Materials for the Historical Phonology
of the Mongol Language

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I.   On the Vowel Alternation in the Altaic Languages

1. The publications of both *Das Schriftmongolische und die Urgamundart phonetisch Verglichen*[1] by G. J. RAMSTEDT and *Sravniteljnaä Grammatika Mongoljskogo Pisjmennogo Äzyka i Khalkhaskogo Narjechiä*[2] by B. Ä. VLADIMIRCOV brought a remarkable progress on the branch of comparative linguistics of so-called Altaic languages as well as on that of Mongolian. The presentation and the examination of the numerous new materials which turned up afterwards, and the progress in the methodology of linguistics itself, however, have come to make it necessary to re-examine the various kinds of theories in the works mentioned above and to systematize them newly.

Speaking of the branch of comparative phonemics, such a statical law for correspondence between phonemes as has hitherto been stated is generally little effective to the verification of affinity between the Altaic languages. As for Mongolian, Türk and Tungus, it cannot be safely declared that the affinity between those languages is duly verified until, with respect to the vowel, not merely the correspondence in quality but also in quantity, that is, in length, has been brought to light, and such an intrinsic mutual relationship of some sort between phonemes as can be observed in the vowel gradation 'Ablaut' of the Indo-European languages, or as in the old Japanese irregular verb /kö-~ki-~ku-, kur-/ (whose conjugation is called in Japanese grammar ≪Kagyo henkaku≫, and consequently the functional value of each phoneme, have been explained in terms of 'Ursprache'[3].   Among languages which come into contact with each other and have closer relation in culture, borrowing can of course be

(1) Das Schriftmongolische und die Urgamundart phonetisch verglichen. JSFOu, Helsinki, 1902.
(2) Sravniteljnaä Grammatika Mongoljskogo Pisjmennogo Äzyka i Khalkhaskogo Narjechiä. Leningrad. 1929.
(3) As stated below, it is noteworthy that we find in the Altaic languages and Korean what can be regarded as of the same stock as every root of this old Japanese verb. For instance, we have   *

made not only of vocabulary but of morpheme like various kinds of stem-
formative elements, conversional and inflectional endings, and somewhat re-
gular phonemic correspondences can also be found easily between them[4].
The present study is intended to deal with a kind of vowel alternation /a/~
/ï, i/ in the Altaic languages from this standpoint of view[5].

2. As has already been elucidated by our pioneers, B. Ä. VLADIMIRCOV, A.
VON GABAIN, Martti RÄSÄNEN, in Mongolian and Türk languages[6], exist
very many instances where the alternation of vowel phonemes seems to occur
in the word or stem which is regarded to have the same meaning. By way
of examples for the vowel alternation /a/~/ï, i/ which is to be dealt with in
this study, VLADIMIRCOV enumerates the following cases in his VSG[7].

2.1. Mo. alχum~ilχum "le pas, marche; chemin, route., etc."=Ord.
alxum "pas, unité de mesure", Kal. alxɐm "schritt, tritt", Khar. alxŭm "id.",
Bury. alxa, "id.", Mgr. arϑu "id." The stem can be taken as alxu- ← *al-qu-[8].

2.2. Mo. arɣamji~irɣamji "cord, lien, amarre, lacet: plaque de fer qui
est de chaque côté du mors de la bride, et qui ne sert que pour l'agrément",
arɣamji-~irɣamji- "attacher avec un corde (p. ex., un cheval, de façon qu'il
puisse paître au loin.)"=Ord. arϑamdʒi "longue corde dont un des bouts est
attaché à un piquet et l'autre à l'animal qu'on veut laisser brouter", Kal.

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*   /ki-/: Tü. *kïr- (RLTS. p. 91): Uig, kir-, Osm. gir-, Chuv. kɐr- "eintreten"
        || Kor. *gi-, *gir- "to come" → NK. gïna- "to pass by" (RSKE, p. 112);
        /kö-/: Mo. kerü-, keri-, Kal. ker-, Kh. xer- "herumschlendern, hin und her
        streifen" || Tü. *käz-: Atü. Mtü. käz-, Osm. geç- "durchziehen" || Kor.
        gēs-~gēr- "to go on foot, to walk" (RSKE, p. 109); Tü. *käl-: Atü. käl-
        (Br.), käl-, Osm. gel- "kommen, zurückkommen."
        /ku-, ku-r-/: Mo. kür-, kal. kür- "erlangen, erreichen."
        (RAMSTEDT compares this Mongolian form with Türk *kïr- which is stated before.
        cf. RKW, p. 247).

(4)   As is generally known, we can find a regular correspondence between Sino-Japanese,
        Sino-Korean or so and the so-called 'Ch'ieh-yün-yin' in respect to the initial sound
        and the rhyme.

(5)   The present writer received much suggestions in this study from the following works,
        On the Affinity of Japanese with Ryukyuan, Korean and Altaic (Japanese Journal of Ethnology
        13–2), *On the Relationship of Japanese* (*The Japanese People* complied by the Japanese
        Anthropological Society) by Dr. Shirō HATTORI, *A Short Study on the Comparison of Vocabulary
        between Japanese and Korean* (*Japanese Language and Literature*) by Susumu ŌNO and also from
        the lectures on 'The Indo-European Comparative Grammar' given by Dr. Harushige
        KOZU at the seminar of the Literary Faculty of Nagoya University in 1952. And last
        but not least the present writer is very much obliged to Prof. Rokurō KŌNO for his
        kind instructions in Korean in this study.

(6)   cf. VSG, pp. 145–148, 149–155, 173–176; GAT, p. 49; RLTS, P.59ff.

(7)   As for the meaning of a word in the written Mongol, it is based on KDM. Literary
        forms which cannot be found in VSG are sometimes shown according to the reference
        books like KDM or so. And also, as a matter of convenience for the statement in §3
        and on, corresponding forms in Mongol dialects are occasionally given.

(8)   cf. RKW, pp. 7, 8.

arɤɛmdӡị "strick", arɤɛmdӡḷ- "(mit strick etw.) anbinden; (ein pferd) tüdern", Bury. ar9amӡi, ar9amӡa, S.-Mo. arɤamäï[9].

2.3. Mo. basir~bisir "ruse, astuce, finesse, fourberie, tromperie; mensonge."

2.4. Mo. balala-~bilala- "effacer, rayer"=Kh. balălă-, Ord. balala- "id.", Kal. balḷ-~bilḷ "beschmutzen, austilgen, wegstreichen (etwas geschriebenes); beschmutzen, beschmieren, undeutlich machen", Bait. bilĕlĕ-,—cf. balṛ "etwas besudeltes, undeutliches, unleserliches;" Mo. balar (RKW, p.31ᵇ). Mo. balamud, balamad "pétulant, polisson, celui qui parle sans penser, qui agit d'une manière inconséquente: absurde" (Kow, p1075ᵃ).

2.5. Mo. basil-~bisil- "méditer, réfléchir; s'occuper avec zèle, être exercé; s'habituer à qc., acquérir l'habitude ou l'adresse", bisilɤa- "id." =Ord. biʃal9a- "méditer, réciter (prières)", Kal. bisḷ- "nach etwas streben, sich jmd. vertrauen, vertraut werden", bisḷɤᴱ- "sich jmd. vertrauen, an etwas glauben, eifrig an etwas halten, eifern, andächtig sein".

2.6. Mo. naɤaldu-~niɤaldu- "se coller, être collé ensemble, s'attacher; coller, recoller"=Ord. nāldu-, Kal. nāldᴱ-, S.-Mo. nāld- "id"[10].

2.7. Mo. baǰiuna~biǰiuna "rod revenä"=Kal. badӡūnɐ "Rhabarber".

2.8. Mo. sarana~sirana "le lis bulbifère (lilium bulbiferum)" =Ord. sarānak "nom d'une plante: lil. tenuifolium Fisch, d'après Potanin(=sarānak öwösɯ)".

2.9. Mo. ӽali-r "de travers"~kilar "眼微斜" (「蒙文総彙」); kilar, kilaɤar, kilaɤur "qui voit de travers, qui regarde en louchant, louche" (Kow, p.2528ᵇ, p.2529ᵇ): kilayi-, kiluyi- "voir de travers; regarder en louchant, loucher" (Kow) =Ord. ӽalir "louche", Kal. ӽäl'r "schief, schräge", Ord. ӽali- "être louche", Kal. ӽal'i- "schief sein", Bury. xalaj- "id.".

2.10. Kh. bislă9,~Kh. biaslɛ9, Bait., Derb.-Kobd. baʃlă9 "rod syra", =Kal. baʃlḷ9 "süsskäse, käse aus süsser milch".

3. When we compare the forms of Mongol written language and Mongol dialects with the corresponding words, stems or roots of Korean or so in the other altaic languages, we have the following cases.

3.1.

1. Mo. /a/~/ï, i/ ‖ Tü., Tg., Kor., etc. /ā/, /a/~/ï, i/

2. 〃 /a/~/ï, i/ ‖   〃   /ā/, /a/

3. 〃 /a/~/ï, i/ ‖   〃   /ï, i/

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(9) arɤa-~irɤa- which is supposed to be root (or stem) can further be compared with Mo. irge: Kal. irgə "der untere rand des zeltes; ein filzstück, das den unteren rand aussen bedeckt", Mo. irgebči: Kal. irgəptʃi "filzgurt unten ringsum die zeltwand".

(10) Comparing with Tü. yapïš-"id.", RAMSTEDT assumes the root to be *ńawa-. cf. RKW. p. 27, 26. Contrary to this, VLADIMIRCOV assumes *nïwa-, though by the same comparison.

4. Mo. /a/ ‖ Tü., Tg., Kor., etc. /ā/, /a/∼/ĭ/

5. ″ /ĭ, i/ ‖ ″ /ā/, /a/

6. ″ /a/ ‖ ″ /a/∼/ja/

If we cite instances in order, they run as follows.

*aɣ-u-r: Mo. aɣūr.

3.1.1. Mo. *aɣ-: MMo. a'ur, Dag. aŭr, Khar. ōr, Mgr., Urd., Kh., Bury., Kal. ūr "anger"; Kal. aɣl- "vor änger weinen(?)" [RKW, p. 3ª. aɣˌla-;? Uig., Osm. aɣla- "weinen"]; *aɣ-sa-m: Kh. agsam "bujstvo, vspyljchivyj", Kal. aksm̩ "tobend, rasend, Kühn", Ord. agsum "fougueux".

∼*ĭɣila-: Mo.[11] uyila- "to weep, to cry", MMo. ujila-∼uĭla-, Dag. wŏaĭl-, Khar. wæēl-, Mgr. ula-, Ord. uila-, Kh. ujlă-, Kal. ūl'- "id.".

‖ Tü. Atü. aɣla- "weinen", Osm. agla- ∼ Atü. ïɣla-, Atü. Mtü. yïɣla- "jammern."

‖ Tg. Goldi. aksa "wild" (<? Mo.).

3.1.2. Mo. yara[12]: Ms. yara "a wound, an injury", Ord. jara "ulcère, abcès", Mgr. jāra "id." Kal. jarɐ "beule, wunde, syphilis; blattern". Mo. yar-, yara-: Kal. jar- "schlachten, aufschlitzen; das fleisch in passende stücke zerschneiden und alle weichen teile von den knochen abschneiden".; Mo. yarada-, yaradu- "avoir des ulcères, des furoncle, etc.".: Kal. jarᴀdɐ- "verwundet sein, ein geschwür, syphlis bekommen", Mgr. jārada- "se former un ulcère, un abcès" ∼Mo. ira-: Kal. ir- "schneiden, mit dem messer ritzen", Ord. īr, Kh. ir "spitze, Schneide".

‖ Tü. *jār-: Atü. yar-, yart- "spalten", Trkm. jār-, Osm. yar- "id." ∼Osm. yir- "id."; Tara. irä- "aufschlitzen" (<Mo.).

