Vowel alternation in disyllabic reduplicatives: an areal dimension

Many English sound-symbolic reduplicatives are known to exhibit the vowel alternation patterns of /ɪ/-/æ/ and /ɪ/-/ɒ/ (e.g. in *zig-zag* and *ding-dong*) where the first vowel is higher than the second vowel (shown below with ↓).

A number of other languages also have their preferred patterns of vowel alternation for disyllabic sound-symbolic reduplicatives (hereafter DSRs). For example, German, Chinese, Korean, and Vietnamese DSRs, like English DSRs, show a clear preference towards vowel alternation patterns of type ↓.

On the other hand, vowel alternation patterns of type ↑ 'low vowel - high vowel' where the vowel in the reduplicant is higher than that in the 'base' (e.g. *tak tuk*) is prevalent in Turkic DSRs.

There are also languages in which no clear preferred vowel alternation patterns (↕) are identifiable in their DSRs. Mongolian, which has both *far fɜr* 'low-high' and *fɜr far* 'high-low' exemplifies this group of languages.

Tatar (Turkic)
çac-çoc, çaj-çoj, dañ-doñ, ğolt-ğılt, käk-kük, laç-loç, lap-lop, şalt-şolt, şap-şop, şaq-şoq, şar-şor, tıq-tuq, yalt-yolt

Tatar in China (Turkic)
ʃart-ʃyrt, jalt-jəlt, jalt-jult, ʁarʧ-ʁərʧ, tars-turs

Turkish (Turkic)
çak çuk, fan fin, paf puf, şap şup, şarp şurp, tak tuk, etc.

Uzbek (Turkic)
qars-qurs, tars-turs, yalt-yult

Kazakh (Turkic)
bazh-buzh, bal-bul, zharq-zhurq, zhalt-zhult, zhalp-zhulp, zhang-zhung, qalt-qult, qalsh-qulsh, qabil-qubil, sart-surt, tars-turs, taq-tuq, shaq-shuq, shart-shurt, shang-shung

Kyrgyz (Turkic)
tars-turs, calt-cult, cılt-cult, kılt-kult

Modern Uyghur (Turkic)
par-pur, şar-şur, tang-tung, taq-tuq, vaj-vuj, val-vul

Qarakhanid (11ᵗʰ Century Turkic)
çak çuk, çar çur, kar kur, taŋ tuŋ, şal şul, çalk çulk, çart çurt, kart kurt, karç kurç, çāğ çūğ, kāv kūv, kāğ kūğ, kāk kūk, yāb yūb, yāk yūk, sart sırt

Manchu (Tungusic)
(Colloquial) *far fɜr, fɜr far, ʧip tʂap,* (Literary) *cib-cab, cu-ca, kab-kib, kas-kis, or-ir, pak-pik, tab-tib, tak-tik, tob-tab, bar bir, biŋ b'aŋ, gar gir, gur gar, лер лар, m'ar mir, muŋ maŋ, o a, puk pak, ŋɛi ŋɑi, pes pis, tak tik, taŋ tiŋ, teŋ taŋ, tuŋ taŋ, tur tar, fak fik, f'ak fik, fu fa, xuŋ xoŋ, xɛi xɑi, čar čir, ču ča, čuk čak, čur čar, šor šar, šuša, ʒǐk ʒak, ʒǐr ʒar*

Mongolian (Mongolic)
puy-pay, pül-pol, püypay, şar-şir, şar-şor, şar-şur, şir-şor, tür-tar, tüs-tas, sar-ser, pay-puy, tal-tul, dez-duz, jig-jug, den-dun

Persian (Iranian)
dānb dunb, hāy huy, rim rām, šap šāp, taq tuq, tik tāk

Tuvan (Turkic)
тоң-таң, тог-туг, тик-так, бим-бом, бурт-барт

Nanai
(in China) *soa-sao, tɕir-tɕar,* (in Russia) *кэ-ку*

Korean (Isolated)
kkung-kkwang, ppi-ppay, ssuk-ssak, thuk-thak, thung-thang, ttokttak, ttuk-ttak, ttwukttak, ttwukttek

Chinese (Sino-Tibetan)
bi-bo, di-da, ding-dang, ping-pang, pi-pa, yi-ya, (**Cantonese**) *ding¹-dong³*
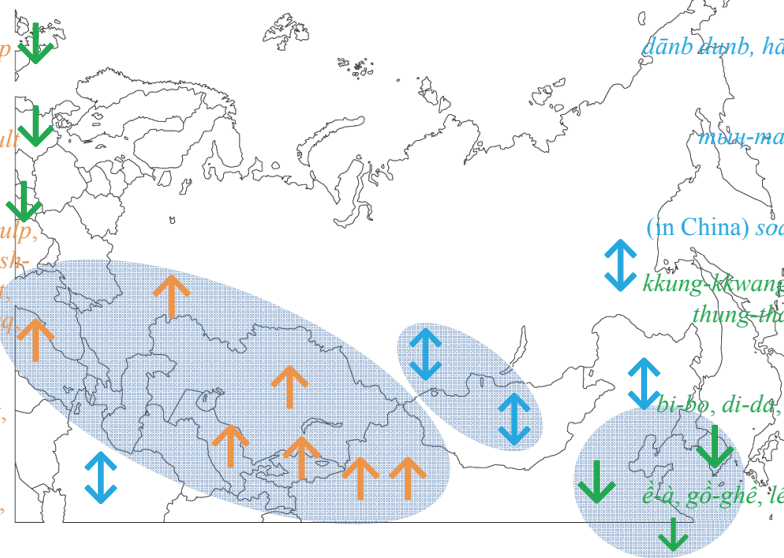
Vietnamese (Mon-Khmer)
ề-à, gồ-ghề, lê-la, rù-ró, tôi-tả, trúc-trắc, trục-trặc, etc.

German (Germanic)
bim-bam, gick gack, klippklapp, piff paff, etc.

Hungarian (Finno-Ugric)
tik-tak, bim-bam, kip-kop, csit-csatt, csip-csup,

1. Korean, Chinese, and Vietnamese belong to different language groups but are geographically close to one another. Their DSRs are mostly of type ↓.

2. Vowel alternation type ↑ is utilized in all but one of the Turkic languages investigated here.

3. The only Turkic language under investigation here that utilizes type ↕ alternation is Tuvan, which has been under a strong influence of (Khalkha) Mongolian, a type ↕ language.

These observations appear to point to the arealty (and perhaps also to the genetic nature) of vowel alternation patterns in disyllabic sound-symbolic reduplicatives.