü, U]	o [u]	ə [a]	i, (j)ə
*ïo...u	ia (Si)	e [i, u]	u [o]	u	ă [u, jə]
*ïu...a	U	U [i]	ï	a	A
*ïu...e	ü, Pu	ö [ü, U]	ü, iR [ö]	u [ə]	(j)A [U]
*ïu...i	i (Pu-)	ö [ü, U]	ü [ö]	i	ï (I, U)
*ïu...o	ü	U	u [o]	u [ə]	(j)A [U]
*ïu...u	U	i [U, ü, ö]	ï	u	U (i, ï)

Used symbols: A = a ~ ə, P = labialized consonant, R = liquid resonant, S = fricative (s, š, x), U = u ~ o.

Again, all vowel combinations are demonstrated in details (pp. 93-134). The Chapter Two is terminated by the basic information on prosody (pp. 134-135):

Proto-Altaic	Proto-Tungus	Proto-Turkic	Proto-Mongolian	Korean	Japanese
*ŷ'	*ŷ	*ŷ	*ŷ	*ŷ	*ŷ'
*ŷ	*ŷ	*ŷ	*ŷ	*ŷ'	*ŷ
*ŷ'	*ŷ	*ŷ	*ŷ	*ŷ	*ŷ'
*ŷ	*ŷ	*ŷ	*ŷ	*ŷ'	*ŷ

The Chapter Three (pp. 136-172) is devoted to the detailed description of the comparative-historical phonologies of the Altaic branches (Turkic by A. Dybo; Mongolian by O. Mudrak; Tungus by A. Dybo & S. Starostin). This part again moves with the level of the individual disciplines beyond the traditional borders. I believe, its contribution could accept even the most confirmed opponents of Altaic as the genetic unity. The Chapter Four (pp. 173-229) represents a comparative morphology of Altaic languages. It starts with the determination of the derivational suffixes forming the nominal and verbal structures. The case and number suffixes are reconstructed as follows (p. 221-22):

Proto-Altaic	Proto-Tungus	Mongolian	Old /Proto-Turkic	Middle Korean	Old Japanese
Nom. *∅	*∅	∅	∅	∅	∅
Acc. *be	*ba / *be				wo
Part. *ga	*ga	*-γ Acc.	-(ï)γ / -(i)γ		ga Poss.
Gen. *-ñV	*γi	*n	η	-ñ	no
Dat.-Loc. *du/da	*du Dat. / *-dā- Loc.	-da Dat.-Loc.	-ta/-da/-te/-de		-tu Attr.-Loc.
Dat.-Instr. *-nV		-du Attr.	Loc.-Abl.		ni Dat.-Loc.
Dat.-Dir. *-k'V	*kī Dir.		-qa/-ke Dat.		
Com.-Loc. *-lV	*lā Loc. / *-lī Prol. / *-luya Com.		-li, -lī-γ	-ro Instr.-Lat.	
Com.-Equ. *-č'a		ča Abl. / ča(γa) Term.	-ča/-če Equ.		to Com.
All. *-gV	*gī All.	*-(γ)a	-γa-ru/-ge-rü	- 'əi Dir.	
Dir. *-rV		-ru Dir.	-γa-ru/-ge-rü	-ro Lat. Dir.	

Instr.-Abl. *žV	*i		?(j)a terminal dat.	ju Abl.
Sgl. Du.	*-nV *-r V Pl.	*-n *-r Pl.	*-r paired objects	*-rə paired objects
Pl.	*-t'-	*-ta(n) / *-te(n)	-d *-t	*-ti-r *ta-ti
Pl. Pl.	*-s- *-l-	*-sa-l *-l	*-s *-nar	*-lar *ra

Abbreviations: Abl. Ablative, Acc. Acusative, All. Allative, Attr. Attributive, Com. Comitative, Dat. Dative, Dir. Directive, Du. Dual, Equ. Equative, Gen. Genitive, Instr. Instrumental, Lat. Lative, Loc. Locative, Nom. Nominative, Pl. Plural, Prol. Prolative, Poss. Possessive, Prolative, Sgl. Singulative, Term. Terminative.

