Sound-Correspondence Laws of Word-initial Consonants between Proto-Indo-European and Austronesian Languages: How Could New Sound Systems Have Emerged from a Pre-existing Sound System ?

Koji Ohnishi

Department of Biology, Faculty of Science, Niigata University,
8050, Ikarashi-2, Nishi-Ku, Niigata, 950-2181, Japan
(Tel : 81-25-262-6268; Fax : 81-25-262-6116) (E-mail: ohnishi@sc.niigata-u.ac.jp)

Abstract: Macro-comparative analysis of consonant-systems of Indo-European(IE) and Austronesian (AN) language families elucidated 43 word-initial (WI) consonant-correspondence laws (CCL's) between proto-IE (pIE) and AN (proto-AN(pAN), proto-Malayo-Polynesian(pMP), MP, Oceanic (OC), etc.). pIE was concluded to have Emerged from an Eastern MP (E.MP) language, closely kin to proto-OC (pOC) and considerably kin to Bali-Sasak languages. Characteristic features in the emergence of new consonants from pre-existing consonant systems have been elucidated.
Keywords: consonant-correspondence laws, macro-comparative linguistics, Austronesian origin of Indo-European

I. INTRODUCTION

Language is an evolving semiotic system having a dynamical network among word-meanings. Sound systems also changes throughout language evolution. A most important unsolved problem of macro-comparative (MC) evolutionary linguistics is how to find and establish sound- correspondence laws between distantly related language families. To solve this problem would elucidate evolutionary emergence of a newly evolved complex sound-system from a pre-existing sound system. Recent MC studies [1-3] suggest that most of major Eurasian language families excepting Afro-Asiatic and few others would have most plausibly derived from various branches of AN. IE and Uralic well conserve the AN consonant system [1, 2], and therefore consonant-correspondence laws (CCLs) between IE and AN were extensively searched.

II. MACROCOMPARATIVE ANALYSES, RESULTS, and DISCUSSIONS

In order to find IE-AN CCLs, pIE roots from AHD* and Pok* (See Table 1 for abbreviations of literatures.) were extensively compared with ca. 1400 basic words from the 80 AN languages listed in CAD*. The resulting cognates of pIE and AN words are listed and classified by the word-initial (WI) consonants in Table 1. These cognate correspondences were very beautifully classified into ca. 43 laws of WI-CCLs almost without exceptions, as listed in Table 2. Remarkable important findings are; ($19) [pIE] *gh-<[pMP]*q-, (8.1) [pIE]*dh-< (MP) *d(u̯)-, (4.1)*bh-< (MP) *b-, (10.1)*r-< [pMP] *r-, ($11) *l- < (pMP) *l-, etc.

Origins of word-initial laryngeals were found to be; [pIE]*H₂- < (MP) *h-, *H₃- < (MP) *ʔ- (glottal stop). But [pIE] *H₁- consistently reflects (MP) Ø- (zero),

which strongly suggests that [pIE]*H₁- would be a wrongly hypothesized phoneme at word-initial position.

Origins of IE-specific complex phonemes have now been elucidated as; ($14.)*kʷ-< (MP) kVw- <*kVb- (V=vowel), ($15.)*gʷ-< (MP) gʷ-< gVw- <*gVb-, (18.2)*gʷh-< guh-, (9.2) *su̯- (=*sw-) < *suw- ~ sub-. These examples tell us how new consonants could have emerged from pre-existing consonants, other than by simple sound conversions.

Most closely similar cognates of IE words (indicated by underlines in Table 1) were found maily in Eastern-MP (E.MP), especially in Western Oceanic (W.OC) and Central-Eastern Oceanic (C.E.OC) of Oceanic (OC) group of E.MP. Similarities are not clo sest in Formossan and W.MP, although considerably close cognates are often found in Sundic and Paiwan [3].

Relics of Bali.-Sasak-type verbal prefix N- (CAD*, 1(1): 505) (##5.3 in Table 1) gives a conclusion that pIE is most closely kin to proto-Oceanic, and would be a member of E.MP, and is also considerably kin to Bali.-Sasak group of Sundic.

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Table 1. Word-initial consonant correspondeces between proto-Indo-European and Austronesian languages.

(Abbreviations): |||| (GENERAL) : *xxxx = reconstructed form, "A < B", "B > A" = A has/had been derived from B, B has/had converted to B, "A < > B" = A is phylogenetically related to B. ; pXX = proto-XX (e.g. pIE, pAN, pMP, pOC),Wr. = Written, [XXX] = closest cognate(s) in AN |||| LANGUAGE NAMES): # IE = Indo-European: Hitt. = Hittite, InIr.= Indo-Iranian, Skr. = Sanskrit, O.C.S. = Old Church Slavonic, Gmc= common Germanic, OHG= Old High German, Grk= Greek, , Eng.=English ||| AN= Austronesian : (1) FORM.= Formossan. (2) MP = Malayo-Polynesian: W.MP= Western MP { Taga = Tagalog, Kal.L= Kalinga Limos, Sar.Blaan=Sarangani Blaan, Bang.Sama= Bangingi Sama, SND= Sundic (Minang.= Minangkabau, IndoN= Indonesian, Java.= Javanese, Bali.= Balinese) ; SLW= Sulawesi }, C.MP= Central MP (Mangg.=Manggarai), SHWNG = South Halmahera-West New Guinean, OC. = Oceanic W.OC.=Western Oceanic, C.E.OC = Central-Eastern OC {NwCAL= New Caledonian, C.Pac.= Central Pacific (E.Fiji./W.Fiji. = Eastern/ Western Fijian, MelN = Melanesian, PolyN= Polynesian)}]. ||| # Other languages: Ai = Ainu, MxZq (Data from Wich*) = Mixe-Zoquean (pZq proto-Zoquean, OxZq = Oxamaca-Zoquean), URA= Uralic [Finn.=Finnish], DRAV = Dravidian, TURK =Turkic, MONG= Mongolic (Wr.Mong.= Written Mongolian),TNG= Tungus, JR= Japanese-Ryukyuan (Ml.Jpn.= Mailland Japanese, RYU= Ryukyuan), KOR = Korean, STb= Sino-Tibetan, TbB= Tiberto-Burman ; NiKord = Niger-Kordofanian (J1 ~ J274: Nubmering of NiKord. janguages by Johnston*) |||| (REFERENCES): Most materials are obtained from; ADD* = *An Ainu Dialect Dictionary* (ed. by S. Hattori, Iwanami Shoten, Tokyo, 1964), AHD*=*American Herritage Dictionary, of Indo-European Roots, nd ed.* (ed. by C.Watkins, Houghton Mifflin Co., Boston, 2000), Ba* = *An AinuEnglish-Japanese Dictionary, 4th ed., 2nd printing*, Iwanami Shoten, Tokyo, 1981 (1st print., 1938)), CAD*= *Comparative Austronesian Dictionary* (Tryon,1995) ; Gr*02 = *Indo-European and Its Closest Relatives, Vol.2* (Greenberg, J.H., Stanford Univ. Press, 2002) ;Johnston* = *A Comparative Study of the Bantu and Semi-Bantu Languages (Vols.1-2)* (Johnston, H.H., Clarenton Press, Oxford, 1919) ; OL*= *The Oceanic Languages* (J.Lynch ey al., Curzon, 2002) ; Pok*= *Indogermanisches Etymologisches Woeterbuch*, 4.Aufl. (J.Pokorny, A.Francke Verlag, Tuebingen, 2002) ; Sze* = *Introduction to Indo-European Linguistics* (O.J.L. Szemerényi, Clarendon Press, Oxford, 1996), Tam* = *The Ainu-Japanese Dictionary. Saru Dialect* (Tamura, S., Sōhūkan, Tokyo), Wich* = *The Relationship among the Mixe-Zoquean Languages in Mexico* (S. Wichmann, Univ. of Utah Press, Salt Lake City, 1995), Yoshida*= *Hikaku-Gengogaku no Shiten* (Yoshida, Y., Taishukan-Shoten, Tokyo, 2005) |||| RECONSTRUCTIONS : K.O.* (by K. Ohnishi), Zorc*(by Zorc in CAD*), Other AN reconstructions are from CAD*, Cohen (1999), *etc.* ||||| Special chracters: x̱ = "underdot x" (x= t, d, n, m, l, etc.), ƙ , ǵ = "round cap *k* and roundcap *g*".