‖ Tg. Ma. *jar-∼*jari-: yargiyalabuhabi "to be wounded, get hurt", yargiyalahabi "id.", yaribu- "to be frost-bitten"∼*ir-: Ma. irha "color silk Stuffs which are cut slender".

3.1.3.[13] Mo. *bal-: Kal. balβl̩- "zerschlagen, zerkrümeln", balβr̩-

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(11) Mo. u- or Tü. Leb. uɣla- or so appearing in the first syllable are thought to have undergone the change of *ǐ/ → /u/ through the influence of the following palatal-fricatives. Atü. Mtü. yïɣla- has not always to be regarded as y-Prothese. There is also a chance for transcription of *ïïɣla-. Cf. VSG, p. 268, RLTS, p. 188.

(12) RKW, pp. 209, 216.

(13) RAMSTEDT compares Kal. biltsr̩- with Tü.: Kas. bïltşïra-, Tob. bïltsïra-, but the latter has a possibility for being a loan word from Mongol. RKW, p. 45b.
Such a comparison as made here is not always impossible since we have a good many instances in which *-l at the end of syllable alternates with *-ɣ- in Mongol and other Altaic languages. /ɣ/, however, seems to be generally found between vowels. For instance, Mo. Kal. gol "flussbett, flusstal, fluss": gorˈxɐn, ɢorˈkn̩ "bach." See also § 3. 2. 5. Moreover we have the following examples. Mo. arɣa: Ord. arɢa "moyen, etc." Kal. arɣɐ "mittel, list, listigkeit"∼Kal. alɣūr "betrug" ‖ Tü.: Atü. ar- "betrügen" ∼ al "Mittel, Methode, Betrug, List," alta- "betrügen" ‖ Ma. arga

"zerbrochen, zerschlagen werden", baltsḷ- "zerschlagen, zerkrümeln", baltsṛ-
"in stücke zerfallen, breit zerknetet werden"~*bil-: Kal. biltsḷ- "zerdrücken,
platt drücken (mit den händen, od. den füssen)", biltsṛ- "platt gedrückt
werden, zerdrückt, zerknetet werden".

   ‖ Tü.: Atü. bart-~bïrt-, birt- "brechen, zerbrechen".

   ‖ Jap. *bar-: war-u "to divide, to cut, to split", wor-u "to break, to bend,
to snap".

   3.1.4. Mo. bar-: Mo. barčiyi-, barǰiyi-: Kal. bartʃï- "sich runzeln, falten,
kräuseln; gesichter schneiden, grimassieren"~Mo. birčiyi-, birǰiyi-: Kal. birdʒï-
"ganz voll sein von kleinen pikkeln od. flecken, runzelig und bunt sein", birtʃï-
"uneben, rauh sein". RAMSTEDT compares them with Kir. barʒïi- "anschwel-
len" ahd birʒïi- "runzelig werden" respectively[14].

   3.1.5.[15] Mo. *tār-: Mo. tata- "tirer, tendre, traîner, etc." (←*tarta-):
Kh. tată-, Ord. data- "id.", Kal. tat- "ziehen, spannen, anstraften."~*tïr-: Mo.
čirγa (<*tïr-γa) "traîneau": Mgr. t's'ida- "tirer, traîner, etc.", Kh. tʃirγa,
tʃⁱárγă "id.", Ord. tʃirga "longue corde servant à puiser au moyen d'une grande
outre faite de la peau d'une chèvre l'eau d'un puits très profond." The Monguor
dialect form should be taken notice.

   ‖ Tü.: *tar-: Atü. tar-t- "ziehen", Kir. tar-t-, Chuv, tur-t- "id." ~*tït-: Trkm.
dït- "shchipatj, trepatj", Yak. tït- "reissen", Osm. dit- "íd.".

   ‖ Tg. tana- ← *tār-na- "ziehen", Ma. tata- "id.", tatara- "to struggle with one
another, to draw or pull each other; to break rubbing in hand, to crush"
(<Mo.).

   ‖ Kor. dad- "to shut, to close—a door, etc."?

   ‖ Jap. tat-u "to break (cut) off; to close, intercept; isolate".

   3.1.6. Mo. *qar:[16] Kal. xar "schnee(?); nur in der zusammensetzung:
xar xajᵉ9 'grosse schneeflocke'"~Mo. *qir-→ kir-: kirmaγ, (kiramaγ) "première
neige d'automne": Ord. kirma9 "dans kirma9 dʒasu petite neige qui parvient
à peine à couvrir le sol", Kal. kirmᵄq "der erste, feine schnee". Mo. kiraγu,
kiruγu(n) "gelée branche, givre, frimas", Ord. kirū "id." Kal. kirū "reif, gefro-
rener tau", Bury. xirū "id.", Khar. xərū "id.". ‖ Tü. *qar~*qār: Atü. Osm. qar
"Schnee", Mtü. kar, Chuv. jur ← *k'ur, Trkm. qār, Yak xar~*qïr-: Kas.
qïrpaq "der erste, feine schnee" (?<Mo.); Uig., Osm., Bosn. kiraγu "Reif",

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          "stratagem"; Mo. el-: Kal. el "bundesgenosse, usw". elgn "die verwandten"
      ~ irgṇ "volk (veraltet)" ‖ Tü. Atü. il, äl, el (Br.) "Land, Reich, Herrschaft" ~
      irkän (RKW, p. 209) "Volk" ‖ Ma. elčin "ambassador"~irgen "people." It might
      be thought that Mo. arγa or Ma. arga comes from *araγa, and Kal. irgṇ, Tü. irkän,
      Ma. irgen from *irägän. See further §3. 1. 9.
   (14) RKW, pp. 35a, 46a.
   (15) cf. VSG, p. 146, RKW, pp. 383-4, RLTS, p. 83, RSKE. p. 259.
   (16) cf. RKW, p. 167b, VSG, p. 145, RLTS, p. 122, EMG, P. 371.

Trkm. kirav, Chag. kirau, Tar. kirō, Otü. kirau., Oir. Leb. kurū, Shor., Sag., Koib. kïra, Kmd. kurā, Kom. kirov, KKir. kïrō, Blk., Kmk., Kzk., Kaz. Bar. kïran, Yak. kïrïä.

3.1.7.[17] Mo. χasu- "couper, découper; séparer; diminuer; decompter": Kal. xas- "abschneiden, kürzer machen (ein kleid, indem man es von unten abschneidet od. zusammennäht); weniger machen "~Mo. kisa-: Kal. kis- "abkürzen, abnehmen, einengen, beengen".

‖ Tü. Osm. qas-, qasï- "zusammenziehen, einnähen "~qïs- "abkürzen, abnehmen, einengen, beengen ", Osm. kis-, Atü. qïsïɣ, qïzïɣ, qïsaɣ, "eng, Beengung, Haft."

3.1.8.[18] Mo. *sïra → sira "yellow": Kh. ʃarǎ, Ord. ʃara, Kal. ʃarᵉ, Khar. s'jʌrᵈ "id."; Mo. sirɣa, "isabelle, de couleur isabelle, jaune paille": Kh. ʃarɣǎ, Bury. ʃarθa, Kal. ʃarɣ "id.".

‖ Tü. Atü. sarïɣ, Osm. sarı "yellow"; Chuv. ʃu̹rǝ "white" ← *sārïɣ.

‖ Ma. šari "a dandelion"; sirga (<Mo.) "a yellow spotted white horse", sira-ca "a decayed wood whose inside has turned yellow".

‖ Kor. hyi- "white".

‖ Jap. sira-mu; siro; siru-ki(-si);~sara-su "to bleach".

3.1.9. Mo. nil-: nilχa: Mgr. narge "jeune, en bas-âge, tendre", Dag. n'älxǎ "malenkij lebenok", Khar. njælexᵇ "a baby, an infant", Kh. nⁱälxǎ "molodoj, svezhij, rozhdennyj v tekushchem godu"~Ord. nilxa,, jeune (enfants, animaux), nouvellement poussé (plantes, etc.)", Bury. nilxa "rebenok", Kal. nilxᵇ "jung, zart; kleines kind"; Mo. nir-: nirai: Mgr. narθē (mentioned above), Khar. njæræï "fresh" ~Ord. nirā "nirā nilxa, enfant dans les langes", Kal. nirā, nirä "ein zartes kind; jung, zart, frisch," Khar. niræï, "id."

‖ Tü. Atü. Osm. yaš "frisch, lebendig; (Leben, Lebensjahr)", Mtü. yāš

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(17) Mo. kese-; kisu-; xusu- (all meaning "racler, ratisser") xusu- = Ord. gusu-, Kal. xus-, Bury.—Selenga xoso....these forms will have something to do with instances here cited. SMD in p. 202 compares Mgr. kidzə- with Mo. kisu-, but this latter form had better be compared with the stem kese- of Mgr. kidzaɣ, Ord. geseɣ "morceau, partie", Kal. kesəɡ, consequently with Tü. käs- "schneiden." Korean kᵇsi- (kᵇsihai) "scissors" can be compared with this. As can be seen from Mo. kereldü- ‖ Mgr. kəriēdi-, Ord. kerelde- "se disputer"; Mo. kenggü- "être affairé, pressé"—Mgr. gəⁿɡgala- "presser", we have an instance of Mo. ke- = kə- (or gə-) (or ka-), while we have, in many cases, such a correspondence as Mo. ke- = ki- (or gi-), which is found in the following: Mo. kei = Mgr. kī "vent"; Mo. kete = Mgr. kidie, "briquet"; Mo. kedü, = Mgr. kidi, Ord. kedü "combien?" Mo. kele = Mgr. kilie, Ord. kele "langue"; Mo. ki- = Mgr. gi-, Ord. kī- "faire, etc."; Mo. kiĵaɣar = Mgr. gid'z'iǎr "limite, etc." Mo. xar-, xasu, kita- "vertilgen, töten" (= Tü. kir-, qīt- 'ein engen') etc. might eventually be regarded as what constitutes a word family by the alternation of certain verb-stem-formative morphemes -r-, -s-, -t-. Refer also to RKW, pp. 171b, 233a.

(18) cf. VSG, p. 146, RKW, p. 349b, RLTS, p. 174.

"age", Yak. sās "Jahr, Lebensjahr"[19], Atü. yaš-ïl, (Osm. yeşil- ←*yašil-)"grün".

∥ Ma. niyal-: niyalhoca "young of kandahan"; niyar-: niyarhûn "fresh", niyarhoca (=niyalhoca), niya-: niyahan "puppy", niyahara "young leaves", niyada "grow slowly (of child), late (of rice, barley)"; ~Tg. (V.): nil-: niltʃa-rin "mjagkij"; nir-: nirakān "malenjkij", nirku "novaja sherstj na olene", nirɡəktə "novaja sherstj na olene; molodaja travka"; nir-: nirəi "novorozh-dënnyj".

VLADIMIRCOV compares Mo. nirai with Orkh., Kom., Osm. yaz, Chuv. s'ur, Yak. sās "spring"[20]. Judging from the law of phonemic correspondence there may be some possibility of this comparison but, as these Turkic forms correspond to Old-Bolg. n'är (>Magyar. nyár "Sommer") → Chuv. s'or =Trkm. jāz "Frühling, Sommer" ← *njār(j)[21], consequently they should rather be compared with Mo. naran=Kh. nară, Ord. nara, Kal. narn, Mgr. nara "Sonne", further Korean nar "Tag" as with RAMSTEDT. And also it might be possible to compare it with Manchu niyengniyeri "spring" (supposed to be derived from the reduplication of root niye- ← *njār-) = Jučen *njennjen (erim) 捏年 (厄林), Goldi ninnjə. It will be impossible to compare these with Korean nierym as with RÄSÄNEN, nierym being analyzed into *ni +erym (= Jučen, erim, Manchu erin "season"). It might be similarly impossible to compare Mongolian nil- with Tungus näl-ki, nəl-ki "spring". (If we are to compare, it would be much better to do so with the common Türk form *njār so presumed or Mongol naran in respect to the meaning. As for the phonemic side, no problems will be left us to be solved if we get through the reconstruction of a kind of base form like */njār-~njar-~njɐr-/ and of the alternation of consonant phonemes */-r/~*/-l/ in the ursprache.