The Altaic pronominal system is reconstructed as follows (p. 225):

	Proto-Altaic	Turkic	Mongolian	Tungus	Middle Korean	Proto-Japanese
Sg. 1a	*b ĭ, obl. *mi-ne-	*be, obl. *men	*bi, obl. *min-	*bi, obl. *mi-n-		*bà- "I & we"
Sg. 1b	*ŋa		obl. *na-d-/- m-		nà	*a-
Sg. 2a	*si, obl. *si-n-	*se, obl. *sen		*si		*si
Sg. 2b	*t'i		*či			
Sg. 2c	*ná	*-ŋ 2 sg.			*nə	*ná
Pl. 1a	*ba, obl. *mĭu-n-	*bi-r'	*ba, obl. *man-	*bue, obl. *mü-n-	úri	*bà- "I & we"
Pl. 2a	*su, obl. *su-n-	*s		*sū, obl. *su-n-		
Pl. 2b	*t'a		*ta			

In the Chapter Five the glottochronology is applied for Altaic languages. The results reached in EDAL are not quite identical with those proposed by Starostin in 1991, but the differences are insignificant (p. 234):

%	Mongolian	Tungus	Korean	Japanese
Turkic	25	25	17	19
Mongolian		29	18	22
Tungus			23	22
Korean				33

According to the authors, the average percentage around 20% implies the primary disintegration in the end of the 6th mill. BC., while the dating of the disintegrations of the daughter branches are considerably younger: Tungus – 4th cent. BC, Turkic – around the beginning of our era, Japanese – 5th cent. AD, Mongolian – 10th cent. AD, Korean – 11th cent. AD. Applying so called Jaxontov's test confronting the inherited and borrowed lexicon, the authors conclude, these five branches form three higher taxonomical units: western = Turkic & Mongolian, central = Tungus, eastern = Korean & Japanese.

The Etymological dictionary proper is introduced by information about the *Structure of the Dictionary and adopted conventions* (pp. 237-240). Very important is the overview of the quoted languages with their main sources. Systematically are quoted the following languages:

Turkic: Old Turkic, Karakhanide Turkic, Turkish, Gagauz, Azerbaidzhan, Turkmen, Salar, Khalaj, Uzbek, Uyghur, Karaim, Tatar, Bashkir, Kirghiz, Kazakh, (Karachay-) Balkar, Kara-Kalpak, Kumyk, Noghai, Sary-Yughur, Khakas, Shor, Oyrot = Mountain Altai, Tuva, Tofalar, Yakut, Dolgan, Chuvash.

Mongolian: Written Mongolian, Middle Mongolian, Khalkha, Kalmuck, Ordos, Mogol, Dagur, Dongxiang, Baoan, Shira-Yughur, Mongor.

Tungus: Jurchen, Spoken Manchu; all other idioms are quoted according to *TMS*.

Korean: Middle Korean, Modern Korean; occasionally also Silla & Koguryo.

Japanese: Old Japanese, Middle Japanese, Modern Japanese, including dialects.

Some of languages are missing, although their absence cannot change the proposed reconstructions:

Turkic: Altai (Kogunbaeva 1991).

Mongolian: Dariganga (Róna-Tas 1961), Khamnigal Mongol (Janhunen 1990).

Two Mongolian idioms, Tabgač and Kitan, recorded in the Chinese characters reflecting the late Middle Chinese pronunciation (Doerfer 1992, Vovin 2003), and in the case of Kitan also in the own system of characters (Chinggeltse 2002), several centuries earlier than Old and Middle Mongolian, are omitted too, although they have still preserved e.g. *p-* as the reflex of Altaic *\*p'-/ \*p-*. Let us mention the most important additions to the Mongolian corpus of EDAL:

Ad *\*ák'a* "elder brother" (p. 281-82) – add Tabgač *\*agan* (*a-kan*) id. = Sien-Pi *agan* id. (Doerfer 1992, 44).