(I. BILABIALS) $ 1. [pIE] *m- ## [pIE] *m- < [pAN] *m- ([Ai] m-) |||| # COPIOUS /MUCH:[pIE] *men(e)gh-, *mn̥gh- (AHD*) "abundant, copious, much" (< *māŋg- < (MP) *māŋka) (Pok*, Gr*02, #260) |||WMP: [Murut] māŋka?, malaŋka? "large, big" ||| [Ai] manka "rich" |||| # to URINATE: [pIE]*meiǵh- (AHD*) ||| OC: [Motu] mei ◆◆◆◆ $ 2. [pIE] *p- ## [pIE] *p- < [pAN] *p- ([Ai] p-) |||| # FAR: [pIE] *per-ero- "further away" ||| OC: [Lewo] peri-na "far" |||| # FOR /BEFORE:[pIE] *pr̥- (*pro-, prō-) "for, before; early" (Pok*, pp.813) ||| OC:[Lewo] prana-na "forehead" (< *prana- < *pra-na < *pra "front") || W.MP: [Batak Toba] par-jolo "first" ; [Bali.] prn-daŋ "earlier in the morning than usual" (CAD* #14.160) ◆◆◆◆ $ 3. [pIE] *b- ## [pIE] *b- / (InIr) b- (mostly used in onomatopoeic words.) < (MP) *b- ||| # to BLOW:[pIE] *b(e)u-m, *bh(e)ŭ- "to blow (aufblasen, schwellen)" ||| OC: (MicroN) [Ponapean] peuk "to blow" (< *beu-k) |||| # STAFF: [pIE] *bak- "staff used for support"(Pok*, p.93) ||| OC: [Takia] bag "post, pole" ◆◆◆◆ $ 4. [pIE] *bh- ## 4.1. [pIE] *bh- < [pMP] [pAN] *b- ([Ai] h-) |||| # BEECH: [pIE] *bhagos "beech" (Pok*) ||| WMP: (Sundic) [Batak Toba] bagɔt "palm tree" ||FORM: [Atayal] βayāš "palm tree" |||| to BREAK: [pIE] *bhreg- "to break" ||| W.MP:[Palawan] bɔri?ɔn "to break" || OC:[Maringe] bru-ja "to break" ||| [Ai] (ADD*) (Yakumo) horak //(Obihro) 'orak "to break it down" ||| JR:[pJR] *bor-u "to break" |||| # to SHINE: [pIE] *bherek- "to shine, to glitter" ||W.MP: [Wolio] ɓerese /[Uma] berese "lightning" (< *bere-se) ||| [Ai] (Ta*) heri (belonging form) "a gloss" |||| # to SMELL [pIE] *bhrag- "to smell" ||| OC: [Nemi] bureroi (< *bure-roi ?) "fragrant, good smelling", burenia "bad smelling" (< *bure- "smelling") ; [Xaracuu] bu "to smell (v.i.)" ||| [Ai] (Kuril Islands dial.) fura, (Hokkaido dial., Sakhalin dial.) hura "a smell" (ADD*), (= fura, hura (Ba*)) (< *bura), hura nu, fura-nu "to smell" (ADD*, Ba*) |||| ◆◆ ## 4.2. [pIE] *bh- (onomato-poeic ?) < (MP) β- ([Ai] p-) || # SPRING /WELL: [pIE] *bhrŭ-, *bhrĕu- ||| OC: [W.Fijian] βure "spring, well" ||| [Ai] puru "to well out" (Ba*) (< *buru)

(II. ALVEOLARS) $ 5. [pIE] *n- ## 5.1. [pIE] *n- < [pAN] *n- ([Ai] n-) |||| # MOTHER: [pIE] *nana (< (pMP) nana) ||| OC: [A'jie] ñaña /[Port Sandwitch] nana (< [pMP] *nana (Zorc*) ~*ñaña (K.O.*) ? "mother").||| MxZq: [pMxZq] *nana "mother" |||| # NOT:[Hittite] nāwi "noch nicht" (< *na?u-i ?), [Skr.] ná "not" ||| C.MP: [Dobel] na?u'da "no, (negative)" [< *na?u-ida "noch nicht (?)" ? < *na?u-+ *inda "not" (< >[Wolio] inda "no"), CAD* #17.560.] |||] nak "not" (< *na-k ?) ◆◆ ## 5.2, [pIE] *n- < (MP) *ŋ- ||| # to HELP: [pIE] *nā- "to help, to be useful" (< *ŋā- "to help") ||| W.MP: [Sundanese] ŋa-bantu "to help", [Uma] ŋaβa? "to help, to aid" (< ŋa-βa?) || OC: [A'jie] nābē "to help, to aid" (< *ŋā-bē) |||| # NEW: [pIE] *neųo- (Pok*), *newo- (AHD*) /[Hitt.] neųa- /[Skr.] náva- "new" (*neųo- / *newo- < *ŋe(i)-wou < *ŋei "soon, now" + *wou "new") ||| OC: [Nengone] ŋei "soon", (PolyN) [Samoan] nei "now" (< *ŋei) ||| Note: *wo-/*-wou in [pIE] *ne-wo- (< *ŋe(i)-wou) cogates with; (OC)[Tawala] wou-na /[Kilivila] -βau // (W.MP)[Da'a] na-bou (< *na-bau) /[Murut] bagu ///(FORM) [Paiwan] vaku-an "new" (< [pAN] *baq(e)RuH) |||JR:[pJR] *baka-"young" (< *baq-u). ◆◆ ## 5.3. [pIE] *n- < (MP) *ñ- (= *N- + *j-) ||| to FEAR: [pIE] *nəH₂- (K.O.*) (= *nā , Pok*) /[Hitt.] naḫ(ḫ)-(Pok*) (< (MP) *ñaH₂- "to fear") ||| W.MP: [Bali.] ñəh- "to fear" (= [pMP] *ñəH₂- (K.O*) < *N-jəh "to fear" < *N-"verbal prefix" + *jəh) ◆◆◆◆ $ 6. [pIE] *t- ## 6.1. [pIE] *t- /[Latin] t- /[OHG] d- /[Eng.] th- < (MP) *t- < [pAN] *t- |||| # DRY: [pIE] *ters-, *tr̥s- "dry" (< (MP) *tire(s)-) ||| W.MP: [Konjo] ürere "thirst" (< *tire(-re) ~ *tirese-"dry, thirst" ([Ai] cire "to put to dry in the sun" (Ba*) (< *tire)) ||| # DWELLING: [piE] *treb- ||| FORM: [Tsou] trova

