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Indo-European "two"

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INDO-EUROPEAN „TWO"
Dedicated to Professor Radoslav Večerka
in the year of his 70th birthday

§1. The numeral „2" is well attested in all Indo-European branches. The most important forms of this numeral and its basic derivatives can be projected in the following partial reconstructions allowing their deeper analysis. For the first approximation the 'Brugmannian' reconstructions are used.

Indo-Iranian:
*d(u)wṓ „2" m. > Vedic nom.-acc. m. dvā́ & duvā́ resp., besides dváu & duváu reflecting *d(u)wṓw resp. (dv- 9x, duv- 35x in RV, always after a long vowel or a consonant or initially in the line — see Emmerick 1992a: 165), instr.-dat.-abl. d(u)vābhyām, while gen.-loc. d(u)váyoṣ reflects the stem *d(u)woi- + *-ous; Prakrit dō, Hindi, Panjabi etc. do; Avestan nom. m. duua, cf. duuā-čina „irgend zwei", while oblique cases are derived from the stem *dwoi-: gen. duuaiiā̊ (*-ōs), dat. duuaēibiia (*-bʰyō), Khotanese d(u)va m., Khwarezmian (')δw(') m., Manich., Buddh. Sogdian (')δw', 'δw, Yaghnobi du, Pashto dwa, Sanglechi dōu etc., Ossetic Digor duw(w)æ / Iron dywwæ, duwæ, Middle Parthian dw, Zoroastrian Pahlavi, Baluchi dō, Kurdic, Modern Persian du etc.; also in the compound *dwṓ-dekṃ „12" > Old Indic dvádaśa, Avestan duuadasa, Sogdian δw'ts, Khotanese dvāsu, Khwarezmian 'δw's, Pashto d(w)ōlas, Ossetic Digor duwadæs / Iron dywwadäs, Middle Persian (Turfan) dw'zdh, Zoroastrian Pahlavi dwāzdah, Modern Persian davāzdah.
*d(u)wai 2" f. > Vedic nom.-acc. f. dvé & duvé, Nepali, Bengali, Assamese, Oriya dui besides Prakrit bē, Apabhramśa bi (*db-); Kati dʲu, Waigali dū, Khowar jū etc. (*dyu- < *dui); Avestan acc. f. duiie (*duue), Khotanese dvī f., Khwarezmian 'δwy f.
*d(u)wói „2" n. > Vedic nom.-acc. n. dvé & duvé; Avestan nom. n. duuaē-ča, Khotanese dvī n.
*dwoy-ó- or *dwoi-yó- „double" > Old Indic dvayá-, Pali dvaya- (Beekes 1995: 216 reconstructs *dwoyHo-).
*dwo- is preserved only in *dwo-ko- > Old Indic dvaká- „zu zweien".

*dwi- in derivatives as *dwi-s „twice" > Old Indic dvíṣ, Avestan biš and *dwi-
tī́yo- „2nd" > Old Indic dvitī́ya-; Old Persian dᵘuvⁱitiy-, Avestan (Gatha)
daibitiia-, (Young) bitiia-, Buddh. Sogdian δ(y)βty, Zoroastrian Pahlavi dudīgar,
Modern Persian dīgar (*dvitī́ya- & *kara- „time") besides *dwi-to- > Tumshuq
Saka židä(nā), Khotanese śäta-, Pashto bəl, Parthian byd, Zoroastrian Pahlavi
did or compounds as Old Indic dvi-pád- „two-footed", Sogdian δyβp'δ 'kw,
Khotanese śivāa, Middle Persian dwp'y, Modern Persian do-pāye etc., but Av-
estan bi-zangra- id.
? *du- in *du-tiyo- > Pali dutiyam, Prakrit duio „for the second time"; cf. also
Prakrit (Aśoka) dupada- „two-footed" (Gonda 1953: 45–46 is sceptical quoting
e.g. Prakrit duhā vs. Old Indic dvidhā „in two ways").
*wī́k̥nti-/*wī́k̥onti- (?) > Indo-Iranian. *vícati- & *vícanti- (?) > *vīśati- &
*vinśati- > Old Indic viṁśatí-, Pali vīsati, vīsaṁ, Prakrit viṁsadi, vīsai, vīsā etc.,
Gujarati, Marathi vīs, Hindi bīs etc.; Kati vici, Waigali, Ashkun wiśī, Pashai
wəst etc.; Avestan vīsaiti (the form vīsata- in v⁰.gāiia- „a length of twenty
paces" is remodelled after θrisata.gāiia- „a length of thirty paces"), Khotanese
bistä, Chr. Sogdian wyst-(myq), Khwarezmian 'wsyc (*ūsēc), Wanetsi šwī, Pá-
shto wšəl, Sanglechi wiśt, Yidghà wisto, Ossetic Digor insæy / Iron yssæʒ (cf.
Scythian or Sarmatian name from Olbia 'Ινσαζαγος = Vicentius; *vinś⁰ as in
Old Indic ?), Parachi γušt, Ormuri jīstu, Parthian wyst, Zoroastrian Pahlavi wīst,
Modern Persian bīst, dial. also vīst(a), vissa, Balochi gīst etc.; cf. Old Persian or
Median *vīstaxva-ka reconstructed after Elamite mi-iš-du-ma-kaš 'the denotation
of the silver coin representing $^1/_{20}$ Krša' = 'a half of a silver shekel' and
*vīstaxvya- = mi-iš-du-ya „$^1/_{20}$" (Hoffmann 1965: 300; Hinz & Koch 1987: 925–
56; Henning 1965: 43, fn.3 sees in *-n- a substitution of *d in *dk̂m̥ti).
(Abaev I: 385 and IV: 276–78; Bailey 1979: 162–63, 293, 399; Berger 1986: 27,
35; Debrunner & Wackernagel 1930: 341–43, 366–67; Emmerick 1992a: 165–
66, and 1992b: 302, 305–06, 320; EWAI I: 762–63 and II: 550–51)