- Ad **\*álV** "variegated" (p. 291) – add Tabgač **\*halan** (*ho-lan*) "gefleckt" (Doerfer 1992, 45).
- Ad **\*ánu** "moon (cycle); year" (pp. 303-04) - add Kitan *ai* "year" (Chinggeltei 2002, 107).
- Ad **\*áp'a** "father" (p. 310) - add Kitan *ai* "father" (Chinggeltei 2002, 107); concerning a specific development of the medial consonant, cf. Mongolian of the Zirni ms. *ɔ:γɔ:j*, Sary-Yughur *awi*, Monguor *āwa*, *āya* etc.
- Ad **\*čjoberV** ~ **\*č'jabuŕV** "salt, bitter, acid" (p. 398-99) – add Kitan *daysu* (*tao-ssü*) "salt" (Doerfer 1992, 47).
- Ad **\*č'abu** "army, war" (p.406-407) – add Kitan **\*ča'ur** (*ch'ao-wu-êrh*) "raid" (Doerfer 1992, 47).
- Ad **\*dò** "inside, middle" (p. 481) – add Kitan **\*dauan-u** "Mitte", cf. Daghur *duanda* "middle" (Doerfer 1992, 49).
- Ad **\*ép'V** "grandfather" (p. 515) – add Kitan **\*ebüge** (*i-pu-ko*) "Greis" (Doerfer 1992, 47).
- Ad **\*édV** "host, husband" (p. 493-94) – add Tabgač **\*ejen** (*i-chan*) "father's brother" (Doerfer 1992, 45).
- Ad **\*éjV** "cloud, darkness" (p. 512) – add Tabgač **\*eülen** (*yu-lien*) "cloud" (Doerfer 1992, 45).
- Ad **\*gojV** "different, other" (p. 563) – add Kitan **\*xo** "two; second" (Starikov 1982, 125).
- Ad **\*gūri** "wide, broad, thick" (p. 573-74) – add Kitan **\*gür xan** (*ko-êr-han*) "oberster Herrscher" (Doerfer 1992, 48).
- Ad **\*(l)ape** ~ **\*ipe** "cold, winter" (p. 589) – add Kitan **\*uul** "winter" (Doerfer 1992, 49) = **\*u'ul** "winter" (Chinggeltei 2002, 107).
- Ad **\*jaru** "young of animal" (p. 603) – the closest parallel to Karakhanide *arqun* "crossbred horse", Uyghur *a(r)γun*, Kirghiz *arγin* occurs in Tabgač **\*(h)aryun** (*ho-lu-hun*) id. (Doerfer 1992, 45). If it is not a Turkic borrowing in Mongolian, it is incompatible with the Tungus-Mongolian isogloss "young".
- Ad Mongolian **\*je(r)-sün** "nine", **\*jiren** (p. 224), **\*jerin** "ninety" (p. 1545) - add Kitan **\*is** "nine" (Chinggeltei 2002, 107).
- Ad **\*jūnu** "cow" (pp. 619-20) - add Kitan **\*unj** "ox" (Chinggeltei 2002, 107) = **\*un** (Vovin 2004, 121).
- Ad **\*k'áp'ù** "barrier" (p. 765-66) – add Tabgač **\*qaβayčïn** (*k'o-po-chên*) "Türhüter", Kitan **\*qaβayčï** (*ho-pa-chih*) "Kleiderwart" (Doerfer 1992, 45, 48), where the original medial labial is still preserved.
- Ad **\*lābò** "more, better" (p. 859-60) – add Kitan **\*nai** (*nai*) "erster" (Doerfer 1992, 48).
- Ad **\*mjūko** "snake" (p. 932) - add Kitan **\*moγo** "snake" (Chinggeltei 2002, 107) = **\*mogo** (Vovin 2004, 121).
- Ad **\*mjūri** "water" (p. 935) – add Kitan **\*mōrə** (*mu-li*) "river" (Doerfer 1992, 48).
- Ad **\*mori** "horse" (pp. 945-46) - add Kitan **\*mori** "horse" (Chinggeltei 2002, 107; Vovin 2004, 121).
- Ad **\*nad[ɹ]** "seven" (pp. 959-60) - add Kitan **\*dol** "seven", **\*doluwei** "seventh" (Chinggeltei 2002, 107).
- Ad **\*háme** "goat; deer" (pp. 1003-04) - add Kitan **\*ema** "sheep" (Chinggeltei 2002, 107; Vovin 2004, 121).
- Ad **\*há mò** "hundred" (p. 1004-05) – add Kitan **\*jau** (*chao*) id. (Doerfer 1992, 48) = **\*žaw** id. (Chinggeltei 2002, 107).
- Ad **\*nú-** "six" (p. 1020) - add Kitan **\*nir** "six", **\*nirwei** "sixth" (Chinggeltei 2002, 107) with the original initial nasal, which was replaced by **ž** in all later documented languages.
- Ad **\*jērà** "day, sun, light" (p. 1028-29) – add Kitan **\*nārĕ** (*nieh-la, nieh-i-êrh*) "day" (Doerfer 1992, 48) = **\*nær** id. (Chinggeltei 2002, 107).
- Ad **\*jĭāk'u** "dog, wolf" (p. 1030) – add Kitan **\*nōγə** ~ **\*nōyə** (*nieh-ho*) "dog" (Doerfer 1992, 48) = **\*noxi** id. (Chinggeltei 2002, 107) = **\*n[ʰ/ʰ]x[ə]i** (Vovin 2004, 121).
- Ad **\*j[iu]** "three" (p. 1032-33) - add Kitan **\*γur** "three", **\*γuruwei** "third" (Chinggeltei 2002, 107).
- Ad **\*p<sup>(c)</sup>ùnV** ~ **\*-o-** "year, spring/summer" (p. 1110-11) – add Kitan **\*po** (*-p'o* in *hsia-li-p'o* "invitation-time") "time" (Doerfer 1992, 48) = **\*p'o** "time" (Chinggeltei 2002, 107).
- Ad **\*sajri** "to stick out, protrude, stand" (p. 1200) - add Kitan **\*sarbai** "plentiful" (Vovin 2003, 240).
- Ad **\*sĕgù** "healthy; blood" (p. 1224) – add Kitan **\*šā** (*shê*) "good" < Mongolian **\*sajin** "good" (Doerfer 1992, 48).
- Ad **\*sĕp'ó** "(inner) side" (p. 1233) – add Kitan **\*suan** (*suan*) "heart and stomach" (Doerfer 1992, 48).
- Ad **\*sipV** "a kind of small bird" (p. 1257) – add Kitan **\*šauā** (*shao-wa*) "falcon" (Doerfer 1992, 48).
- Ad **\*sĭono** "night" (pp. 1280-81) - add Kitan **\*sunj** "night" (Chinggeltei 2002, 107).
- Ad **\*tĭubu** "two" (p. 1374) - add Kitan **\*čur** "two", **\*čuruwei** "second" (Chinggeltei 2002, 107).
- Ad **\*tōj-** "four" (p. 1377) - add Kitan **\*dur** "four" (Chinggeltei 2002, 107).
- Ad **\*r'ábá** "foot(wear)" (p. 1389-90) – add Tabgač **\*tabag-** in **\*tabagčïn** (*to-po-chên*) "infantry-man", i.e. "foot-soldier" (Doerfer 1992, 46).
- Ad **\*r'angiri** "oath; God" (p. 1402) – add Tabgač **\*teŋgirin** (*ch'i-lien*) "heaven", Sien-Pi *tenkirin*, Hsiung-Nu *čęŋli* (Doerfer 1992, 46). It is generally accepted (including EDAL) that Mongolian **\*teŋeri** "heaven" is borrowed from Turkic.
- Ad **\*r'áp'o(rV)** "earth, dust" (p. 1404) – add Kitan **\*tauwəs** (*t'ao-wei-ssü*) "dust", Sien-Pi *taučin* (Doerfer 1992, 49).