The next thing we should pay attention to is that Mongolian nilxa and nirai constitute the same word family of language which is composed of the stem originally derived from the common base form, and they can be re-garded as an example of alternation of /-l/ at the end of a syllable with the intervocalic /-r-/. In Manchu we can often find zero correspondence (allo-phone) for */-l, -r-/ in such position. Thus we have Tü. *tȫrt:[22] Atü. tört, Osm. dört, Trkm. dȫrt, Yak. tüörd ∥ Mo. dör-ben, Kh. dörβü(ŋ), Kal. dörβn ∥ Ma. duin "four"; Mo. Kal. tsörkö (tsörkö nuɣⁿsn "krickente"), tʃörkö "ein vogel;

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(19) It may be that Tü. yas, Yak. sās in the sense of "Leben, Lebensjahr" has to be compared with Mo. nasun = Kh., Dag. nas, Ord. nasu, Kal. nasn, Mgr. nasə "alter; lebensjahr" as with RAMSTEDT. cf. RKW, p. 272. Besides the word nasŭŋ, naxŭn "zelenyj" exists in Dagur dialect. A kind of contamination seems to have arisen in this respect.

(20) cf. VSG, p. 145.

(21) cf. RLTS, p. 22, RKW, p. 272a.

(22) cf. RLTS, p. 92.

russ. chirok" ‖ Tü. Tel. tʃüräkäi "krickente" ‖ Tg. Ev. (V.) tʃirkukī "utka-chirok" ‖ Kor. dɐrg- "a cock" ‖ Jap. töri "a bird or fowl". (In those which might be taken as doublet with these, we find Ma. šoron "a chicken (of pheasant etc.)" šorho "a chicken". As the corresponding Mongolian forms we can give Kal. ʃörgö (nuɣᵘsn̥); Tü. Kir. ʃüröɣöi, Shor, ʃüräkäi "eine enteart; krickente"). It will therefore be possible for us to trace back Manchu niyal-, niyar-, niya-into the original common base form[23].

3.2.1. Mo. alχum~ilχum (cf. §2.1.)

‖ Tü. *al'-: MTü. aš- "to climb over, to step over"[24]

‖ Jap. ayu-m-u "to walk"; asi "a foot."

3.2.2. Mo. bala-la-, bile-le- (cf. §2.4.)

‖ Tü. Atü. balïq- "verwundet werden", balïɣ "verwundet"

‖ Tg. Ev. Lam. balī "blind", Ma. bal-ba "of bad sight."

3.2.3. Mo. basi-~bisi- (cf. §2.5.) (?<Tü.)

‖ Tü.[25] *bāš~baš: Atü. bas, bhäš (Br.) "Kopf, Anführer, Anfang, erster, oberer", Mtü. bāš, Chuv. pus', Trkm., Kir., Osm. baʃ, Yak. bas "head"

‖ Tg. Goldi. baldʒa "face, head"

‖ Kor. mari~meri "head".

3.2.4. Mo. čar, šar, sir[26] "taureau, bœuf": Kh. ʃar "kladenyj byk, vol", Ord. ʃar (ere ʃar üᵏxer "taureau châtré de quatre ans ou plus"), Bait., Derb-Kobd., Derb-Astr., Kal. tsar "ochs (verschnittene), jochtier." Khar", s'jʌrᵘ

‖ Tü. Atü. Tel. tʃar "arbeits ochs".

3.2.5. Mo. niɣa-, naɣa- "coller, joindre en collant" (cf. §2.6.)[27]: Kh., Ord. nā- "coller", Kal. nā- "leimen, zusammenkleben, beschmieren", Bury., Khori. n'ā- "kleitj, prikleivatj", Mgr. niā- "id."

‖ Tü. Atü. yapšïn- "sich hängen an", yapšur-, yafšur- "anheften, ankle-ben, sich gegenseitig bedecken", Osm. yap-ï-š- "prilepitjsä, prikleitjsä, pristatj;" Jag. yap-u-š-l- "bytj priklennym", Alt.-Oir. jap-ʃïn- "prikleitjsä, pristatj".

3.3.1. Mo. imaɣan: Kh. jamā "koza", Ord. jamā "chèvre", Kal. jamān "geiss, ziege"~Khar., Mgr. imā, Shirongol iman (? imān) "id.", Leyden Voca-

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(23)   See Note (13). This type of alternation -r-~-l-~zero is to be fully treated of on the other occasion, and the conditions for alternation will then be defined, zero being thought to occur probably after a long vowel.

(24)   cf. Udo Posch: On the Affinity of the Altaic Languages. I. Central Asiatic Journal, III. 4, p. 280.

(25)   Though RÄSÄNEN reconstructs *baš in the common Türk (perhaps this might be due to the fact that both Trkm. and Yak. dialects show the short vowl), both forms seem to have coexisted in the common Türk, seeing the form bāš also occurs in the materials of Atü.-Br. or Mtü.

(26)   cf. RKW, p. 422a.

(27)   As the common Mongolian form, the one reconstructs *nïwa-, the other *n'awa-. Will it be possible to compare it with Ma. niyoho- "to have sexual intercourse"?

bulary imān

‖ Tü. Atü. īmɣa, jumɣa "wilde Ziege"[28]

‖ Ma. niman; imahan (<Mo.) "id.", imahû "青羊".

3.3.2. Mo. siba-: Ord. ʃaβa- "couvrir comme d'un enduit", Kal. ʃaβ- "beschmieren (mit lehm), tünchen, werfen"; Mo. sibar: Ord. ʃaβar "boue", Kal. ʃaβr "ton, lehmerde, dreck, schmutz", Mgr. ṣabar "boue, mortier, argile, badigeon"

‖ Tü. Osm. sïwa-, Chag. sua-, Tar., Etü. suba- "beschmieren, usw."; Osm. sïwa "Stuck, Bekleidung", Shor. siɣa "Unrat". This might be a reflection of alternation in the ursprache as can be seen from RÄSÄNEN comparing with Finn. savi, Ung. sziváj[29].

3.4.1. Mo. ɣariya-: Ord., Mgr. xarā- "maudire, faire des imprécations contre quelqu'un, injurier, s'emporter en invectives", Kal. xarā- "schimpfen, schelten, fluchen, wettern"

‖ Tü.[30] Mtü. karɣa- "verfluchen"~Mtü. kīrɣa-, Yak. kīrā-, "id.".

3.4.2. Mo. ɣada:[31] Ord. xada "rocher, pierre", Khar. xadɐ "id.", Kal. xadᵊ "felsen, berg", Mgr. ɢadā "roche, rocher"

‖ Tü. Atü. qaya "Felsen", Oir. kaja "id."~Kzk. qïja

‖ Ma. hada "a peak, a cliff"; Tg. Ev. (V.) kadaɢā, kadar "Felsen; a cliff, a rock".

3.4.3. Mo. ɣana[32]: Kal. xanᵊ "die grossen federn der flügel, die ebene fläche der flügel"

‖ Tü.: Atü., Mtü., etc. kanat "Flügel", Trkm. kānat, Krg. hanat. Az. ɣänät, Chuv. s'onat, s'unat (← *jonat ← kɪanat) *kān'at.[32]~Yak. kïjat, kïǰ̃iat, kïnat.

3.4.4.[33] Mo. *taβa-: taɣa-, Ord., Kh., Kal. tā- "erraten, annehmen"

‖ Tü.: Atü., etc. tap- "finden"~Soy. tïp- "id.".

3.4.5. Mo. tawar: Kal. taβr̩ "waren, eigentum"

‖ Tü.: Atü. tawar, Mtü. tawar "Ware, Habe", Osm., Trkm. davar "Vieh (bes. Schafe und Ziegen)"~Atü. tïwar[34], Etü. tūwar tūgar, "id.".

3.5.1. Mo.[35] *qïl-: *qïl-ɣa-sun: Mo. (XIX cent.) qïlɣasun~kïlɣasun "hair", Moghol. qïlɣasun "id.", Ord. kilɢasu "horsehair", Kh. ɣjalɢasu id.", etc.

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(28) cf. RKW, p. 214b.

(29) RLTS, p. 60.

(30) cf. RLTS, p. 60. Moreover RÄSÄNEN compares this with Finnish kirota-"id."

(31) cf. RLTS, p. 59, RKW, p. 158b.

(32) cf. RLTS, pp. 59, 208, RKW, p. 165a. However, *jonat should rather be xɪonat.

(33) cf. RLTS, p. 59, RKW, p. 386, VSG, p. 208.

(34) cf. RLTS, p. 125 ff., GAT, p. 49.

(35) RUAW, p. 19, PMCS, p. 133.

‖ Tü.[36] kïl "horsehair"

‖ Kor.[37] *gir (朝鮮館譯語: 墨立吉 "髮 (E. hair)" in meri-gir "Kopf-haar")

‖ Jap. *kiə → ke "hair"

[‖ Finn. kalki "(Kopf-) Haar"]

3.5.2. Mo. *nïl-: Mo. nil-bu-, Ord. nulmu-, Kh. nulma-, Kal. nul'mu-
"spucken, ausspeien",; MMo. nilbusun, Mo. nilbusun~nilmusun, Ord. nulmusu,
Kh. nulmᴇs; ....Dag. n'ombos, Khar. nœl'mᴇs, Mgr. numpudzə "tears"

‖ Tü. *n'al: Atü. yaš, Trkm. jāʃ, Chuv. s'ol. "tears"

‖ Tg. Sol. naꞙmu-kta "tears" (?<Mo.)

‖ Kor. *nɯn-: nunmur "tears"

‖ Jap. *na- (or ?naɴ-): namida "tears".

3.5.3. Mo. *ni-: nidun, Dag. n'id, Mgr. nudu, Ord., nüdü, Kh. nüd, Kal.
nüdṇ.

‖ Tg. *iā-sa-~*n'ā-sa-: Ma. yasa, Gold. nasa-l~esa-l, Olč. nasa-r, Ev. ēsa,
Lam. jāsa-l[38].

Concerning the Mongolian root, as RAMSTEDT suggested in SKE, 172, and
similarly concerning the Tungus root, it seems to the present writer that Mo.
-d- and Tg. -sa- are derived from a kind of 'plural suffix.' (cf. Atü. -z: kö-z
"Auge", GAT, p. 64), Moreover, in the case of Tungus the base form */iā-
~n'ā-/ should be identified. It is also possible that a sort of contamination
should be thought to have taken place with */n'āl-~nil-/ (§3.1.9) in Tungus,
Korean or Japanese.

3.6. Mo. amur[39]: Kh. amŭr, "blagopoluchie", Ord. amur "repos", Kal. amṛ
"ruhig, ruhe, friedlich, friede, gesund, bequem," Dag. amūl "blogopoluchie";
Mo. amura-, amara-: Ord. amara- "se reposer, être tranquille.", Kal. amṛ-
"ruhen, ruhe bekommen, ausruhen; vergnügt werden "; Mgr. xamurā- "se
reposer, se calmer, etc."; Kal. amṛrā- "ruhe geben, in frieden sein lassen "

‖ Tü.: Atü. amu-r- "sich ruhen", amul "ruhig, sanft", amran- "lieben",
"lieb, Geliebter "~Atü. yamu-r- (=amur-), yamraq (=amraq) ~Kzk. emrän-,
Osm. ämrän- "liebkosen".

‖ Ma. amuran "fond of ", amurangga "to be fond of ".