279

"hut" |||| [Ai] che (= ce) (Ba*) "house" (<*tre) |||| # THREE: [pIE] *trei- /[Skr] trf ||| [pAN] *telu //(WMP) [Sarang. Blaan] tlu /[Sundan.] tilu /[Bali.] [Sasak] təlu //(OC)[Lewo] telu /[Manam] toli "three" ||| [Ai] re "three" (< *tre < *tle) |||| # to WEAVE: [pIE] *teк̃s- (AHD*) (< (MP) *teɣsi), *tek- (Pok*, p.1058) "to weave", [Latin] texō "to weave", [OHG] dahs "badger" ||| FORM: [Tsou] t-m-eʔsi (< *teʔsi + *-m-) "to sew" (CAD*) || OC: [Ponapean] tēk /[Woleaian] tē-a "to sew" (< *te-k ?) ◆◆ ## 6.2. [pIE] *t- /[Skr.] [German] [Latin] t- (Pok*) < (MP) *t- (child language (Lallwort)) |||| # FATHER (Lallwoert): [pIE] *tata- /[Skr.] tatá-, tāta- /[German] tate "father, son", [Latin] tata "father" ||| W.MP: [Aklanon] tātay "father" || OC:[Port Sandwitch] [Paamese] tāta "father" (Pok*, p.1056) ◆◆ ## 6.3. [pIE] *t- < [pMP] *t- < [pAN] *C- |||| # RACE / PEOPLE:[pIE] *teutā (<[pIE(K.O.)] *tau-tā (< *tau-tau < *Cau -Cau < *Cau));[Old Lithoanian] tauta "people", [OHG] diot "race, people" ||| WMP: [Palawan] taw /[Sarangani Blaan] to (< *tow) /[Da'a][Bugis][Konjo] tau /[Uma] tau-na "person", [pMP](Zorq*) *tau-matáq "person" || FORM: [Paiwan] ¢aw-¢aw /[Tsou] ¢ou "person" (<[pAN] *Caw "person") ||| ?JR:[Ml.Jpn.] tou- ~ *tō- "father" (< *Cau "person") ◆◆◆◆ $ 7. [pIE] *d- ## 7.1. [pIE] *d- /[Hitt.] d- /[Skr.] [Latin] d- /[Goth.] [Eng.] t- / [OHG] z- < [pAN] *d- (= *d₁-) || [Wolio] d̃-).|||| to BUILD: [pIE] *dem- (Pok*) (= *dem(ə₂)-, AHD*) "to build", *domo- "house" ||| C.MP: [Dobel] ʔa-dem "to do, to make" (< *ʔa- + *dem "to make") |||| # FAR /LONG: [pIE] *deuH₂- "far, distant, long (in duration)" ||| C.MP:[Manggarai] deu "far" |||| # TONGUE: [pIE] *dn̥ĝhu̯ā "tongue" (Pok*, p.223) (< *din-ĝhu̯ā ~ *dnə-ĝhu̯ā < *dinə-gʷu̯ā < *dinə-gʷwaa "flame (tongue of fire)" < *dinə- "flame" + *guwa(y)a "fire"), *dn̥ĝhū- "tongue" (AHD*, Pok*, p.223) ||| W.MP: [Sarangani Blaan] dinəʔ "flame" (< > [Mobog] dilaʔ "tongue", [pHN] *d₁flaq /[Paiwan] ɟ-im-iḷaḳ "to lick" ([Paiwan] ɟ- < [pAN] *d₁-)), [Konjo] rinra "flame" (< *din-ra ?) || OC: [W.Fijian] gʷaya "fire" (< *gu-wa(y)a, where *-wa(y)a cognates with (W.MP)[Wolio] waa "fire". ||| Note: Satisfies the rules, [pIE] *ĝh- < (OC) *gʷ-, [pIE] *d- /[Paiwan] ɟ- < (MP) *d₁-, ◆◆ ## 7.2. [pIE] *d- < (MP) d-, r- < [pAN] (Zorc) *d₂- |||| # DARK: (IE)[Eng.] dim "dim" (< [pAN] *d₂em "dark" ?) ||| W.MP: [Tagalog] dilim "dark" (< [pPHIL] *delem "dark") || C.MP: [Dobel] demur "dark" (< [pAN] *d₂em "dark" |||| # RIVER: [pIE] *dā- "to flow", *dānu- /[Avesta] dā-nu- "river, flow" (AHD*) (< [pAN] *d₂a+Núm "fresh water", Zorc*) |||W.MP: [Isnag, Palawan, etc.] danum /[Malagasi M.] ranu "water", [Wolio] rano "swamp" || OC: [Dami] nānu /[Motu] ranu "water" (< *da-nu ~ *dā-nu < *da₂+Num), [Manam] daŋ "water" (< *da₂-ŋ "water") ◆◆ ## 7.3. [pIE] *d- /[Eng] t- /[OHG] z- < [pAN] (Zorc*) *d₃- || [Paiwan] ḍ- / (W.MP) d-, [Wolio] ɟ- / (OC) [Marshallese] ɾ-, [Motu] r- |||| # TWO: [pIE] *dwo, *duwo (AHD*), *du̯ō(u) (Pok*) (< [pIE] *duo ? < (MP) *duo) /[Skt] d(u)vā- (Pok*02) /[Latin] duo /[Gothic] twai / [German] zwei "two" ; [Hitt.] dān (Friedrich, 1967), tān (Pok*02) "zweiter" ||| [pAN] *d₃uSa /[Rukai] ḍosa /Paiwan] ḍusá (Zorc*) || C.MP: [Roti] dua /[Sika][Buru] rua /[Ngada] zua /[Manggarai] sua /[Dobel] ro (< *ruo) "two" || WMP:[Yami] aḍwa / [Palawan] duwa /[Murut][Minang.] duo /[Bali.] [Sasak] duə /[IndoN] [Sundanese] [Uma] [Muna] dua /[Wolio] ɟua "two" || OC: [Marshall.] ɾuo /[Motu] [Manam] rua "two" ◆◆◆◆ $ 8. [pIE] *dh- ## 8.1. [pIE] *dh- /[Latin] f- /[Greck] th- /[Eng.] d- / [German] t- < MP: *d(u̯)- ([Ai] r-) || OC: [Motu] [Nemi] d- < [pOC] *d- ||| # to DIE: [pIE] *dheu- /[Old Norse] deyia "to die" (*dheu- < *dʰu̯eu- < *du̯eu-), [pIE] *dhou-to- /[German] tot- ||| OC:[Nemi] deu-n "corpse" (< *d₂eu- ?), [Cemuhi] nɛdue-hi "to burry (the dead)" (< *nɛ́-due-hi < *-due- < *du̯eu- "the dead, cotpus") |||| # to PUT / to SET: [pIE] *dheH₁-, *dhē- "to put, to set" (< *dheH₁ = *dheʔ < *dhə? = *dʷə? (= *dʷə?) < *du̯ə? < (MP) *d₂uə?- "to sit, to set"), [English] do "to do", [OCS] děti "to lie (liegen)" ||| W.MP: [Aceh] puɪ-duə? "to put", duə? "to sit", [Minangkabau] duduə? /[IndoN] duduk "to sit" (< *du-duək) || FORM: [Paiwan] pii-zua "to place" (< *-zua < *d₂ua? ~ *d₂uə?) || OC: [Xaracuu] çuɛ "to put" (< *çuə? < *duə? "to put") ||| [Ai] rok "to sit"(< [pMP] *d₂ukd₂uk "to sit") |||| # to REACH: [pIE] *dhengh- ||| OC: [Mbula] -ⁿdēŋe "to reach" ◆◆ ## 8.1a. [pIE] *-dhu- < (MP) -tu- ~ *-du- ||| # TREE: [pIE] *u̯idhu- (Pok*), *widhu- (AHD*) "tree", [A.S.] widu, wudu (Pok*, p.1177) "wood",[Old Irish] fid "tree, wood" ||| W.MP:[Java.]wit "tree" ||SHWNG: [Irarutu] witu "woods" (< *widu ?) ◆◆◆◆ $ 9. [pIE] *s- ## 9.1. *s- < (MP) s- ||| # to CUT /SKIN: [pIE] *sēk- /[Latin] sec- (/sek-/) "to cut", [pIE] *seki̯o- "skin" (Pok*, p.895) ; [pIE] *skend- "to peel off, flay" (AHD*) (Pok*, p.929) ||| OC: [Mbula] -sek "to flay, to skin; to peel tree bark, banana" (CAD* #09.290, #05.460) |||| # to FOLLOW: [pIE] *seku̯- (Pok*) /[Latin] sequī "to follow", [pIE] *seku̯-ondo- "2nd" ||| OC: [W.Fijian] seku-ðia "to follow" ◆◆ ## 9.2. [pIE] *su̯- /[Eng.] sw- < (MP) *-suw- |||| # SWIFT: (IE)[Anglo-Saxon.] swīfan "swift, to move quickly" ||| OC: [Nyindrou] suwi "swift, fast, quick" |||| # to SWIM: [pIE] *su̯em "to swim" (< *su-ìm < *su- "to swim" + *ìm "to dive") ||| OC: [Kaulong] su "to swim", [Manam] susu "to dive", [Yabem] -ìm "to dive" (CAD* #10.350, #10.351) ◆◆ $ 9.3. [pIE] *(s)C- < *(s)-C- < (MP) *C- (C = consonant = *k-, *n-, *t-) (< *s- "a prefix for making a verb" + *C-) |||| # to CUT: [pIE] *(s)ker-, *(s)kerə- /[Old Icelandic] skera (Pok*, pp.938-939) "to cut" (< s-kerə-) (Gr*02, #26), [A.S.] screpan "to scrape" (Pok*, p.943). ||| OC: [Mbula] kēre "to scrape", [Tolai] kərat "to bite" (< *kerə-t < *kerə- "to cut"), [Dami] kerā "to break" (< *kerə-a) |||URA: [proto-Samoyed] *kərə "knife" |||[Ai] kére "to scrape, to touch" (Ba* ; ADD*, p.129), kere "divided, split" (Ba*) ||||# STAR: [pIE] *stēr- (< *s-tēr-) "star" (Pok*,pp.1028-1029) ||| W. MP:[Minang.] taraŋ /[Madurese] tərraŋ "bright" (< *tər-) ||| JR: [Ml.Jpn.] ter-u "to shine" ||| DRA:[Tamil] teḷ-i "to be bright" (< *ter-i) ◆◆ $ 9.4. *sy- < [pMP] *z- ||| # to SEW: [pIE] *syū- "to bind, to sew" (< [pAN] *záqit "to sew") ||| AN: (C.MP)[Roti] seu /[Buru] sau / [Sika] raʔit //