Ad *\*t'ə̀bà* "to run" > Turkic *\*tabılǵan* "hare", Mongolian *\*tawlai* id. (p. 1408-09) – add Kitan *\*taɥlə* (*t'ao-li*) id. (Doerfer 1992, 49) = *\*t'aulia* "rabbit" (Chinggeltei 2002, 107) = *\*taulia* (Vovin 2004, 121). The most archaic form allowing the reconstruction *\*tablgai* is preserved in the Armenian transcription *t'ablyay* in the chronicle of Kirakos of Gandzak from 1241 (Ligeti 1965, 283).  
 Ad *\*t'égè(-rV)* "edge, border" (p. 1410-11) – add Tabgač *\*teyč'in* (*chieh-chên*) "Umgebung des Herrschers" (Doerfer 1992, 46).  
 Ad *\*t'jâk'â* "hen" (p. 1431) – add Kitan *\*t'axia* "chicken" (Chinggeltei 2002, 107) = *\*tax[ə]ia*.  
 Ad *\*tj'òso* "help, benefit" (p. 1439-40) – add Kitan *\*tüsie* (*t'ou-hsia*) "Präfektur" (Doerfer 1992, 49).  
 Ad *\*t'j'ũnyá* "a kind of predator" (p. 1444) – add Tabgač *\*čino* (*ch'i-nu*) "wolf" (Doerfer 1992, 45).  
 Ad *\*t'u* "five" (p. 1466) – add Kitan *\*tay* (*t'ao*) id. (Doerfer 1992, 49), *\*t'owo'oi* "fifth" (Chinggeltei 2002, 107).  
 Ad *\*zə̀jna* "new" (p. 1510) – add Kitan *\*šen* "new" (Chinggeltei 2002, 107).  
 Ad *\*zə̀ra* "light; moon" (p. 1512) – add Kitan *\*sär(ə)* (*sai-i-êrh*) "month" (Doerfer 1992, 48) = *\*sær* "moon" (Chinggeltei 2002, 107).  
 Ad *\*zj'úla* "spine, nape" (p. 1521) – add Tabgač *\*šilu* (*shih-lou*) "high" ~ Written Mongolian *sili* "mountain ridge; nape, back of head" < *\*silui* (Doerfer 1992, 46).  
 Ad *\*žáli* "to ask, invite, lend" (p. 1525) – add Kitan *gjalə* (*hsia-li-p'ə* "invitation-time") "to invite; invitation" (Doerfer 1992, 47).