While, concerning the Türk words compared with here, both VON GABAIN
and RÄSÄNEN dealt with them as an example of y-Prothese, in the present

(36) Shinpei OGURA: A Linguistic Study of the Chao-hsien-kuan-i-yu. II. The Tôyô
       Gakuhô. Vol. xxviii. 4, p. 59.
(37) RLTS, p. 19, RUAW, p. 24. While RÄSÄNEN compared here with Tg. *niā- "faulen ";
       *niä- "schwitzen" (cf. BTS, pp. 25-6), the present writer should hardly endorse his
       procedure. Furthermore he compared with Olča. n'al-un "frisch, ungekocht" and yet
       this should be considered to be included in the word family of language in §3.1.9.
(38) BTS, p. 25. See also Part II in this study.
(39) cf. GAT, p. 52, RLTS, p. 188.

writer's opinion it should rather be regarded as a case of vowel alternation in the ursprache which will be described in the conclusion of this study, and it does not always follow that it has to be explained through the Prothese. At first sight, both Osm. and Kzk. dialect forms are supposed to work as an example of the irregular alternation /a~ä/ (RäsÄNEN cites these dialect forms as an instance of sporadische Vokalwechsel), but it does not result from the palatal quality of the preceding consonant as RAMSTEDT and others remark[40]. As for the presumed ursprache form, refer to §4.

4. The above-mentioned vowel phoneme alternation /a/~/i/ or contrast /a/:/i/ found in Mongolian dialects, and such a correspondence as mentioned above (§3) between Turkic and Tungus, are no doubt a reflection or result of some phonemic structure in the ursprache of these languages as VLADIMIRCOV or RäsÄNEN has already suggested. (But, as for some of the examples cited above, they might be suspected to spring from by being secondarily forced into the pattern after it was fixed as a pattern in the period of proto-Altaic languages.)

VLADIMIRCOV says concerning Mongolian[41]: Alternation a~i(ï) ‖ a~i results from the vowel system of the Proto-Altaic which has a special phoneme *i̯ā~*i̯a, and this can be confirmed through the materials in Mongolian and its related Altaic languages, that is, Turkic, Manchu-Tungus. Based on the evidences of these languages we can work out such a correspondence as *i̯ā~ *i̯a>Mongolian ï·(~a)>i(~a) ‖ Türk a~a ‖ Yakut ā ‖ Chuv. u ‖ Manchu ia(iya). In his RLTS RäsÄNEN says, in the section which treats of the vowel alternation a~y in Türk, that the following correspondences in the Ural-altaic languages give us evidence for the date of this vowel alternation, and then he cites four instances of those correspondences, namely Yak. kytan "Wacholder" ~Finn. kataia "id." etc.[42]

The phoneme alternation *i̯ā~*i̯a in the ursprache suggested by VLADIMIRCOV seems to be partially correct, because, by that proto-form, if we are to hold that the following phonemic change in the general shows the fact that the former took place in the stressed syllable, while the latter in the weak or unstressed syllable, we shall be able to explain the facts mentioned above to some degree.

$$*/i̯ā/ \rightarrow \text{Mongol, Türk, Tungus /a/; Manchu iya}$$
$$*/i̯a/ \rightarrow \quad \prime\prime \quad , \quad \prime\prime \quad , \quad \prime\prime \quad /\bar{i}/, /i/; \text{Manchu i}$$

(40) cf. RLTS, p. 57–8.
(41) cf. VSG, pp. 145–6, §72.
(42) RLTS, pp. 59–60.

There are cases, however, in which the long vowel appears as we have jāra (cf. §3.1.2) in Monguor dialect, in Türk Trkm. dīt-, Yak. tīt- (cf. §3.1.5); Mtü. kār, Trkm. ɤār, Yak. xār (cf. §3.1.6); Atü. (Br.) bhāš, Mtü. bāš (cf. §3.2.3) Mtü. yāš, Yak. sās[43] (cf. §3.1.9); Trkm. kānat (cf. §3.4.3); or niya- (*njā-) in Manchu. It must be greatly noticed that, in Monguor dialect, a long vowel in the first syllable corresponds to a short vowel in the other dialects when there occurs no contraction or Ersatzdehnung as the following instances show[44].

ōli- "trouver, acquérir, obtenir"=Ord. ol- "id.", Kal. ol- "finden": Mo. ol-; bürɤe "puce"=Hua-i-i-yü bürɤe: daxu "habit court et sans manches porté jadis par les femmes monguor"=Ord. daxu "vêtement de fourrure qu'on porte les poils à l'extérieur", Kal. daxᴮ "pelz mit dem fell nach aussen, oberpelz"; dālī "épaule"=Ord. dalu, Kal. dalᴮ: Mo. dalu "omoplate; schulterblatt", ‖ Tü. Trkm. jāl "Mähne."); fōdi "étoile"=Ord. udu, Kal. odn̥ Mo. odun id.,

What should be taken notice of about the long vowels in Türk is that it is true such a correespondecn as Yak. long vowel (or diphthong)=Trkm. long vowel can be found in many instances, and on such occasions it generally corresponds to the materials in records of Old and Middle Türk, and then it is possible for us to presume and reconstruct a long vowel in the common Proto-Türk, but, as Räsänen described about Chuvash, Yakut (we should pay attention to his remarks: that especially in the former dialect there are cases where we cannot always find any such correspondence and traces of a kind of old Längenwechsel can be found concerning o....) or the other few dialects[45], and as the data given by the present writer in this study, for example §§3.2.3, 3.4.3, show, it sometimes happens with regard to the vowel quantity that the materials in various records do not correspond to those in Trkm. or Yak. dealect. Therefore we might possibly think we would here be able to tentatively assume a kind of Quantitätswechsel in the ursprache.

In the second place we should take notice of a sort of diphthong [jʌ][46] (cf. §§3.1.8. and 3.2.4) in Kharachin dialect of Mongol, īr (cf. §3.1.2) in Ordos dialect, and nīr- (cf. §3.1.9) in Tungus. Instances in §3.2.4 are of course not thought to be explained through so-called i- breaking (Brechung). The above two problems cannot be explained only by the hypothesis presented by Vladimircov. We should rather observe strictly what data given above show us, and we had better assume that there should have already been the

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(43) See Note (19), concerning a problem which occurs in comparison of this form here.
(44) See II Part of this study.
(45) cf. RLTS, p. 64 ff.
(46) In Kharachin dialect a diphthong of this sort often occurs in the first syllable of the word in combination with palatalized consonants.

following alternation, or a kind of Abstufung (quantitative gradation) in the common Proto-Altaic. Thus we assume *ĭắ~ĭá~ĭa~ĭ. We should like to have *ĭắ or *ĭá in the stressed syllable, *ĭa generally in the weak syllable, and *ĭ considerably contracted by some phonetic condition. And consequently, roughly following phonemic change can be assumed to take place.

(1) There generally occurred such a change as *ĭắ → /ắ/. We can get evidence for this stage of change in some Türk dialects, that is, Türkmen, Yakut, Chuvash, and in the records of Old and Middle Türk. In Mongol (except some dialects, for instance Monguor dialect) it seems to have early blended with *ĭá to be stated next. If we follow this observation, even the phonemic change generally held about Chuvash dialect, for example Proto-Tü. *tāl' → *tĭal → t's'u̥l "stone", should rather conversely be regarded as *tĭāl' → *t'ial → t's'u̥l, and thus we need not trouble ourselves to assume an unreasonable phonemic change of a long vowel into a diphthong of rising type.

(2) *ĭá → */a/.... This become generally /a/ in Mongol and Türk. Manchu iya can be /ja/ derived from *ĭá, but there sometimes arises a case for /jā/ derived from *ĭā.

(3) A phonemic change of *ĭa > *ĭɐ gave rise to a very much irregular phoneme correspondence. /i/ will result from a change of *ĭɐ → *ĭə. What is meant by /ɐ/- Grade shall be further discussed later.

(4) It might be suspected that there is a stage in which *ĭ, that is *ĭ derived from *ĭă, was completely extinct especially before */r/ or */l/, leaving only palatal quality of the preceding consonant. A fluctuation of Atü. bĭrt-~birt- could be a proof for this. *ĭ, however, has now generally turned into /i/ (stressed). It is not until this *ĭ became stressed again that a so-called phenomenon of "breaking" presented itself in Mongol. Those like Mo. Kh. tʃ'árɣă are tentatively classified into the Weak Grade, but they should rather be regarded as cases for breaking.

What is more important, is that the phenomenon which has hitherto been regared as i-breaking should be re-examined by those procedures here presented. Details mentioned above are tabulated as follows.

Stressed Grade		Weak Grade	
*/ĭá/	*/ĭá/	*/ĭa/→/ĭɐ/	*/ĭ/
	Mo. *al-: alχu-: Ord. alxum, Kal. alxᵉm, Mgr. argu, etc. (§2.1.) Tü. aš-; Jap. ayu-. (§3.2.1.)		Mo. *ĭl-: ilχu-, (§2.1.)

	Mo. arɣamǰi. (§2.2.)		Mo. irɣamǰi. (§2.2.)
	Mo. basir. (§2.3.)		Mo. bisir. (§2.3.)
	Mo. balala-, Ord. balala-, Kal. balʝ-, Kh. balălă-; Mo. balar; Kal. balr̥; Mo. balamad, balamud; (§2.4.) Atü. baš balïq-, balïɣ; Ma. bal-ba (§3.2.2.) Lam. balī-, etc.		Mo. bilala- (§2.4.) Kal. biļ-, Bait. bilĕlĕ-
Atü. (Br.) bhāš, Mtü. bāš, Chuv. pus'. (§3.2.3.)	Mo. basil- (§2.5.) Trkm., Kir., Osm. baʃ, Yak. bas, Goldi, baldža, Kor. mari. (§3.2.2.)		Mo. bisil-, bisilɣa-; Ord. biʃalga-, Kal. bisl-, bislɣᵤ- (§2.5.)
Kh., Ord., Kal. nā-, (§3.2.5.); Mo. naɣaldu-: Ord. nāldu-, Kal. nāldᵤ-, S.-Mo. nāld- (§2.6.)	Bury. n'ā-; Atü. yapšïn-, yapšur-, yafšur-, Osm. yapïš-, Jag. yapušul-, Alt- Oir. japʃïn- (§3.2.5.)		Mo. niɣaldu- (§2.6.); Mgr. niā- (§3.2.5.)
	Mo. χalir, Ord. xalir, Kal. xäl'r̥; Ord. xalī-, Kal. xaí'ī-, Bury. xalaj- (§2.9.)		Mo. kilar, etc. / Mo. kilayi- (§2.9.)
	Derb.-Kobd. baʃlăg, Kal. baʃlïg (§2.10.)	Kh. bïasleg (§2.10.) (cf. Tü.-Atü. puʃtaq id. ← *bïʋs-).	Kh. bisläg. (§2.10.)
	Mo. *aɣ-u-r → Mo. aɣur, MMo. a'ur, etc.; Mo. *aɣ-: Kal. aɣl-., Kh. agsam, etc, Atü. aɣla- (§3.1.1.)		Mo. ïɣ-: Mo. *ïɣïla- → uyila-, etc., Atü. ïɣla-, etc. (§3.1.1.)
Mgr. jāra. / Mgr. jārada-	Mo., Ms. yara, Ord. jara, Kal. jarᵤ; Mo. yar(a)-: Kal. jar-; Mo. yarada-, yaradu-, Kal. jarᵤdᵤ-,	Ord. ïr.	Kh. ir, Kal. ir-,