Anatolian:
*duw(e/o)nt- > Hieroglyphic Luwian nom.-acc. pl. tuwaⁿzi (Meriggi 1980: 283;
in 1962: 136, 164, 1966: 59 and 1967: 128 Merigi transcribed ⁺tu-wa-i), cf. II
tu-wa/i-zi from the inscription Maraş IV (Meriggi 1967: 128 and tab. N⁰. 32),
further II-zi and II-zi-i etc. (Meriggi 1967: 125 and 134 resp.). The -nt-
extension is in a full agreement with the hypothesis of Eichner who sees in Hit-
tite 2-e nom.-acc. pl. n. of the -nt-stem (1992: 47–50), hence *2-ante.
*du-yo- (Puhvel 1978: 99) or *dwi-yo- (Eichner 1992: 61) > Hittite or Luwian
duyanalli- „officer of the second rank" (cf. Latin secundānus „second in rank"),
consisting of the ordinal suffix -ana- and the derivative suffix -alli- as another
military title tarriyanalli- „third-in-command" (Watkins 1961: 7; Puhvel l.c.).
Shevoroshkin 1979: 186 adds the following personal names: Lydian Tυιος and
Cilician Tβιος.
*dwoyo- > Hittite d/tā- in the compound d/tāiuga-, tāuga-, dāiga- „two-year-
old", cf. yuga- „yearling" = Old Indic yuga- „age, generation" (Cowgill fol-
lowed by Eichner 1992: 56–57; Tischler 1991: 29–31 with older literature).

A corresponding compound appears in Lithuanian *dveigỹs* „two-year-old". The same component *tā-* is attested in *tā-*UD-*ti* = *tā-*šiwatti* „on the second day" (Puhvel 1978: 99).

dwoyom „twice; for the second time" (orig. nom.-acc. sg. n.) > Hittite adv. *d/tān* „a second time, secondly, once again, over again, back again, in return" (Puhvel 1978: 99; Melchert 1994: 128 reconstructs *dwóyom* while Eichner 1992: 56 prefers *doyóm* after Greek δοιόν). Meriggi 1962: 135 and 1966: 59 proposes for Hieroglyphic Luwian *tu-wa-na* the meaning „secundum" or „duplicem". Eichner 1992: 60 sees here a continuation of *dwoyóm* or *dweyóm*.

dwoyomói- > Hittite *dam(m)ai-, tamai-, tāma-* „second, other" with pronominal declension besides the adj. *dam(m)eli-, tameli-* „of another kind, different, alien" (Eichner 1992: 57–58; he identifies the same suffix in such the formations as *medʰyo-mo-* „middle", *upo-mo-* „uppermost"). The other solutions seem to be less probable: (i)*dwomo-(i-)* (Carruba 1974: 590; Kronasser 1966: 206 sees the ordinal suffix *-mo-* here, although *-mo-* in Old Indic *pañcamá-* „5th" is analogical to *dasamá-* „10th"; on the other hand, Puhvel 1978: 103, fn. 15 quotes the phonetic complements like **11**-*ma* through **14**-*ma* vs. the preceding ordinals **2**-*anna*, **3**-*anna*, **4**-*in*, **5**-*na* through **10**-*na* — see also Watkins 1961: 7–12); (ii) *dwoyósmōy* (Puhvel 1978: 102–07, assuming the same internal structure as in Old Indic *anyá-*, Gothic *aljis*, dat. sg. *anyásmai* & *aljamma* resp.).