(W.MP) [IndoN] mən-ǰahit /[Uma] mo-dau //(OC) [Samoan] suʔi /[A'jie] ᷉ru "to sew"♦♦♦♦ | $ 10. [pIE] *r- | ## 10.1. *r- < [pMP] *r- |||| # to FLOW / to RUN: [pIE] *rei-, *er-, *ere- (AHD*), *er- (Pok*, 326-330); [Gothic] rinnan, ran "to run" (< *re-nu-ō) ||| OC: [Mbula] rēre "to flow" (< *rē-re < *rē-rē < *rē- ~ *rei-) |||| # NET : [Latin] rēte /[Lettic] rēta "net" (< [pIE] *er-, *erə-, *(e)-r-ě- "loose" ?) (Pok*, p.332-333) ||| SHWNG: [Irarutu] re "nettle" ♦♦ ## 10.2. *r- < (MP) *r- < [pMP] *d- |||| # RAIN / WET:[pIE] *rek̂- (< reku- ?), *reĝ- "wet, rain" (< *dek- "rain"), [A.S.] regan /[OHG] regan, regen "rain" (Pok*, p.857) ||| C.MP: [Buru] deka-t "rain", dek haa-t "heavy rain" || OC: [W. Fijian] deku "dew" |||| # RED / COLOR: [pIE] *rāga- "blood, red" (K.O.*) (< *ragga? < *daggah "red, blood" < [pAN] *daRaq "blood") (Reconstructed based on; [pIE] *reg- "to color" (Pok*, p.854)), (Inlr) [Skr.] rāga "color, red color" "blood" ||| OC: [W.Fijian][Paamese] rāk /[Marshall.] ra "blood", [Nengone] ḍa /[E.Fijian] dʳā "bood", Manam dara-dara /[Takia] dara-n /[W.Fijian] dʳā-dʳā "red" (< *dā-dā < [pAN] *dáRaq "blood") || W.MP: [Uma] raaʔ /[Konjo] rara/[Minang.] [IndoN] darah "blood" ; [Java.] ráh "red" (<[pAN] *dáRaq)♦♦ ## 10.3. [pIE] *ur- < *uR- < [pAN] *R- |||| # BREAST: (IE) [Skr.] urus "breast" (< *uRus < *Rusu) ||| [pMP] *Rusuk "chest, rib" ♦♦♦♦ | $ 11. [pIE] *l- | ## [pIE] *l- < (MP) *l- |||| # to COLLECT: [pIE] *leĝ-, *leg- /[Latin] leg-(ere) (Gr'02, #70) ||| OC: [Dami] legēi "to collect, to gather" |||| # to FLOW: [pIE] *lēi- "to flow" ||| C.MP: [Roti] le "river" || (Cf. W.MP: [Aceh] ile "to flow") ||||# LOUSE: [pIE][Grmc] *lūs- "louse" (< *lius ?) ||| WMP: [Aklanon] łusaʔ "nit (louse egg)"