Tü. *jār-: Trkm. jar- (§ 3.1.1.)	Atü. yar-, yart-, Osm. yar- Ma. *jar-: yari bu-, etc. (§ 3.1.2.)	Osm. yïr- (§ 3.1.2.)	Tar. irä-; Ma. ir-ha (§ 3.1.2.)
	Mo. *bal-; Kal. balβḷ-, balβṛ-, baltsḷ-, baltsṛ-; Atü. bart-; Jap. war-u. (§ 3.1.2.)	Atü. bïrt- (? *ïɐrt-) (§ 3.1.3.)	Mo. *bil-: Kal. biltsḷ-, biltsṛ-; Atü. birt- (§ 3.1.3.)
	Mo. *bar-: barčiyi-, barǰiyi-: Kal. bartʃī- (§ 3.1.4.)		Mo. *bir-: birčiyi-, birǰiyi-: Kal. birdʒī (§ 3.1.4.)
Mo. *tārta- → *tāta-˳: Tg. *tār->: (§ 3.1.5.)	Mo. tata-: Kh. tată-, Ord. data-, Kal. tat-; Atü. tart-, Kir. tart-, Chuv. tŭrt-. Tg. tana-, Ma. tata-; Kor. dad-; Jap. tat-u. (§ 3.1.5.)	Kh. tʃⁱărɣa (?); Trkm. dīt- Yak tīt-, Osm. dit- (← *tīt- ← *tīɐt-),	Mgr. t's'ida-; Mo. *tir-: cir-ɣa: Kh. tʃirɣa, Ord. tʃirga (§ 3.1.5.)
Tü. *qār: Mtü. kār, Trkm. qār, Yak. xār, Chuv. jўr, (§ 3.1.6.)	Mo. *qar: Kal. xar; Atü., Osm. qar. (§ 3.1.6.)	Khar. xɐrū; Jap. kïri: *kïiri; (§ 3.1.6.)	Mo. kir- ← *qïr-: kirmaɣ: Ord. kirmag, Kal. kirmɐg; Mo. kiraɣu: Ord. kirū, Kal. kirū, Bury. xirū; Atü., Osm. kiraɣu, etc. (§ 3.1.6.)
	Mo. χasu-: Kal. xas-; Osm. qas(ı)- (§ 3.1.7.)		Mo. kisa-: Kal. kis-; Tü. qïs-: Atü. qïsīɣ, etc. (§ 3.1.7.)
Chuv. sўrə ← *siārï. (§ 3.1.8.)	Kh. ʃară, Ord. ʃara, Kal. ʃarᵉ; Kh. ʃarɣă, Bury. ʃarɣa, Kal. ʃarɣᵉ; Ma. šari; Atü. sarīɣ, Osm. sarı; Jap. sara-su (§ 3.1.8.)	Khar. s'jʌrᵉ. Kor. hyi-(?)	Mo. sira; sirɣa; Ma. sirga; Jap. sira-, siro, siru-; Kor. hyi- (?) (§ 3.1.8.)
Mgr. nargē (← ?*nār-); Mtü. yāš; Yak. sās; Ma. *njār- (njāl-): niyahan, niyahara, niyada, (§ 3.1.9.)	Dag. n'ălxă, Khar. njælxɐ, Kh. nⁱălxă, Atü., Osm. yaš; Ma. niyalhoca, niyarhûn, niyarhoca. (§ 3.1.9.)	Tg. nīrɐï (← *nïɐr-) (§ 3.1.9.)	Mo. nilxa: Bury., Ord. nilxa, Kal. nilxɐ; Ord., Kal. nirā, Kal. nirā, Khar. niræï; Tg. niltʃarin, nirakān, nirku, nirgəktə. (§ 3.1.9.)

	Mo. čar: Bait., Derb., Kal. tsar; Tü. Tel. tʃar; Mo. šar; Kh. Ord. ʃar (§3.2.4.)	Khar. s'jʌr (§3.2.4.)		Mo. sir. (§3.2.4.)
	Kh. Ord. jamā, Kal. jamān (§3.3.1.)			Mo. imaɣan: Leiden-Vocab., imān, Khar., Mgr. imā; Tü. Atü. īmɣa; Ma. niman; imahan (<Mo.); imahû (§3.3.1.)
	Ord. ʃaβa-, Kal. ʃaβ-; Mgr. ʂabar, Ord. ʃaβar, Kal. ʃaβɽ (§3.3.3.)			Mo. siba-; Tü. Osm. sïwa-, etc. (§3.3.3.)
	Mo. χariya-; Ord. Mgr., Kal. xarā; Mtü. karɣa- (§3.4.1.)			Mtü. kirɣa-, Yak. kïrā- (§3.4.1.)
Mgr. gadā ← (?)*qādā (§3.4.2.)	Mo. χada: Ord. xada Khar., Kal. xadᵷ.; Atü. qaya.; Ma. hada (<Mo.); Tg. kadaɡā, kadar (§3.4.2.)			Kzk. qïja (§3.4.2.)
Trkm. kānat, Chuv. s'onat, s'unat (§3.4.3.)	Mo. χana: Kal. xanᵷ; Atü., Mtü. kanat, Krg. hanat, Azb. ɣänät (§3.4.3.)			Yak. kĩjat, kĩjïät (§3.4.3.)
	Mo. *taβa- → taɣa-, Ord., Kh., Kal., Khar., Mgr. tā-; Atü. tap- (§3.4.4.)			Soy. tïp- (§3.4.4.)
	Mo. tawar: Kal. tàβɽ (<Uig.); Atü., Mtü. tawar; Osm., Trkm. davar (§3.4.5.)			Atü. tïwar (§3.4.5.)
	Mo. *qïl-: MMo. qilɣasun~kilɣasun; [Finn. kalki] (§3.5.1.)	Jap. *kiə (§3.5.1.)		Tü. kïl, Kor. *gir (§3.5.1.)

Tü. *ńāl: Trkm. jāʃ., Chuv. śol. (§3.5.2.)	Sol. naŋmukta Jap. *na-; (naN-): namida (§3.5.2.)	? Kor. nynmur (§3.5.2.)	Mo. *nïl-: MMo. nilbusun Mo. nilbusun∼ nilmusun (§3.5.2.)
Tg. *ńā-∼*iā-: Ev. ēsa, Lam. jāsal (§3.5.3.)	Tg., Ma. yasa Gold. nasal∼esal, Olč. nasar (§3.5.3.)		Mo. *nï-: *nïd-, Dag. ńid (§3.5.3.)
	Mo. amur; Kh. amŭr, Ord. amur, Kal. amṛ, Dag. amūl; Mo. amura-, amara-: Ord. amara-, Mgr. xamurā-, Kal. amrrā-, amr-; Atü. amu-r-, amran-; Ma. amuran, amurangga (§3.6.)	Atü. yamu-r-, yamraq, Kzk. emrän-, Osm. ämrän- ← *ïɛmur- (§3.6.)	

5·1. As stated obove, the present writer has drawn a hasty conclusion, but he should like to remind the readers that there is enough room for further chronological examination of each material—especially of the written languages.

Next, it should be given attention to the fact that, since Mongolian or Turkic or so has phonemically no accent (at any rate at present)[47], conditions for each grade (Stufe) cannot be prescribed clearly[48]. Accordingly it is too early to use the technical term of vowel gradation (Ablaut) in its strict sense. We must, however, take it as an absolutely necessary procedure to assume certain conditions and then patterns for alternation of such phonemes, even if hypothetically, in order to carry out comparative studies of various morphemes, especially roots, and scientific researches into word families. When the types of vowel phoneme alternation which has been treated of in this study is once verified, it will then be possible for us to compare, for instance, Mo. *bi-, Ma. bi-, Jap. wi (← *bi-) with Atü. bar, pār (Br.), Trkm., Yak. bār, Chuv. por, Osm. var " vorhanden, das Vorhandensein; es gibt " in Türk[49].

(47) See *On the Affinity of Japanese with Ryukyuan, Korean and Altaic* by S. HATTORI, p. 125.
(48) With the progress made in the comparative studies with Southern Korean and Japanese or so which have the pitch accent phonemically, there is a fair chance for the conditions to be worked out.
(49) Although the present writer should properly illustrate this as an example in this study, he excludes it since the alternation a∼o as is referred to in §5. 2, must be treated of as well.

5.2. As has been briefly mentioned by VLADIMIRCOV[50] or RÄSÄNEN[51] and the following examples show, it should be noted that we have instances in which /o/ or /ö/ can be found in the form of· gradation (or of correspondence), and also that there is a large group of roots (namely a word family) in which we should rather assume *ĭó of /o/-grade against *ĭá of normal grade. By the way, in the diagram shown above, those which are doubtful in this respect and ambiguous of the position of grade are not included, not even in the way done in §§2–3. After all, types of alternation can be assumed to be not simple but complex. Problems which are concerned with these respects and are treated of in this study, are left to be fully re-examined on the next occasion.

(A) Mo. *qar-: χar-, Kal. xar- "schaben, kratzen, hobeln"; Mo. χarmu-, χarma- "râteler (le foin), ramasser avec le reteau", Kal. xarmʋ- "schaben, kratzen, scharren, usw", Mgr. xarmu- "tirer des flèches, piquer (insectes), mordre (serpent)"; Mo. χarulda- "raboter"; ~ *kör-(?): Ord. körö, körɛ̄ [52] "säge";~*qïr-: kir-, Khar. s′irō, Mgr. t′s′irū, Shirongol (S. t.) čiru "scie," Mo. kirüge "id."; kirγa-: Ord. kir9a- "raser", Kal. kirγʋ-, kirʋ9- "scheren; wolle, haar abscheren", Mgr. t′s′ir9a- "raser, couper ras";

‖ Tü. qaz-, qazï- "hobeln, schaben," qaz-, qazγan- "erwerben", qarba-, qarma- "packen, fassen." (<Mo.~*kir-, Atü. kärä, Bar, kirä, Leb. kirā: "Säge" Oir. krä (<Mo.); Osm. kir- "brechen".

‖ Tg.: Ma. kar-: kargi- "abbrechen, abtrennen, pflücken", kor- "aushöhlen, ausgraben, ausschneiden." *kir-: Ma. kira- (ko-kira-); Ctg. kirō "a saw", kiro "a saw". Tg. (V.) kirōdā "pilitj", kirga- "to trim, to pluck". ~*gïrï-: Ma. giri-, Er. gïr-, Lam. ger- "ausscheiden, glatt schneiden".[53]

‖ Kor. ɡarh → kar "a sword".

‖ Jap. kar-u "to cut",~kir-u "to cut",~kör-u "to cut (a tree, etc.)."

(B) Mo.[54] *tĭlaγun: čilaγun, Ord. tʃilū "pierre, caillou",~*tĭolaγun: Kal. tʃolūn, Kh. tʃolū, tʃulū id. (The latter form derives from the assimilation with the vowel in the second syllable.)

‖ Tü.: Yak. tās, Chuv. t′s′ul, Mtü. tāš~Atü., Osm. taš "stone";

‖ Tg. (V.), Gold., Olča., Negd., Oroč. dʒolo, Lam. dʒol "stone".

‖ Kor. dōrh-, dorg-: *dōrh(ḡ)-[55]

‖ Jap. isi, isu, isa "a stone".[56]

(50)   cf. VSG, §80, p. 14 ff. But much is left to be re-examined in the comparison made in it like Mo. yabu- ‖ Ma. yabu-/yo- "go",
(51)   cf. RLTS, p. 60.
(52)   RAMSTEDT assumes †körege and *kerüge. RKW, p. 240b.
(53)   cf. BTS. p. 21.
(54)   cf. VSG, p. 145; RSKE, p. 272, RKW, p. 444a Of course this word also should not be explained through ' breaking.' As a base-form we had better assume */tĭāl′-~tĭál′-~tĭól′-~tīl′-/. Reasonable is the comparison of Kor. with Tg. made by RAMSTEDT in RSKE.
(55)   Refer to On the Stress Point in the old Hangur Records (Journal of the Korean Society, I) by R. KŌNO, p. 111ff.
(56)   Japanese i- results from the Prothesis before a palatalized consonant.

II.   On Long Vowels in Monguor Dialect and the Reconstruction
of Long Vowel Phonemes in Proto-Mongolian

1. As Monguor dialect has both phonemically and morphologically attained a development remarkably different from that of other dialects, it has received an especial treatment as an isolated dialect[1]. Much notice, however, must be paid to the fact that many peculiarities of this dialect offer various valuable materials to the reconstruction of the history of the Mongolian language.

One of the peculiarities is that, in some cases, a long vowel of this dialect happens to correspond to a short vowel of other dialects, as the following examples show: Mgr. tiērge " char, voiture, brouette" (SMDM p. 417)=Ord. terge " char, voiture ", Kh. terge " Karren, Wagen " Mo. tergen; Mgr. (p. 432) tumiēn ·" dix mille "=Ord. tüme, Kh. tüme, Mo. tümen.