dwoyo-gᵗʰ⁾o- > Hittite *tagaiš / *takiš* „other, second" > dat. sg. *takiya...takiya* „der eine...der andere" (Eichner 1992: 59–60 assumes here the same suffix as in *mon-o-gʰo-* „many" > Gothic *manags*). The alternative suffixation in *-g-* is also possible, cf. Germanic *ainaka-* > Icelandic *einka* „only", Norwegian *einkom* „alone" etc. and *twik-* > Norwegian *tvika* „to be in doubt", Swedish *tveka* „to be doubtful" besides West Frisian *twake* „two (eggs)", *trijke* „three (eggs)" (Ross & Berns 1992: 657–58).

dwi-(y)o- in Lycian nom.-acc. sg. n. *kbi*, nom.-acc. pl. n. *kbija* „(an)other", *kbijẽti* „double, paired" (Melchert 1993a: 33–34); in compounds e.g. Lycian *kbisñtãta* „12" or „20" (*dwi-k̂nt-ontā* — see Melchert 1993a: 34; Hajnal 1995: 159, fn. 172) or *kbisñne/i-* „two-year-old" (Oettinger 1994: 323; Melchert 1994: 315; the second member corresponds to Hittite *zēna-* „autumn").

dwisu > Lycian *kbisu* = Milyan *tbisu* „twice" = ? Luwian **2**-*šu* (Melchert 1993b: 298), cf. also Milyan *trisu*, Luwian **3**-*šu* and Hieroglyphic Luwian *tarisu* „thrice" (Eichner 1992: 61–62 reconstructs *dwis-wé* or *-won* analogically to Avestan *bižuuaṱ* < *dwis-wṇt* or Old High German *zwiro* „twice" — all derivatives of *dwis* „twice", maybe hidden in Hittite **2**-*iš*).

dwi-p(e)lom „twofold, double" (?) > Milyan *tbiplẽ* with a multiplicative or distributive function. Shevoroshkin 1979: 182 derives Lycian loc. pl. *tupm̃me* „twofold, pair" (Melchert 1993a: 81) from *du-pl̥-mo-*.

Armenian:

dwō „2" > Armenian *-ku* in *erku* „2" with *er-* after *erek'* „3" (so Bugge; Fr. Müller sees here a Kartvelian influence, cf. Svan *jéru* „2" — see Brugmann 1892: 469); *erko-* in *erko-tasan* „12" and *erko-k'ean* „both" corresponds to Greek δύο.

*dwi- > Armenian -kir in erkir „twice" (*dwis) and -kin in krkin „twofold"
(*dwis-dwisnV- *"twice-double" > „twofold") besides compounds as erkeam
„two years old" (*dwi-somH-) etc.
*dwoi- > Armenian -ke- in erkeriwr „200" (hariwr „100") and kēs „half"
(*dwoiko-, cf. Old Indic dviká- „consisting of two pairs" with velar *-k-).
*ʔwīkn̥ti > *ʔgisan(t) > Armenian kʻsan (Huld 1984b: 59–67 proposes the
compound of *sems „1" as in Albanian njëzet „20" (lit. „1 x 20") and *wi-i
*k̑m̥t-i, metanalyzed in *(sem) + swī-k̑m̥t- > kʻsan; *sw > kʻ regularly, cf. kʻoun
„sleep" < *swop-no- etc.).
(Kortlandt 1994: 253, 255; Meillet 1936: 99–101; Winter 1992: 348, 351, 355)

? Phrygian:
*dwoi- in the name of the Phrygian twin-god Δοιάς (*dwoyn̥t-), a brother of
Ἄκμων (Fick 1907: 347) and Δοίοντος πεδίον 'two lowlands in Phrygia' (Haas
1966: 162). Polomé 1986: 186 mentions a possibility of a Greek origin, cf. the
Greek gloss δοιάς „duality".

? Macedonian:
*dwi- in the compound known from the gloss διπανάς· τούς διδύμους
γεγενημένους (Hesych.) (*dwi-pawid-n⁰ „of two children", cf. Greek παιδνός
— see Blumenthal 1930: 19, fn. 2).