III. VELARS, PALATO-VELARS, and LABIO-VELARS | $ 12. [pIE] *k- | ## 12.1. [PIE] *k- < [pMP] [pAN] *k- |||| # to LIE: [pIE] *kei- "to lie" ||| OC: [Ponapean] keiru "to stay temporarily" (CAD* #12.160) |||| # to SEIZE /to HAVE: [pIE] *kap- "to seize, to catch", [Skr.] kapa-ṭi "two handfulls", [Latin] capi- (/kapi- /) "grasp", [Gothic] haben "to have" (Pok*, pp.527-528) ||| OC:[Tolai] kəp "to get, to obtain" ♦♦♦♦ | $ 13. [pIE] *k̂- | ## [pIE] *k̂- /[Skr.] ś-/[Lith.] /[Greek][Latin] k- /[Eng.] h- < *kʷ- < (OC) k-, kʷ-, [Kwamera] kʷ- < [pMP] *k- || [Ai] k- |||| # to CUT: [pIE] *k̂es "to cut", [Skr.] śás-ti "schneidet", śás-trá- "knife" ;[Old Nordic] hes "Zapfen im Kuhstrick" (Pok*, p.586) ||OC: [Kaulong] kes "to cut" (CAD* #09.220) (< *kes ~ *kʷes) ||C.MP: [Buru] kesu-k "to break" (CAD* #09.260) , gesu-k "broken" ||| URA: [pFU] *kečɜ /[Hungarian] kés "knife" |||| # HEAD / HORN: [pIE] *k̂er- (AHD*) (*k̂er-, *k̂erə- (Pok*)) "head, horn, upper portion of the body" ; [Skr.] śíras /[Greek] kár "head", [Greek] keras "horn", [Latin] cerebrum "brain", [Latin] cornu /[OHG] horn "horn" (Pok*, pp. 574-577) ||| OC:[Kwaio] kera "skull", [Kwamera] kʷera "brain" (< *kuera ?) ♦♦♦

| $ 14. [pIE] *kṷ- (= *kʷ-) | ## [pIE] *kṷ- (= *kʷ-) < *kuw- < (MP) *kVv- ~ *kVb- (V = vowel)) |||| # FOUR: [pIE] *kṷetṷer- (Pok*, p.642), *kʷetwer- (AHD*) "four" (< *kʷet-wer- ~ *kʷet-we-r- (< *kʷet-kwe(t)-, or, <*kʷet- + *-wer "?") < *kʷet- < *kwet- < (OC)*kuvet "four"), [West.Germanic] *kṷekṷor /[Skr.] catvāraḥ "four" ||| OC: [North Tanna] kuvet "four" (< *ka(i)vet < *kaimpat < *kai-mpat < *ɣai- + *əmpat "four"), [A'jie] kavɯɛ / [Raga] ɣai-vasi /[Tolai] ivat "four" || W. MP: [Bangingi Sama] mpat /[Bali.] pat /[Madurese] əmpat "four". |||| # to TURN: [pIE] *kṷel-, *kṷelə- "to turn, to roll" (< *kwelə- < *kevele < (MP) *kebele "to bend") ||| SHWNG: [Sawai] n-kɛbelɛ "to bent" (< *-kɛbele) .♦♦♦♦ | $ 15. [pIE] *g- | ## 15.1. [pIE] *g- / [Latin] g- /[Goth.] k- < (MP) *g- ([Ai] k-) |||| # ROUND: [pIE] *gṷet- "swelling, round" ||| C.MP: [Sika] guər "round" |||| # to SCRATCH: [pIE] *gerebh- (Pok*, p.392), *gerbh- (AHD*) "to scratch" (< *ger-bh- ?), [OHG] kerban (< *ger-) "to cut" ||| OC: [Manam] gere "to curve, to write" |||[Ai] kerep "a scratch" (< *gereb) ♦♦ ## 15.2. [pIE] g- < (MP) ᵑk- |||| # to BEND = [pIE] *gēu- "to bend" (< *ᵑkēu- ?) ||| WMP: [Wolio] peka-ᵑkeu "to bend" (< -ᵑkēu-), ma͡keu "crooked" ||| URA:[Finnish] keuru "curves" ♦♦♦♦ | $ 16. [pIE] *ĝ- | ## 16.1. [pIE] *ĝ- < (OC) [Adzera] g-, [Buang][Kilivila] kʷ- (< *gʷ-) < (MP) *g- |||| # BRIGHT: [pIE] *gel- (> *glei-) (AHD*) "bright" (Cf. = *ĝel, *ĝelə-, *ĝelē-, Pok*, p.366) *ĝel, *ĝelə-, *ĝelē- "bright" (< [pIE] *ĝeleə₁- K.O*) < > OC: *gʷəla(g)- < (MP) *gəla(ŋ) ?)), [Arm.] caɫr / [Greek] gelá-(ō) "to laugh" (Pok*, p.366) < (OC~ MP) *gʷəla) (Cf. = [pIE] *gel-, AHD*) ||| W.MP: [Bali.] galaŋ "bright" || OC: [Buang] kʷəlagak (q = "underdot g ") "bright" (< *gʷəla-gak) |||| # to BITE: [pIE] *ĝembh-, *ĝm̥bh- "to bite", *ĝombho-s "tooth" ([pIE] *ĝembh- < *ĝem-bha- < *ĝem-bhati < *ĝem- "to bite, to eat" + (MP) *bati "tooth") ; [Skr.] jámbhatē "tiefstufig" (< *gam-bhatē), [Tocharian] (A) kam, (B) keme "tooth" ||| OC: [Kilivila] -kam-kʷam "to chew" (< [Kilivila] kam- "to eat" + *kʷam "to chew ~ to bite"", where *kʷam < > [pIE] *ĝembh- "to bite")) ; [East. Fijian] bati- /[West.Fijian] -basi "tooth". |||JR: [Ml.Jpn.] kam-u "to bite" ||| Note: Cf. (OC) [Kilivila] -kam /[Maringe] ɣamu /[Tahitian] ʔamu "to eat". ♦♦ ## 16.2. [pIE] *-ĝ < (OC) *-gu < (MP) *-gu ([Ai] ku) |||| # GOAT: [pIE] *aiĝ- "goat" (AHD*, Pok*) (< *ai-gu < *ai- "child" + *guŋ "cow") ||| FORM: [Paiwan] guŋ "cow" ||| Note:[pIE] *ai- "child" (in *aiĝ- "goat") < > (OC)[Nengone] ai-ča "boy", [Manam] ai-ne "female" ||| [Ai] ai-ai "baby" |||| # I: [pIE] *eĝ (AHD*) / [Germanic] *ek /[Latin] egō "I" (*eĝ < *êĝ < *eigu (~ *yeigu) "I" < > (OC) [Kilivila] yeigu "I") ||| W.MP: [Wolio] iaku ./[Sarangani Blaan] agu /[Molbog, Java., Sasak, etc.] aku /[Tagalog] ako "I" || OC: [A'jie] gə "I" (< *gu < *egu ~ *agu) / [Cemuhi] ê (< *eg ~ *eĝ ?) /[Kilivila] yeigu (< *i-eigu ?) /[E.Fijian] yau (< *yagu) "I" ||| [Ai] ku- "I" (< *aku) ||| JR: [Old Jpn.] a "I" (< *ag) ||| TbB: [Lepcha] go "I" ||| Bantu: -ñgu, -gu "I" ♦♦♦♦ ## 16.3. [pIE] *ĝn- < (MP) *gun- ~ *guŋ- ||| # to GIVE BIRTH: [pIE] *ĝnē-,*ĝnō-, *ĝen- (Pok*, pp. 373-375), *genə₁- (> *genə-, *gen-) (AHD*) "to give birth, to beget", [pIE] *ĝn̥tí- /[Latin] nāti-ō "birth" Pok*) ||| OC: [Tawala] guni "(to be) born" |||| # to KNOW: [pIE] *ĝneə₃- (>