Etymologically saying, the former tiērge can be compared, for instance, with tärɣän " circle, wheel; cart, carriage" of Altai-Türk dialect in the Türk language. This Türk form is derived from the verb täg-ir- " to turn (intr.) " with the *nomen perfecti* suffix -ɣan∼-gän. To say nothing of Mongolian dialects at large, tärgä(n) found in the Yuan-chao mi-shih and t'erged " carriages, wagons " of 'Phags-pa Mongolian written in Middle Mongolian show no long vowels derived from the contraction of VgV. K. H. MENGES remarks of this word as follows[2]. ·

In Mongolian, no traces of the contraction-length of the stem-syllable have been preserved, neither phonetically, nor in historical orthography. Even in the Jüan-Č'ao Ḅi-Šy the word occurs as terge(n). This would mean that the borrowing in Mongol is very old. Contractions of the type VɣV or VgV >V̄ are recent in Turkic and regular only in the Turkic languages of Siberia, i.e. in those adjacent to the Mongolian language area. Since, however, in the earlier epochs of Mongol, the oldest Mongol literary monument, the Jüan-Č'ao Ḅi-Šy where Mongol is transcribed with Chinese characters, the disappearance of intervocalic ɣ/g is already evident without the contraction of the two vowels, while the literary Mongolian language, written in Ujɣur script, sticks to historical orthography, spelling in those cases VɣV or VgV, we must assume that the contraction of the first two stem-syllables in terge(n) occurred on Mongolian soil quite some time before the first Mongol texts were written.

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(1)   PMCS, pp. 10, 16.
(2)   For further study of this word, refer to MENGES, K. H, : *The Oriental Elements in the Vocabulary of the Oldest Russian Epos, The Igor's Tale.* (Word Monograph No. 1. N.Y., 1951.: pp. 50–51.)

According to Räsänen[3], the contraction VγV~VgV→V̄ is remarkably noticeable in the Turkic dialects around the Altai mountains, that is so-called Oirot and Khakas [dialects which are supposed to have been adjacent to the Mongolian language. [Of course, this phenomenon is found in various degrees in other dialects; but in the case of ägi, when we examine *täg-ir-män into which the stem we are speaking of and the noun stem-forming suffix -män (~-man) are combined, it is found that the dialects in question show the contraction of *ägi → ǟ (or the form which seems to have resulted from this contraction) in such words as Tel. tär̄män, Oir., Leb. Šor. Küär. tär̄bän (also in Kkir.), Sag. terbän, Koib. tirbān, while in other dialects, Uig., Mtü., Kom., Čag., Bar. tägirmän "Mühle," Özb., Kkir. tegirmän, Trkm. degirmen, Osm. dejirmän, Kar. tijärmän, tijermɛn, tijirmań, tigirmeń, Kaz. təgərmän[4].] Therefore, as Menges supposes, a certain old Mongolian dialect seems to have borrowed *täγirgän which was subjected to the early phonemic change *ägi → *äγi that is assumed to have occurred in old Türk dialects, and, already before the stage of written records this form may have become *tērge(n), or the like form (from) *te'irge(n) or *te'erge(n). It seems in the writer's opinion that Monguor dialect has faithfully preserved this proto-form, while other dialects have lost *ē in their old languages on some cause[5].

Ramstedt, in his *Kalmückisches Wörterbuch* (p. 393), tries an etymological comparison of [terɡen; ob zu tü. täz. 'schnell,' Uig. täzgin- 'sich schnell herumdrehen,'....] about this word (Kal. tergṇ), and relates it with the verb terɡl̩- "fliehen,...." [tergi-l-, tergili; jak. täski-l-id, atü. täzgi-n- zu tü. täz-, čuw. tar-id]; but there occur some doubts in the point of meaning. As the form resembles another form Mo. tergele-=Kal. terɡl̩- "mit dem Wagen fahren", an analogical inference or psychology that works in folk-etymology may be among the reasons why the form without old long vowel *ē has prevailed. The form which can be traced back to *teγer-, (or *teγir-) reconstructed in the parent language is preserved, instead, in Kh. tērem, Ord. tērme, Kal; tērmⁿ, tērmṇ "Mühle".

The numeral meaning <1000> is tümän in the Yuan-chao mi-shih, tümen in the literary Mongolian, which correspond to Kh. tüme(ŋ), Kal. tümṇ, Bury. tüməŋ, Ord. tüme, etc. in modern dialects, and these modern forms contain fairly contracted short vowels in the second syllable. On the other hand, it

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(3) RLTS, pp. 112 ff.

(4) RLTS, p. 119. Other example in which we find *ägi → ǟ are Kmk., Blk. tirmen, türmen, Krč. t'irmen, Kkir. tärbän.

(5) Some example suggest that a long vowel become confused with a short one before *l or *r in the early times (For example, Mo. ur = Kal. ör || Kh. ur "Morgendämmerung"; Mo. bel = Kh. Kal. bel || Khar. bələ "Hufte, Mitte"). Such a thing like this may be taken as a cause. Further inquiry will be required.

is noteworthy that Monguor dialect has a long vowel in tumiēn in opposition to a short one in the corresponding word of other dialects.

This numeral can be compared, for instance, with Atü. tümän of Türk. A von GABAIN, furthermore, compares it with Toch. tmaṃ, Kuč. tumane, Modern Persian turmān (see GAG, p. 345b). We should not jump to the conclusion as to what language it originated in or as to the process of its borrowing. It is obvious, however, that it was derived from one of the Indo-European languages with which the Türk and the Mongol seem to have come in contact in old Central Asia or around its neighbourhood. As von GABAIN explains, of old, Toch. A. tmāṃ, B. tumane "10000"[6], Old Church Slavonic tŭma "foule, myriade"[7] and, later in the period, Russian тьма meaning "multitude, host, a great number" now, but "10000" in Old Russian, these words of Indo-European resemble the forms of Türk and Mongolian[7]. The Tocharian form mentioned above, especially the Russian form from the old to the modern period, is near to that of Monguor dialect in question, and has almost the same meaning with it, which is worth noticing.

To conclude here, the long vowel iē of the second syllable in Monguor dialect will probably result from the borrowing of the form with an accented long vowel in the second syllable of old Indo-European. iē in Monguor dialect, in contrast to ā or á in Indo-European, is assumed to have derived from the assimilation to the weak-stressed vowel of the first syllable which became front-voweled in the old Mongolian dialects. The forms of other Mongolian dialects and Mi-shih Mongolian or so are assumed to have resulted, either from the weakening of vowels in the second syllable owing to the stress fixed on the first in their proto-forms, or from the re-borrowing of them by way of Türk dialect. The corresponding Kharachin word[8] is tōmŏ, formed possibly by quantitative metathesis from such as *tümē.

Now, in the above two extremely old loan words, we have seen that there exists a not accidental correspondence in quantity of the long vowel. In view of the results so far brought about, we cannot help examining a hypothesis that Monguor dialect preserves long vowels which it is difficult to deduce directly from the form of the Mi-shih where Mongolian is transcribed in the Chinese characters or from the form of the old literary Mongolian of Ujγur

(6) *A Comparative Grammar of Indo-European Languages* by Shigeharu KŌZU, 1954, p. 261.
(7) MEILLET: *Introduction*[8], 1937, p. 414. This word is compared with Tocharian and Türk above mentioned in *Russian and the Slavonic Languages* by ENTWISTLE, W. J. & MORISON, W. A., p. 144. Refer to O. SCHRADER: *Reallexikon*, p. 640b, and Paul DIELS: *Altkirchen-slavische Grammatik*, I. p. 216, II. 108b. Cf. Sadatoshi YASUGI, *Russian-Japanese Dictionary*, p. 1249b. In Русско-Английский Словарь[2], co-edited by Ахманова, О. С. etc., Москва 1952, p. 690a, we find "тьма. II. разг. (множество) thousands, pl. multitude."
(8) For the possibility of this dialect having the long vowel, refer to §7.

script and which would have existed in the fairly old times (at least before 10th century), and also preserves some traces of the cluster (or connection) of vowel phonemes which would have existed at any rate before the phonemic change VɣV→V'V→ long V and which would have been long vowels or types extremely near to them in the Proto-Mongolian period.

We shall consider some phonemic phenomena in Monguor dialect[9] that could be regarded as illustrative of this assumption.

2. PMO. *ā → Mgr. ā

2.1. bārdi- (p. 21)~wārdi- (p. 481) "lutter, se mesurer à la lutte."

Such comparison with abaldu-, "id." in the Mi-shih as SMEDT-MOSTAERT try, would be possible both in form and in meaning if we think about the dropping of the initial syllable that is peculiar to and often occurs in this dialect. On the other hand, if we attach importance to the long vowel of the first syllable which appears now, we must pay attention to Evenki ВАЛДЫ̄- "bitj drug druga" and its noun equivalent ВАЛДЫ̄Н "boji, bojnä" of Tungus[10], therefore to the forms with the root-vowel ā, like wā- of Evenki, Solon, Negidal, Oroči, Udehe, Orokko[11], and Mā- of Lamut. RÄSÄNEN[12] compares Evenki Bā- with Türk bā-š "Wunde" (Notes by the present writer.: Is bāš Türkmen? The word of Yakut is bās "Wunde"), Middle Türk ba-lïɣ "verwundet," ba-lik "verwundet wer den" (Old Türk baš "Wunde", GAG p. 301b), and Kalmuck bā "geschwollene wunde Stelle" of Mongolian, though he does this with some doubts. Perhaps, also referring to RAMSTEDT, he would have made this comparison[13]. But it seems unreasonable that it should correspond to Tungus, consequently to Monguor, and we may well have some doubts. If the Monguor form should really correspond to abaldu- of the Mi-shih, as SMEDT-MOSTAERT note, those in Monguor and Tungus dialects might have resulted from the weakening of the initial syllable for having no stress like *àbáldu-.

2.2. jāra (p. 489) "plaie, blessure, ulcère, abcès"=Mo. yara, Mi-shih yara "blessure", Kh., Bury., Ord., Kal. jara "ulcère, abcès".

jārada- (p. 489) "se former un ulcère, se former un abcès"=Mo. yarada-, yaradu- "avoir des ulcères", Kh. jart- "id.".

RAMSTEDT suspects that this noun would be borrowed from Türk[14].

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(9)   We depend upon SMDM for each datum.
(10) VERS, p. 284.
(11) CSFT, pp. 97, 229. VERS, p. 28b. Tungus -ldi- (←-*ldu-), which corresponds to Mongolian -ldu-~-ldü-, is a verb-stem-forming-suffix derived from a verb. Benzing takes its function as "reziproker perfektiver Aspekt". BTS, p. 121.
(12) RLTS, p. 69.
(13) RKW, p. 37a. Cf. §I.3.2.2.
(14) RKW, p. 215b.

The verb jārada- corresponds to jarᵇdɐ- "verwundet sein" of Kalmuck. The various forms illustrated above can be thought to come originally from the verb root *√jar- (rightly, *√jār- as shall be shown below) with various suffixes forming stems. This root can be brought into comparison with the verb roots which are assumed to have had long vowels already in Proto-Türk, such as yar- "spalten" of Old Türk[15], therefore Türkmen, jār "to split"[16]. In this case, a correspondence both in tone quality and in tone quantity of the long vowel ā must be noticed between Monguor and Türk[17]. The change of *j- → *ǯ- recognized in ǰara "wound" of Muqaddimat may have been caused by the influence of the subsequent long vowel ā thus assumed. (Compare it with Mu. ǰara-=Mi-shih ya'ara-, Kh. jār-, etc. "to hasten", PMCS, p. 127)

　　3. PMo. *ō → Mgr. ō

　　3.1. dźíōrɡo (p. 91) "rencontrer, avoir une entrevue, visiter"=Mo. jolɤa-, Kh. dzolɡ-, Ord. dʒolɡo-, Kal. zolɤᵇ- "begegnen, begrüssen".