The archaic representants of the eastern branch of Altaic, Silla and Koguryo, are not omitted here. According to the Index (p. 1724) there are 19 words from Koguryo and 2 from Silla included into EDAL. In the remarkable study of Yoshizo Itabashi published in the same year as EDAL (2003) there are several important supplements. Let us also add the Silla, Paekche, and Koguryo forms cited by Lee (1977).

Ad *\*bétà* /*\*pédà* "sea; ford" (p. 340) – add Koguryo *\*patan* "ocean" (Itabashi 2003, 149), Silla *\*patər* "sea" (Lee 1977, 80).  
 Ad *\*bóli* "kind of cedar, pine" (p. 371) – add Koguryo *\*bus(i)*, Middle Korean *pus* "pine" (Itabashi 2003, 139).  
 Ad *\*kjà̀mù* "beaver; bear" (p. 688) – add Koguryo *kum* ~ *kun* "bear" (Itabashi 2003, 144).  
 Ad *\*kũ̀ŋi* "child" (p. 742) – add Koguryo *\*gu* "child" (Itabashi 2003, 140).  
 Ad *\*k'amp'a* "top (of head)" (p. 687-88) – add Koguryo *\*kan* "head" (Itabashi 2003, 141).  
 Ad *\*k'òk'è* "breast; heart" (pp. 713-14) – add Koguryo *\*kor* "heart; mind" (Itabashi 2003, 143); with the reflex of the final *\*-r'* occurring also in Turkic *\*gòkür* and Old Japanese *kokoro*.