*ǵnoə₃-, *ǵnō-) (AHD*) [*ǵnō-, *ǵen(ə)-, Pok*, p.375) "to know" ;[Gothic] kunnan /[Lith.] žinaũ "to know" (< [pIE]
*ǵneə₃- < *guneə₃- "to see ~ to think") ||| OC: [East Fijian] kune-a "to see" (< *gune-a < *guŋe-a) || W.MP: [Murut] guŋ-
ku "I think" (< *guŋ- "to think") ||| Tungus: [Wr.Manchurian] gūni- "to think" ◆◆◆◆ **$ 17. [pIE] *gʷ- (= *gʷ-)** ##
[pIE] *gʷ- (= *gᵘ̯-) < (OC) *gʷ- [< *gw- < (MP) *gVw- (~ *gVb-)] (V = vowel) |||| **# to GO / to COME:** [pIE] *gʷeə₂
(> *gʷā-),(AHD*), *gᵘ̯ā- (Pok*) "to go, to come" ([pIE] *gʷeə₂ = *gʷeH₂ < (MP) *gwaʔ) ; [Skr] gā- /[Greek] baínō
"to go" (Pok*, p.464) ||| WMP: [Aklanon] guwaʔ / [Kagayanen] 'gwa "to go out" ||OC: [Lau] ʔekʷa "to go away" (< *ʔe- (
<> OC: [Yabem] ʔe- "to go (away)") + *kʷa (< *gʷā- < *gwa < *guwa "to go out")|||| **# to LIVE:** [pIE] (AHD*) *gʷei-
"to live" (< *gwei- < *gaw-ei- ? < (MP) *gāw-) , [Avesta] gayō /[Greek] bíos "life (Pok*, pp.467-469) ||| WMP: [Kalinga
Limos] iŋgāw "to dwell, to live" (< *iŋ-gāw) || OC: [Marshallese] cɔkʷɛ "to dwell" < *cɔ-kʷei < *cɔ- "to dwell" [< >
OC: [A'jie] tɔ /[Raga] tɔ /[Lau] tō "to dwell" < *toʔɔ) + *-kʷei "to dwell" (< *gʷei < *gw-ci < *gaw-ci < *gaw- "to live" +
[pIE] *(ə)ei- "to go") |||| **# to THROW /to STUB:** [pIE] *gʷelə₁- "to throw, to reach, to pierce" (= *gᵘ̯el(ə)-, Pok*, pp.470
-71, 471-72), [Anglo-Saxon] cwellan "to kill, to destroy" (< [Germanic] *kwaljan), [Eng.] kill "to kill" ||| OC: [Xaracuu]
*gʷere "to throw" (< *gʷele < *gVwele, V = vowel.) Xaracuu does not have / l /.)◆◆◆◆ **$ 18. [pIE] *gʷh- (= *gʷh-)**
(< *gwh- < (MP) *gVwh- ~ *guh-) ## 18.1. [pIE] *gʷh- <(OC) *gʷh- (> *gwh- < *gVw-h-) ||| **# SINEW / THREAD:**
[pIE] *gᵘ̯hiə- (> *gᵘ̯hī-) "thread, tendon" (AHD*) (= *gᵘ̯heiə-, *gᵘ̯hī- "vein, sinew", Pok*, p.489), [Lithoanian] gijà /
[Latin] fīlum "thread" ||| OC: (New Cal.) [Xaracuu] kʷī "thread, thin rope, vine" (Probably, < *kʷhī < *gʷhī "thread" <
*gʷ-hī < *ǵáw-hī < *gaw- "to tie" + *hī "to bind" (< *hiə)) ; [Kwaio] gaw-a "to tie" || W.MP: [Aklanon] hī-gut /
[Kagayanen] igu'tan "to tie, to bind" (< *hī-gut- < *hī- "to tie ~ thread"+ *gut), [Aceh] i-kat /[pMP] *hi + ket "to tie up"
◆◆ ?## 18.2. [pIE] *gʷh- < *gwh- (= *guh-) < (MP) *guh- (> MP: gu-, ku-) |||| **# to THINK:** [pIE] *gʷhren (AHD*,
Pok*) "to think" (< *guh-ren, where *guh- <> [Old Javanese] (N-)sən-guh "to think", and *-ren < *re "language" <>
FORM: [Tsou] re?re "language") ||| W.MP: [Bali. (Borrowed from Old Javanese)] (N-) saŋguh "to think" (< *saŋ-guh < *-
guh) (CAD*, #17.140) ; [Sundanese] nəguh (< *N-təguh < *-tə-guh) "to guess" || OC:[Kwamera] -rukuren "to understand"
(< *ru-guren < *ru-guhren < *ru- (<> OC: [Takia] ru "language") + *guhren "to think") ||| Note:[Murut] guaŋ "mind",
guaŋ -ku "to think" (< *guh-aŋ ?) ◆◆◆◆ **$ 19. [pIE] *gh-** ## [pIE] *gh- < [pAN] *q- ||| AN: (FORM) [Atayal] *k̠-,
(W.MP) [Muna] gh- /[Murut] g- ||| [Ai] ʔ- (< [pre-Ainu] *Ø- ~ *ʔ-) |||| **# to CALL:** [pIE] *ghel- "to call, to cry, to shout"
(probably, < (AN) *qel- ~ *qal-), [Greek] khelīdōn "swallow", [A.S.] giellan "to cry" (Pok*, p.428) |||W.MP : [Bang.
Sama] allaŋ "to shout, to cry" (< *hallaŋ < *qallaŋ) || OC: [Marshallese] al "to sing" || SHWNG: [Sawai] n-gelay "to shout,
to cry out" (< *ŋ-gelay < *N- + *gelay, where *gelay < *qelaŋ) |||| **# to SEIZE:** [pIE] *ghabh- "to seize, to receive", [Skr.]
gábhasti-ḥ "forearm, hand", [Lain] habe- "to have" (Pok*, pp.407-409) ||| OC:[Samoan] [Tongan] ʔave "to take" (< *ʔabe <
*qabe) ;[Lau] ʔaba "arm" (< *qabaʔ), ʔabaʔaba "shoulder" || W.MP:[Muna] ghawa "to get, to obtain" (< *qaba) || FORM:
[Atayal] k̠aβaʔ "arm, hand" (< [pAN] *qabáRaH "shoulder") ||| [Ai] apkara "to take, to receive" (Ba*; Not in ADD*) (=
ʔapkara < *(ʔ)ap- "to take" + kara "to do" , where *(ʔ)ap- "to take" < *ʔab- < *qab- "to take ~ to seize, to receive") |||| **# to
SEIZE:** [pIE] *ghend-, *ghed- "to take, to seize" (< *qend-), [Eng.] get "to get", [Greek] khandan-(ō) (*ghₑnd-) "to seize"
(Pok*, pp.437-438) ||| W.MP: [Madurese] andiʔ "to have, to own" (< *handiʔ < *qandiʔ) || OC: [Xaracuu] xānīi "to hold"
(< *qā-nīi ~ *qandi ?) ([Xaracuu] x- < [pAN] *q-), [Port Sandwitch] kaⁿdʳ "to have" ||| [Ai] ani "to hold" (Ba*, Tam*) (=
*(ʔ)ani < *xanii <> [Xaracuu] xānīi < *qandi) ◆◆◆◆ **$ 20. [pIE] *ǵh-** [pIE] *ǵh- (< (OC) *gʷ-) ; [Ai] h- |||| **#
WINTER:** [pIE] *ǵhei-, *ǵhī- "winter, snow", ǵhī-mo - "cold" (< ǵhī-mn-o- ?) (Pok*, pp. 425-426) ||| OC:[Kwamera]
akʷiei / [A'jie] kiɛo "cold" (< *-kʷiei < *gʷiei "cold" < *gʷi-ei < *gʷi- "cold" + *-ei "?", where *gʷi- "cold" <> [Nemi]
kʰim "cold"; [Nemi] kʰim (< *kʰi̯-m- < *gʷi-mn- ?) || FORM: [Atayal] γihāk̠ "cold" (< * γi-hāk̠ < *γi- < *gʷi-) |||| **# to
CALL:** [pIE] *ǵhau-, *ǵhaụə- "to call (rufen, anrufen)", [Skr.] hávate "ruft", [Russian] zovu "to call", [Eng.] god "God"
(Pok*, p.413) (*ǵhau- < (OC) gʷau) ||| OC: [Motu] gʷau "to say" ||| ?[Ai] hau "voice", hau-ki "to speak" ||| Note: Might
cognate wuth; .(OC) [Kwaio] kʷau "to howl" (< *gʷau ?) ; [Kaulong] hau (< *gʷau ?) "to cry, to weep" ||| Note: Unrelated
to; (FORM) [Paiwan] k̠-əm-aw-k̠aw "to shout, to cry" (< *k̠aw-k̠aw < *k̠aw < [pAN] *qaw ~ *qau "to shout, to cry"), k̠-
əm-auŋ "to cry, to weep" (< *k̠auŋ < *qau-ŋ) || OC: [Samoan] valaʔau "to call (= sammon)" (< *vala-ʔau, where *-ʔau <
*qau), [Tahitian] auē "to cry, to weep" (< *ʔau-ē < *qau "to shout, to cry") ||| Note:Cf. W.MP: [Bali.] N-kauk-in "to call
(name)", mə-kauk-an "to shout" || OC: ?[A'jie] kauʔ "to shout, to cry" |||| **# to SHINE:** [pIE] *ǵher- "to shine, to glow"
(probably, < *gʷerak ? < *gerə- ?) , [OHG] *graō "grey", [Lith.] žeriù "im Glanze strahlen", [Czech] zříti "to see" ||| OC:
[Xaracuu] kḗrēnăwă "yellow" (< *kḗrē- "bright" < *gere-) || C.MP: [Manggarai] gerak "to shine", [Sika] hera-t "yellow" |||
[Ai] here-ka, heri-at "to shine", here "brightness" ◆◆◆◆ **$ 21. [pIE] *ǵhw- (= *ǵhụ-)** **< (MP) *guụ- (= *guw-) (V=**
vowel) |||| **# to SOUND:** [pIE] *ǵhụonos "sound" (probably, < *N-qwonos < *N-quwanos) ||| OC: [Xaracuu] gū- "sound,
noise" (< *guụ = *ǵhụ-) < *guw-) ||| ?[Ai] hum "sound" (< *hū-m < *huụ- < [pIE] *ǵhụ- ?) ||| Cf. FORM:[Atayal] ma-
k̠uwas "to sing" (< *quwas). |||| **# to SHINE:** [pIE] *ǵhụoigᵘ̯- "to light, to shine" (< *guwoigʷ- < *guw-aigʷ- < *gub(u)-