　　This word stands comparison with Türk, Atü. yola- "sich auf den Weg machen" and yolq- "begegnen", etc.[18] Both the Türk and the Mongolian forms come from the noun stem Mo. jol, Kh. зол "schastje, udacha", Kal. zol "Glück, glücklicher Reise, Erfolg" ‖ Tü., Atü. yol "Weg, Reise, Strahl, Mal, Möglichkeit, Glück, Existenzform" combined with the substantival verb-stem-forming-morpheme Mo. -ɤa-, Tü. -a-, -q-[19]. The substantival-stem in question is jōl in Trkm. and suol "Weg" in Yak. Now, we can reconstruct a long vowel *ō in Proto-Türk[20]. It follows that there exists a correspondence of Mgr. ō ‖ Tü. *ō in this case, too. But the word in Tungus which can be taken as corresponding to this noun seems to show no long vowel. There are many other instances where Türk, Mongolian and Tungus do not always show a perfect correspondence both in tone quality and in tone quantity, like Ev. дёл "udacha", Lam. дял, люл; ʒal "Wohlbefinden, Erfolg", and Ev. дёлга- "vstrětitj" which is the corresponding verb of Tungus[21]. From this fact we realize that the reconstruction of Proto-Altaic requires further and more complete examination.

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(15)　GAG, p. 352b.

(16)　For the details of the form and meaning of this Türk root and its derivative, refer to MENGES, ibid. p. 76.

(17)　The present writer assumes that this root has a kind of Ablaut-relation with Mo. ira-, Ord. ira-, Kal. ir- "schneiden....". Cf. §1.3.1.2.

(18)　RKW, 476a.

(19)　RKW, 476a, 475b; RAMSTEDT: Verbstammbildungslehre, p. 14, §14; GAG, p. 66, §85, p. 67, §91.

(20)　RLTS, pp. 85-6.

(21)　CRES, pp. 600b, 636a, 651b. VERS, p. 39a, BLG, p. 161b.

3.2. mōdi (pp. 238, 500) " bois, arbre"

The corresponding forms of the modern Mongolian dialects are Kh. modo, Ord. mudu, Bury. modoŋ, Kal. modṇ whose vowels of the first syllable are generally short. It is noteworthy, however, that Dagur mōd has a long vowel in the corresponding position[22]. It is then necessary here that we should historically investigate into the construction of this word. RAMSTEDT has already remarked with a deep insight in his *Studies in Korean Etymology*, p. 172: " moL. nidün....with the same ending as in modun, odun, šidün, etc.?" The present writer should rather suggest that these words might have come from *√ni-, *√mō-, *√pō- (→ √o-), *√ši- combined respectively with a kind of plural-suffix-like elements. ödün "feather" also will be grouped with these words. In any case, it is remarkable that each of these words signifies an object or organ which consists of two or more than two parts having almost the same form and is made whole by them. (To trace back further, -d- might possibly be a morpheme functioning as a kind of class marker.) It has been proved through the old literary language of "Alexandersage"[23] that the old root form of modun in question is mo. Therefore, it goes without saying that the part worthy of material in comparison with languages which are supposed to be of the same family should be *√mo- (actually, *√mō-) → Mgr., Dag. √mō-. These Monguor and Dagur forms should be compared with mō in Tungus, Evenki, Even and all the other dialects, and with moo (← *mō) in the literary Manchu, both meaning "a tree or a stick". On the basis of this correspondence, the present writer construes that the long vowel ō of these two dialects in question does not result from a later modification but rather preserves the proto-form and that the other Mongolian dialects, on the other hand, have indeed a new form which is made by the shortening of a root vowel or by the successive analogy[24].

3.3. fōdi (p. 99) " étoile"

This word corresponds to Mo. odun, MMo. hodun, Dag. od; χoto, Ord. udu, Kh. odo, Bury. odoŋ, Kal. odṇ "star". Here, as in the last section, the determination of the etymology of this word and the comparison with other Altaic languages are impossible without any thorough diachronic investigations into the forms of materials in Mongolian and Tungus, etc. respectively[25]. The present writer holds that the root of this word is *√pō-, as is shown in the

(22) PMCS, p. 28.
(23) N. POPPE: Eine mongolische Fassung der Alexandersage. ZDMG, 107-1. NFolg, pp. 112, 119.
(24) CSF, pp. 14, 24, 47, 313; VERS, p. 82a; BTS, p. 23.
(25) Cf. RSKE, p. 196; RLTS, p. 71; RUAW, p. 30, and Susumu ŌNO, *On the Origin of Japanese*, p. 170.

last section and that *-d- is originally a plural-suffix-like element. Its mean-
ing, the long vowel of the first syllable, and the initial consonant make us
morphologically notice first Tungus, Ev. ōсӣктā, Lam. ōсӣкат, ōшикат, ōхӣкат,
Go. hosakta, Orok. wasekta~xosekta, Oroč. xosikta, etc. (The Tungus root is
√ōʃĭ-, according to BENZING, it traces back to *√xōsi-)[26].

But Monguor dialect or so can stand comparison with Tungus dialects
only after the following conditions have been satisfied: first, concerning the
Tungus form, as in the case of Tungus *iā-sa-~*ńā-sa- meaning "eye" men-
tioned above[27], that *-sĭ- of the second syllable is a kind of plural-suffix-like
element (or a stem-forming element) and then that the root is *√xō- (There
seems to be a fair chance for it); secondly, that there is a correspondence of
Mo. *p- ‖ Tg. *x- on condition that the reconstruction of the initial consonant
*x by BENZING is reasonable (For instance, if Mo. *p- in this case can be further
traced back to *kʷ-, this correspondence can be taken for established).

Moreover, RÄSÄNEN compares Tungus *xōsĭ with Magyar húgy "star"[28],
and it must be noticed that the vowel of the first syllable is also long and this
form itself resembles the Monguor form very much. This would probably be
borrowed through Proto-Türk. (Otherwise this would be "urverwandt" as
RÄSÄNEN says. We are interested in it because of being a basic word.) If -r at
the end of the stem in Korean should be a stem-forming element of some kind,
there may be left some possibility of comparison between Korean *bier* and the
forms of the dialects mentioned above. It is noticeable, however, that the main
vowel is long in Korean, too[29].

These examples given above are illustrated to show that the correspondence
of Mo. *√pō- ‖ Tg. *√xō- might be possible.

Comparison with Türk *ōt →: Atü. ot, oot Trkm. ōt "Feuer"; Atü. očïq,
očuq, očaq, Trkm. ōӡaq "Herd"[30] is not impossible, but, as there is a hard
point to settle about the consonant element at the end of the stem, the decision
of this comparison shall be deferred to some other occasion.

3.4. ōli- (p. 296) "devenir, être, pouvoir, ..."=Mo. bol-, MMo. bol-;
Dag., Ord., Kh., Bury., Kal., bol- "become".

As SMEDT-MOSTAERT remark, this form bears comparison with the Türk
ones, such as Atü. bol-, Trkm. bol-, Chuv. pol-, pul-, Yak. buol-, Osm. ol-

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(26)   CSF, pp. 140, 318. CRES, 191a; BTS, p. 23.
(27)   See § 1.3.5.
(28)   RLTS, p. 71; RUAW, p. 30.
(29)   Lectures by late Dr. Shimpei OGURA. Cf. GILES, *Korean-English Dictionary*², Yokohama,
      1911, p. 426a.
(30)   RLTS, pp. 85–6, p. 181. GAG, pp. 46, 320b, 322a. Tü. *ōt- stands comparison with
      Kal. otšn, Mo. očin "Funke".

"werden, sein". Räsänen does not reconstruct a long vowel (in this case, *ō) in Proto-Türk when no correspondence in tone quantity, especially before r and l, can be found between the Yakut and the Türkmen forms[31]. But, since pl- which shows 'Vokal-reduktion' as against pol- and bhol- can be found even in the Brāhmi literary monument of Old Türk[32], it seems that we can assume there might have been a quantitative alternation since the early days (it is naturally supposed that there appeared many allomorphs since it was frequently used as 'Hilfsverb' and was put under various 'satzphonetisch' restrictions), and that we could reconstruct a form like *bŏl-~*bol- (namely, *bŏl- → Yak. buol- / Trkm. bol-). The Monguor dialect form traces back to *bōl- with this long vowel. By the influence of the long vowel *ō, Monguor and Osmanli dialects seem to have weakened the initial sound and then lost it. The Tungus form which resembles the Mongolian and Türk ones in form, meaning or function and can stand comparison with them, is ō- "werden" (Ma., Go., Udh. o-: Tg. *ō-) in Evenki, Negidal and Lamut. It should be paid attention to that a long vowel occurs in the root-vowels. It is hard to compare the Türk and Mongolian forms directly with this one, but comparison is not always impossible if the construction of the stem and root of the former should be elucidated some day, and, for instance, if *√bŏ should be proved to be its ultimate root.

  4. *PMo. *ū → Mgr. ū

  4.1. d'z'iūri- (p. 95) "dessiner, écrire, peindre"=Mo. ǰiru-, Ord. dʒuru-, Kh. dzur-, Kal. zur- "id.".

  This form bears comparison with Osmanli or so jaz- "pisatj, risovatj", Chuv. śур-, śir- "schreiben" of Türk[34]. The Türk form, however, does not suggest *ā directly in this case but rather a short vowel *a. It is worth noticing, on the other hand, that the corresponding Evenki д̄ōpӯ- of Tungus "oboznachatj, metitj, chertitj, ..." (VERS p. 48b) contains a long vowel ū in the first syllable. Therefore, the correspondence of Mgr. ū ‖ Tg. ū can be recognized. Vladimircov compares Mo. ǰiru-, ǰuru-; Tü. jaz-, etc. with literary Manchu niru- "to paint, draw", but this comparison is doubtful. Comparison with √jur-: jurgan "line, stripe in the writing," jurgala- "to make a stripe" would be better. The corresponding Bolgar Türk form is ir- "schreiben" (<Magyar. ír-)[35]. The observations as made above makes the present writer to hesitate to accept a not deliberate treatment of dʒuru- or so of Mongolian dialects in

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(31) RLTS, pp. 68, 85–86.
(32) GAG, pp. 6, 43–4, 304a.
(33) VERS, 104a; BTS., p. 126; BLG., §86a.
(34) Cf. VSG, p. 188; RKW. p. 481a; RLTS, pp. 181, 185.
(35) RLTS, p. 185. *jir'- is reconstructed as the proto-form.

general as an example of "breaking".

    5. PMo. *ē → Mgr. ē

    5.1. kēji (p. 199) "ruminer"

                =Mo. kebi-, Ord. kewe-, Kal. kew- "id."

RAMSTEDT compares this with Cag. kävšä-, Kir. küisö-, Osm. gäv-, Chuv. kav-lɛ- "wiederkäuen" of Türk[36]. But, if we take into consideration the appearance of the initial consonant 9- in Osmanli and the corresponding Türkmen form 9ᾱviʃe-, we should reconstruct the long vowel *ā in Proto-Türk. Therefore, we must acknowledge the correspondence of Mgr. ē ‖ Tü. *ā.

    5.2. We find some cases where comparison with Tungus seems reasonable, as the following two examples show.

    5.2.1. 9ᵊriē "lumière, clarté, eclat, rayon"=Mo. gere, Ord. 9ere, Kal. 9erᵊ, Kh. 9ere (!!) "id."