Ad *\*k'ume* "black; coal" (p. 852) – add Koguryo *\*kəmur* & Silla *kəmur* "black", directly compatible with Turkic *\*kömür* "coal" (Itabashi 2003, 142).  
 Ad *\*mjali(-k'V)* "bright; to shine" – add Paekche *\*marke* "bright" (Lee 1977, 41).  
 Ad *\*mjüri* "water" (pp. 935-36) – add Silla *mur*, Koguryo *\*mey* "river, water" < *\*mer* (Itabashi 2003, 146-47).  
 Ad *\*mórV* "horse" (p. 945) – add Koguryo *\*meru* "colt" (Itabashi 2003, 146).  
 Ad *\*mũro* "tree, forest" (p. 956) – add Silla *\*murih* "mountain" (Lee 1977, 80).  
 Ad *\*najV(rV)* "lake, river" (p. 961) – add Silla *\*narih* "river" (Lee 1977, 80), which indicates the reconstruction *\*najVrV* as only satisfactory.  
 Ad *\*páko* "rock, cliff" (p. 1074) – add Koguryo *\*paʔiy* ~ *\*paʔey* "cliff, rock, precipice" (Itabashi 2003, 149).  
 Ad *\*p(ə)òki* "deep" (p. 1104) – add Koguryo *\*puk* "deep" (Itabashi 2003, 150).  
 Ad *\*sira/u* "hill, mountain" (p. 1258-59) – add Koguryo *\*šüri* ~ *\*šüni* "top of mountain" (Lee 1977, 38).  
 Ad *\*sjári* "earth; sand; marsh" (pp. 1269-70) – add Koguryo *\*sork* "soil" (Itabashi 2003, 151).  
 Ad *\*tə̀mò* "root; strength, soul" (p. 1364-65) – add Koguryo *\*cam* "(tree) root" (Itabashi 2003, 140). Let us mention that the correspondence of Turkic *\*d-*, Mongolian *\*d-*, Japanese *\*t-* and Korean *\*č-* indicate proto-Altaic *\*č-* (rule #14).  
 Ad *\*tj'ólí* "stone" (p. 1373) – add Paekche *\*turak* id. (Lee 1977, 41).  
 Ad *\*t'ə̀ŋà* "lowland" (p. 1417) – add Koguryo *\*t(w)ən* ~ *\*t'ən* "valley" (Itabashi 2003, 155).  
 Ad *\*t'òŋké* "round" (p. 1459) – add Koguryo *\*tawnpi* "round" (Itabashi 2003, 152).  
 Ad *\*t'u* "5" (p. 1466) – add Koguryo *\*uc* "5" < *\*uti* (Itabashi 2003, 154).  
 Ad *\*úsu* "animal; cow" (p. 1505) – add Koguryo *\*su* ~ *\*siu* "cow, cattle" (Itabashi 2003, 151).  
 Ad *\*zə̀jna* "new" (p. 1510) – add Koguryo *\*su* "new" (Itabashi 2003, 151), Paekche *\*sa* id. (Lee 1977, 41).  
 It is important to stress, all these additions are in a good agreement with the proto-Altaic reconstructions proposed by the authors of EDAL. There are only two exceptions, both numerals:  
 Koguryo *\*mir*, Silla *mir* "3" corresponds exactly with Old Japanese *mi-*. In EDAL (pp. 1032-33) proto-Japanese *\*mi-* "3" is compared with Mongolian *\*gu(rban)* "3" and Turkic *\*otur* "30" or *\*üč* ~ *\*öč* "3" and all is derived from pAltaic *\*ŋ[iu]*.  
 Koguryo *\*tok* "10" has been compared with Old Japanese *towo* "10" (Itabashi 2003, 152), but in EDAL (p. 398) only the comparison with Tungus *\*žuban* "10" is accepted.

## Conclusion

The Etymological Dictionary (pp. 271-1556) consists of c. 2.800 etymologies, usually based at least on three branches. The Tungus and Mongolian lexical data represent first comparative lexicons in other languages than in Russian (*TMS*; Todaeva 1960, 1961, 1973, 1986) or Chinese of this size. The Turkic data are collected from 28 idioms. It is comparable only with the 'Etymological Dictionary of the Turkic Languages' from Severtjan and his followers (1974f), but the last published volume covers only the letters *k* & *q*. The Middle Korean or Old Japanese lexical data have been usually published only in Korean or Japanese respectively. Now all these data are available with English glosses and the equivalents in the modern languages. It means, EDAL could be on service even for hardened anti-Altaicists for orientation in Turkic, Mongolian, Tungus, Korean or Japanese lexicons separately.

The proto-Altaic reconstructions follow especially the Tungus branch, in contrary to the reconstruction of Poppe (1960) who preferred the Mongolian branch. On the other hand, practically all correspondences and etymologies postulated by Poppe are accepted in EDAL, they are only significantly expanded and supplemented. From the point of view of methodology the approach of the authors is strictly based on the comparative-historical method developed for the Indo-European languages. Their careful demonstration of every sound rule, including accent, it is the best witness. Maybe the weakest point of the present etymological dictionary consists in semantics. The semantic differences are sometimes rather big. In combination with the system of the sound correspondences, which is very complex, it is possible to find other alternative etymological solutions, too. As an example of such alternative can serve the etymological study of the Altaic numerals published by the present reviewer (1997).

Summing up, the Etymological Dictionary of the Altaic Languages represents a unique, pioneering work of monumental size, usable for specialists in many disciplines. The serious approach of the authors moves the scientific comparative studies in the Altaic languages far forward.

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