ai-gʷ- "to light, to shine" < *gubuʔ "light"+ *ai (< *ari) "sun, to shine" + -gʷ "verbal suffiix ?" ‖‖ OC: [Adzera] gubuʔ "sun, light", -ari "to shine" ‖ W.MP: [Bali.] ai "sun" ‖‖ Eskimo(W. Greenlandic)] qíngu-ai "ray of sun"

IV. SEMIVOWELS $ 22. [pIE] *w- # [pIE] *w- (AHD*) (= (Pok*) *u̯-) < (E.MP) w- < [pMP] *w- ‖‖ # to BURN: [IE] *u̯er- "to burn" ; [Gothic] warmjan "to warm" ‖‖ OC:[Rapanui][Mele Fila] vera "to burn (v.i.)" (< *wera) ‖‖‖ # to SEE: [pIE] *u̯(e)di- (Pok*, p.1125), *weid- (AHD*) /[Skr.] vet-(fi) /[Gothic] witan /[Eng.] wit "to know", [Latin] vide-(ō) (*u̯(e)idē-) /[OCS] vidĕ-ti "to see" (Pok*, pp.1125-1128) ‖‖ OC: [Lewo] visu "to see" ◆◆◆ $ 23. [pIE] *y-

(AHD*) (= *i̯-, Pok*) ## 23.1. [pIE] *y- (= *i̯-) < (MP) *y- ~ *i̯- ‖‖ # LIVER: [pIE] *yĕkʷr̩- (= *i̯ĕku̯-r̩-) "liver" (< *yĕkʷ(e)ri < *yekʷesi "leaf" ?) ‖ OC: [Kilivila] yekʷesi "leaf" ‖ to SPEAK: [pIE] *yek- "to speak" (AHD*) (= *i̯ek-, Pok*) ‖‖‖ OC: [Nengone] ie "to say" ‖‖‖ # YOU (pl.): [pIE] *iu ‖‖ W.MP:[Sarang. Blaan] -yu ◆◆ ## 23 .2. [pIE] *y- (= *i̯-) < [pMP] *Z- ‖ [Ai] r- ‖‖‖ # BROTH: [pIE] *i̯ūs- "broth" (< *yuu-s < *Zuu < Zulu- < [pMP] *ZuRúq "sap, syrup") ‖ [pMP] *ZuRúq "sap, syrup" ‖ W.M`: [Da'a] juu "sap" (< *julu < *Zulu), [Palawan, Molbog] duruʔ "soup, broth" ‖ OC:[Manam] suru /[Yabem] sulu "soup, broth" ‖ C.MP: [Sika] lulu-ŋ "soup, broth" (< *dulu- < *ZuRu-) ‖‖‖ [Ai] ruru "clear soup" (Ba*) ‖‖‖‖ # to GO: [pIE] *i̯ā- (= *yā- < *yaa < *yala < *i̯ala ~ *dala < [pMP] *Zálan "road") (Pok*, p.501, p.296) ‖‖‖ OC: [Yabem] -yà / [Buang] ya "to go", [Lewo] yali "to walk", [Takia] dal /[Motu] dala /[Manam] zála /[Mbula] zāla "road" ‖‖‖ Dravidian: [Tamil] cālai "road" ‖‖‖ ?[Ai] ra "passage, drain" (Ba*)