RAMSTEDT compares these with Tungus Ðeri "licht"[38]. The right Tungus (Evenki) form is нгᴧ̄рӣ "svët" (Dialectal нᴧ̄рӣ is also found. The verb form is нгᴧри- "svëtitj")[39], and the corresponding Lamut forms are нгᴧ̄рӣн and нгᴧ̄рӣ-л- respectively[40]. Taking into consideration Ev., Lam. Ðᴧрил-, Negd. ŋᴧил- "svëtatj," Sol. нᴧ̄рӣн "zarä" and so on, CINCIUS assumes the long vowel *ᴧ in the first syllable in Proto-Tungus[41]. BENZING also tries to make the same comparison and reconstructs *Ðāri- "glänzen, hell sein" as the common proto-form[42]. In relation to Monguor dialect, the writer should also like to take notice of ī which appears in the second syllable of the forms illustrated above of Tungus dialects. He will probably be making a too bold assumption in inferring that the Monguor or Khalkha forms are derived from a form like *9ērē through the quantitative dissimilation, and that the long vowel of the second syllable preserves some trace of its proto-sound.

    5.2.2. kur9ēn "gendre"

                =Mo. kürgen, Ord. kürgen, Kal. kür9ṇ, Kh. xür9eŋ "id."

    This word bears comparison with kürigä(n) <daughter's husband, step-son> in the Mi-shih. -9en at the end of the stem is a suffix which is often found in nouns designating family-relation, and it originally works as a kind of diminutive; for instance, *el-9en → Kh. el9eŋ, Kal. el9ṇ "die Verwandten"[43]. The problem here is that the long vowel ē appears in the suffix and that the cor-

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(36)   RKW, p. 229b.

(37)   RLTS, p. 89.

(38)   RKW, p. 134a.

(39)   VERS, p. 102a.

(40)   CRES, p. 552a.

(41)   CSF, pp. 99–100, 108–9, 317.

(42)   BTS, p. 21.

(43)   RKW, p. 119a.

responding Tungus word, for example, Evenki курэкэн "zätj"[44], has also a long vowel in the same position. (It is noteworthy that this Evenki form resembles Mi-shih Mongolian more closely than literary Mongolian in point of the vowel.) This Tungus ending of stem is a kind of diminutive, functioning as noun-forming-suffix, derived from *-kān∼*-kān[45] as the following shows: Ev. bīra-kān "Flüsschen," Lam. bər-kān "Selbstchussfalle" (← bə̄ri-kān "kleiner Bogen"). Correspondence between these and the Monguor suffix in question -gēn ← *-gān∼*-gēn seems reasonable. Though there is a problem to be settled about the initial consonant of the suffix, we ought to notice that there also exists an alternating form -gan in the Monguor diminutive suffix -xān (∼-xan) ∼-xēn ← *qān∼*-kēn with which we can relate it. (Refer to SMEDT et MOSTAERT: *Le Dialecte Monguor*, IIᵉ Partie, Grammaire, pp. 81-3)[46].

6. PMo. *ȫ → Mgr. *ȫ → ē

6.1. diēran "quatre"

= Mo. *dörben*, Ord. dörwö, Kh. dörwö, Kal. dörwṇ, Sirongol deren "id."

Mongolian dialects generally contain no vowel in the first syllable. The root *√dör- (← *√dȫr-) can be compared with Türk, for instance, √tör- of Atü. tört "id."[47]. As to this Türk root vowel we ought to assume the long vowel *ȫ (? or, in any case, a long vowel like *üö) in Proto-Türk as Trkm. dȫrt, Yak. tüörd show[48]. Although there arises a problem about tone quality in this case also, the correspondence of tone quantity between Monguor and Proto-Türk is to be admitted. It is not always impossible, however, to infer that iē of Monguor dialect may result from the substitution-length by the dropping of *-b- in the subsequent syllable, but, as to the dropping of *-b-, the present writer thinks that it originates from the contraction of *-re-ben → *-ren by avoiding the long môra *dö-ö-re-ben (*dȫrben traces back further to *dȫreben). Further, it must be noticed that the lip-flatting of the root-vowel has taken place in many corresponding Tungus dialects as **dürgüän (*The present writer is inclined to reconstruct **düragüän) → *dügün → Ev. digin shows. Judging from Jučen durhuan "fourteen", the present writer thinks that BENZING rightly assumed the root **√dür-[44].

7. As we have seen, the present writer has pointed out, by inquiring into some cases, that the long vowels in question of Monguor dialect correspond to the short vowels of almost all the other Mongolian dialects, and that, in some

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(44) VERS, p. 73a.

(45) BTS, p. 58.

(46) For noteworthy study of long vowels which appear in suffixes or in endings, refer to RLTS, pp. 71-3.

(47) VSG, p. 163.

(48) RLTS, pp. 92-3.

cases, the Monguor long vowels ought to be interpreted, not as having made a development of their own, but rather as possibly reflecting and preserving some traces of the phonemically meaningful contrast of long vowels / short ones in the ancient times which the other dialects generally lost in the early days. Apart from long monosyllabic words ending in vowel, for instance, *mō, *pō, which seem to have possibly consisted of two moras in the phonological point of view, many words or stems having long vowels, which are to be the subject of study in the sense pointed above, are found in dialects of the central region besides Monguor dialect. For example, the Kharachin dialect form bōlə which corresponds to Kh. bel "stan, sklon, gory", Ord. bèl "milieu du corps, partie de penchant de montagne", Kal. bel "Hüfte, Mitte des menschlichen Körpers od. des Berges", has the long vowel ə. As a matter of fact this ō corresponds to *ē → ī of Türk *bēl → Trkm. bīl, Yak. bīl (Atü. bil, Chuv. pil (-ək)) "Hüfte," and can be assumed to trace back to Propo-Mongolian[50].

VLADIMIRCOV suggests an alternation e~i in the written Mongolian and assumes the vowel phoneme *ė, in Proto-Mongolian and Proto-Türk, which corresponds to ė of the Orkhon-Yenisei monument written in Old Türk, as in the case of Mo. el~il "narod, gosudarstvo" ‖ Atü. ėl (cf. GAT pp. 298a, 310b: äl, il, Br. el "Land, Reich, Herrschaft"), and Mo. bel ‖ Atü. bil mentioned above[51]. But, as KARAHKA[52], treating of the same phenomenon e~i of Türk, has already reconstructed *ē there, so the present writer considers that, in the case of Mongolian also, in some words or roots showing the alternation e~i, we can reconstruct *ē in Proto-Mongolian on some occasion. KARAHKA reconstructs *ēl in Proto-Türk that corresponds to the Mongolian el~il and he assumes that, in Chuvash dialect, the diphthongizing of the vowel *ē in *ēl → *iäl → jal "Dorf" took place quite parallel to that of the vowel *ā in *tāl' → *tial → *tịal → t'șul "Stein". In this point, the vowel ė (not e!) that can be seen in bel of Ordos is worth noticing.

The present writer assumes that *ē and *ā in the cases like this trace further back to *iē and *iā, that is, diphthongs → long vowels, contrary to KARAHKA's hypothesis. However, there might be some possibility in the assumption that such phonetical variations as *ā~*ia (or *iā), *ē~*ie (or *iē) may have existed in the vowel phonemes */ā/, */ē/ respectively[53].

(49) BTS, p. 101.
(50) RLTS, p. 89. But, it is not impossible that this Proto-Türk vowel might be *ī. Op. cit. pp. 90–1. cf. §7 of this study.
(51) VSG, pp. 149–50.
(52) Eino KARAHKA: Zur Frage nach ursprünglichen Vokallängen im Tschuwassischen. SO, XIV: 11. Helsinki, 1950, p. 10.
(53) cf. §I. 4. The system of phonemic transcription taken by the present writer is quite tentative at present.

8. About the problems the writer has treated of in this study, Prof. POPPE says in his recent *Introduction to Mongolian Comparative Studies:* that the general principle is: the correspondences of *a → Mgr. ā=a in the other dialects, and *o → Mgr. ō=o in the other dialects appear when there is *u in the following syllable; in the same way, the correspondence of *ö → Mgr. ō=ö or ü in the other dialects is found when there is *ü in the following syllable[54]. It goes without saying that the so-called inner comparative study is the most fundamental task in the historical studies of a language. But, as, in another article, the present writer will deal with more examples, examples of other dialects besides Monguor, suffixes and endings, etc., Prof. POPPE's general principle does not seem satisfactory in every case. The present writer thinks that, in such case, supposing the points in question have possibly some traces of ancient facts, we should naturally try tentatively an outer study in comparison with languages which are supposed to be of the same family, that is, Türk and Tungus. The present writer ventures to bring forward a hypothesis that there existed phonemically meaningful long vowels in Proto-Mongolian as well as in Proto-Türk and Proto-Tungus.

What has been stated above about Monguor is briefly tabulated as under.

PMo.		Mgr.	Tü.	Tg.	Other Languages	
*ā	*bā- (? *àbá-)	ā	*ā ?	*ā		§2.1.
	*jār-	ā	*ā	—		§2.2.
	*d'ōl-	ō	*ō	*o ?		§3.1.
*ō	*mō	ō	—	*ō		§3.2.
	*pō (← ? *kwō)	ō	?	*ō	Magyar húgy	§3.3.
	*bōl-	ō	*ō (~*o~*⁰)	*ō ?		§3.4.
*ū	*d'ūr- (~*d'ïr-)	ū	*ï (? *ï̄)~*a	*ū	Magyar ír-	§4.1.
	*kēbi-	ē	*ā̄	—		§5.1.
*ē	*gèré	ē	—	*ī		§5.2.
	*-gēn	ē	—	*ē		§5.2.2.
*o	*dör-	ē̄ (← *ō̄ or *üö)	*ō̄	*ü (? ← *üö)		§6.1.

(1953–3 First written, 1958–12 Revised)

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(54) See PMCS, especially pp. 47–50, and also pp. 26, 30.

Abbreviations and Phonetic Signs

Atü.   =Ancient Türk language.
Bury.   =Buryat.
Dag.   =Dagur.
Kal.   =Kalmuck.
Kh.   =Khalkha.
Khar.   =Kharachin.
Mo.   =Mongol language; Mongol written language.
Mgr.   =Monguor.
MMo.   =Middle Mongol language.
Mtü.   =Middle Türk language.
Ord.   =Ordos.
S.-Mo.   =Southern Mongolian dialect by A. D. RUDNEV.
BLG.   =Johannes BENZING: Lamutische Grammatik. Wiesbaden, 1955.
BTS.   =Johannes BENZING: Die tungusische Sprachen. Versuch einer vergleichende Grammatik. Wiesbaden, 1956.
CRES.   =CINCIUS i RISHES: Russko-Evenskij slovarj. Moskva, 1952.
CSF.   =V. I. CINCIUS: Sravniteljnaä FonetikaTunguso-Manjchzhurskix Äzykov. Leningrad, 1949.
EMG.   =Ahmet Cevat Emre: Türk lehçelerinin mukayeseli grameri. I. Istanbul, 1949.
GAT.   =A. von GABAIN: Alttürkische Grammatik. Leipzig, 1950.
PMCS.   =Nicholas POPPE: Introduction to Mongolian Comparative Studies. Helsinki, 1955.
RKW.   =G. J. RAMSTEDT: Kalmückisches Wörterbuch. Helsinki, 1935.
RLTS.   =Martti RÄSÄNEN: Materialien zur Lautgeschichte der Türkischen Sprachen. Helsinki, 1949.
RSKE.   =G. J. RAMSTEDT: Studies in Korean Etymology. Helsinki, 1949.
RUAW.   =Martti RÄSÄNEN: Uralaltaische Wortforschungen. SO, XVIII: 3. Helsinki, 1955.
VSG.   =B. Ä. VLADIMIRCOV: Sravniteljnaä Grammatika Mongoljskogo Pisjmännogo Äzyka i Khalkhaskogo Narёchiä. Leningrad, 1929.
V., VERS.=G. M. VASILЁVICH: Evenkijsko Russkij Slovarj. Moskva, 1940.

Abbreviations of languages and dialects which are not listed above follow the conventions of bibliographies. We depend upon the IPA system for consonants, for the convenience of printing, but, as to the vowels, we use the transcription similar to those conventionally used in each branch of languages by POPPE, RÄSÄNEN and BENZING. Some inconsistencies are found in bibliographies used, but the present writer does not venture to unify them (leave them as they are).