V. LARYNGEALS $ 24. [pIE] *ɔ₁- (= *H₁-) /[Hitt.] Ø- < (MP) *Ø- ([pre-Ainu] *Ø-) : ## [pIE] *ɔ₁e- (= *H₁e-) , colored to *H₁e- > *e- ‖‖ # BLOOD:[pIE] *H₁esH₂r̩- /[Hitt.] esḫar ‖‖ OC: [Roviana] ehara (< *(?)eshara) ‖‖‖ to GO: [pIE] *ɔ₁ei- (< *ei-) /[Latin] e-ō "go (1sg.)" (AHD*) ‖‖ OC: [Kwaio] -e "to go" (< *-ei) ‖ C.MP: [Roti] ei-k "leg" ‖‖‖ [Ai] ek "to go (sng.)" (Ba*) (< *e-k < *ei-k "to go")◆◆◆ $ 25. [pIE] *ɔ₂- (= *H₂-) (< [pMP][pAN] *h- ; [Hitt.] ḫ-) ; [Ai] h- ; [Wr.Manchu.] Ø-: ## [pIE] *ɔ₂e- (= *H₂e-), colored to *H₂a- > *a- ‖ (MP) ha-, a- ‖‖‖ # to BREATHE: [pIE] *ɔ₂enɔ₁- (> *ɔ₂anɔ₁- > *anɔ-) (AHD*) (*an(ə)-, Pok*) "to breathe" (< [pMP] *hánes "to breathe") ‖‖W.MP:[Kalinga Limos] āŋos /[Minangkabau] ʔaŋo "to breathe" (< [pMP] *hánes "to breathe"), ?[Muna] heŋke "to breath heavily" ‖‖ Eskimo: [pESK] *anəR- "to breathe" (Gr*02, #49) ‖‖‖ [Ai] he "breath" (Ba*) ‖‖‖‖ # to OPEN: [Hitt.] ḫaš- "to open" (< *h₂aš- ~ *ḫ₂eš- ?) ‖‖‖ W.MP: [Aceh] hah "to open" ‖ OC: [Manam] ʔaʔa "to open" (< *ʔa < *ha) ‖‖ [Ai] hasa "to open"

◆◆◆ $ 26. [pIE] *ɔ₃- (= *H₃-) (< [MP] *ʔ- ; [Hitt.] ḫ-) ‖ (OC)[Mekeo] [Tahitian] *ʔ- ‖ C.MP: [Manggarai] o-) ; ## [pIE] *H₃e- (= *H₃e-, colored to *H₃o- > *o-) ‖‖ # to TALK: [pIE] *ōr-, *ɔr- (Pok*, p.781) "to talk, to call" (< [pIE] *ɔ₃ōr- (K.O.*) ?) ‖‖ OC: [Tahitian] ʔōrere "(to make a) speech" ‖‖‖ # to TRADE: (IE, Anatorian) [Hitt.] ḫappar- "buisiness, trade", [Lycian] epirije "to sell" ([Hitt.] ḫ- < [pIE] *ɔ₃-) (Yoshida*, pp. 161-162) ‖‖ OC: [Mekeo] ʔava-ʔava "to trade, to barter" (< *ʔava < *ʔap(p)a ~ *ʔabpa ?)

Table 2. Word-itnitial sound-correspondence laws between proto-IE and Austronesian, with special comparison with Ainu consonants. (Note: [Ai] ** is based on Ainu cognates not shown in Table 1.)

I. Bilaials: $1. [pIE] *m- < [pMP][pAN] *m- ([Ai] m-) ‖‖ $ 2. [pIE] *p < [pMP][pAN] *p- ([Ai] p- **) ‖‖ $ 3. [pIE] *b- (mostly onomato-poeic words.) < [pMP][pAN] *b- ‖‖ $ 4. (4.1.) [pIE] *bh- < [pMP] [pAN] *b- ([Ai] h-) ; (4.2.) [pIE] *bh- (onomatopoeic ?) < (MP) β- ([Ai] p-) ‖‖‖ **II. Alveolars:** $5.[pIE] *n-: (5.1)[pIE] *n- < *n- ([Ai] n-) ; (5.2) *n- < *ŋ- ([Ai] n-); (5.3) *n- < (MP) *ñ- (= *N- + *j̯-) ‖‖ $ 6. [pIE] *t-: (6.1)[pIE] *t- ([OHG] d- /[Eng.] th-) < (MP) *t-,[pAN] *t- ([Ai] c-, etc.); [pIE] *t- ([OHG] [Eng.] t-) < (MP) *t- (child language or onomatopoeic ?) ; [pIE] *t- < [pMP] *t- < [pAN] *C- ‖‖‖ $7. [pIE] *d- < [pAN] *d-, *d₂, *d₃- ‖‖‖ $ 8. (8.1)[pIE] *dh- < (MP) *d(u̯)- ([Ai] r-) ; (8.1a) *-dhu- < *-tu- ~ *-du- ‖‖‖ $ 9. [pIE] *s-: (9.1) *s- < *s- ([Ai] s- **) ; (9.2) *su̯- < *suv- ; (9.3) *(s)C- < *(s)-C- (C = consonant = *k-, *k̑-, *n-, *t-) (< *s- "a prefix for making a verb" + *C-) ‖‖‖ $ 10. (10.1)[pIE] *r- < [pMP] *r- ; (10.2)[pIE] *r- < (MP) r- ([pMP] *d-; (10.3)[pIE] *ur- < [pAN] *R- ‖‖‖ $ 11. [pIE] *l- < (MP) l- < [pMP] *l- ‖‖‖ **III. Velars, Palato-velars, Labio-velars :** $ 12. [pIE] *k- < [pAN] *k- (Ai] k- **) ‖‖‖ $ 13. [pIE] *k̑- < (OC) kʷ-, k- <[pMP] *k-(?) ‖‖‖ $ 14. [pIE] *ku̯- (= *kʷ-) < (MP) *kVw- (< *kVv- ~ *kVb- (V = vowel)) ‖‖‖ $ 15. (15.1)[pIE] *g < *g- ([Ai] k-); (15.2) g- < (MP) ᵏk- ‖‖‖ $ 16. (16.1) [pIE] *ĝ-: *ĝ- < (MP) *g- ; (16.2) *-ĝ < (OC) *-gu < (MP) *-gu ([Ai] ku) ; (1.3)*ĝn- < (MP) *gun- ~ *guŋ- ‖‖‖ $ 17. [pIE] *gʷ- (= *gu̯-) < (OC) *gʷ- < [pMP] *gVw- ~ *gVb-/(W.MP) gVw- ~ *gVb- (V = vowel) ‖‖‖ $ 18. (18.1) *gʷh- (= *gu̯h-) < *gwh- (< *guh-, or < *gVwh- (V = vowel)) ; (18.2) *gʷh- < *gwh- (= *gu̯h-) < (MP) *guh- ‖‖‖ $ 19. [pIE] *gh- < [pMP][pAN] *q- ([pre-Ai] *Ø- ~ *ʔ-) ‖‖‖ $ 20. [pIE] *ĝh- < (Eastern MP) *gʷ- ([Ai] h-) ‖‖‖ $ 21. [pIE] *ĝhu̯- < *(N-)ghw- < *(N-)qw- < *(N-)qVw- (V= vowel) ‖‖‖ **IV. Semivowels:** $ 22. [pIE] *w- (AHD*) (= (Pok*) *u̯-) < [pMP] *w- ‖‖‖ $ 23. [pIE] *y- (= *i̯-): (23.1)*y- (= *i̯-) < (MP) *y- ~ *i̯- ; (23.2) *y- (= *i̯-) < [pMP] *Z- ([Ai] r-)

‖‖‖‖ **V. Laryngeals:** $ 24. [pIE] *ɔ₁- (= *H₁-) /[Hitt.] Ø- < (MP) *Ø- ([pre-Ai] *Ø-) ‖‖ $ 25. [pIE] *ɔ₂- (= *H₂-) /[Hitt.] ḫ- < (MP) *h- ([Ai] h-, [Wr.Manchurian] Ø-, [proto-Eskimo] Ø-) ‖‖‖ $ 26. [pIE] *ɔ₃- (= *H₃-) /[Hitt.] ḫ- < (MP) *ʔ-