Greek:
*dúwo (indecl.) „2" > Chalkidian δύϝο, Homeric, Attic, Ionic, Doric δύο; cf.
the derivative δυοστός „half" remodelled after εἰκοστός „20th".
*dúwō „2" (du.) > Homeric m.f.n. δύω (by duals of the o- & ā-stems) besides
Aetolian δύϝε, Laconian δύε with the dual ending -ε of the third declension.
The monosyllabic variant *dwō continues in δώδεκα „12". Mycenaean dwo „2"
(PY Eb 338, Eo 278, Ub 1315) is ambiguous (*d(u)wṓ), while the instr. du-wo-
u-pi (= duwou-phi; PY Ep 704 — see Kazanskij 1986: 98) corresponds fully to
Old Indic duváu — see Beekes 1969: 147).
? *dwóu-tero- „2nd" > *dweu-tero- > Greek δεύτερος (Meier-Brügger 1993:
141, quoting the analogical assimilation in Greek ἕτερος „one of two", but My-
cenaean a₂-te-ro, Doric ἅτερος; formally the same derivative appears in
ἀμφότεροι pl. „both"). The traditional arguments against the derivation of
δεύτερος from *d(u)wō(w) was presented by Brugmann 1881: 298–301.
*dwi- in *dwis „twice" > Greek δίς etc. and in numerous compounds as διπλός
„double" (= Latin duplus), δίπους „two-footed" etc.
*dwoiyo- > Greek δοιός „twofold", pl. δοιοί, du. δοιώ „both", cf. the Myce-
naean man's name Du-wo-jo & Dwo-jo (PY Jn 750; KN V 492, X 8126) =
*Δϝοίος „Twin" (Kazanskij 1986: 169; 154).
*du-mo- > Greek -δυμος appearing in the expressive reduplication δίδυμος
„twofold", pl. „twins", attested already in the Mycenaean man's name Di-du-mo
(KN X 5751, MY Oe 129) = dat. Didumōi (Kazanskij 1986: 92) and in the
compound ἀμφί-δυμος „twofold", analogically also τρί-δυμος „three-fold".

*ewī̆k̑ṇti „20" > Proto-Greek *ewīkati > North-West Greek, Doric, Boeothian, Thessalian ϝίκατι, Pamphylian φίκατι, Herakleian ϝείκατι, Hesych. βείκατι, Thera hικάς, hί̆καδι vs. Homeric, Ionic, Attic, Arcadic, Lesbic εἴκοσι besides Homeric ἐείκοσι (= ἔ̃κοσι) with o after -κοντα forming the tens 30–90. Huld 1984b: 60 proposes a different solution based on the possibility to project Proto-Greek *ewīkâti in *se-wī-kṇti „1 x 20" (cf. Albanian njëzet „20" = „1 x 20" and Armenian k'san „20" with the Huld's analysis above) where the first syllable has to correspond to ἑ- in ἑκατόν ί100", usually analyzed *se(m)-k̑ṇtom „1 x 100".
(Chantraine 1968: 287, 301–02; Frisk I: 424–25; Kortlandt 1983: 100; Lejeune 1972: 81–82, 206; Schwyzer 1939: 588–89, 591; Waanders 1992: 370–71, 374, 383–85)

Albanian:
*dwōw „2" > *dōu > *dū > Albanian dy. The feminine dȳ (e.g. Dushmani) could originate as follows: *dū + f. ending -ās > *dū(w)ā > *dyë > dȳ. So called 'ablative' *dȳš is probably formed as an original loc. pl. of o-stems in *-oi-su (cf. Beekes 1995: 191), i.e. dȳš < *dyëš < *dü(w)īsu < *duwīsu < *duweisu < *duwoi-su.
*d(u)wi-to- „2nd" > *dü(w)i-to- > *dyēt- > *dȳt- > South Geg i dyti, North Geg (Gusi, Crna Gora) i dȳti etc.
*wī̆k̑ṇtī „20" > *wiĝatī > *ȝ̌uatī > *ȝ̌uäti > Albanian -zet in një-zet „20", dy-zet „40", tri-zet „60", lit. „1 x 20", „2 x 20", „3 x 20" respectively. (N.B.: Hamp, the author of this etymology, reconstructs *-ṃ-. Huld 1984b: 65 proposes a more traditional and a less hopeful etymology: një-zet < *(s)myā-wī-k̑ṃt-oi, assuming the substitution of the m. pl. ending *-oi for the original dual. Quite improbable is the assumption of Çabej connecting the root -zet with late Greek verbal adj. ζευκτός „joined" (see Huld 1984a: 134).
(Hamp 1992: 853, 905–06, 919; Huld 1984a: 56–57, 133–34 with overview of older etymologies; Kortlandt 1983: 101)

? Illyrian:
*dwi- in composited place names as Di-mallum, Δι-μάλη *"two mountains" or Δι-βολία = Greek *δι-φυλία, cf. Tri-bulium = Greek Τρι-φυλία (Krahe 1955: 101, 104, 107).
*dwi-to- „2nd" > Illyrian personal name Ditus *"Secundus" (Mayer, KZ 66[1939]: 108).

Messapic:
*dwŏ „2" > Messapic doa .
*dwi-to- „2nd" > Messapic ditan „alteram", ditais-si „aliisque"; cf. also the gentile name Diehaihi, gen. of *Ditiaos *"Secundus" ?
(Haas 1962: 53, 72, 90, 122, 202, 212–13)

Italic:
*duwō „2" m. > Latin nom.-acc. duo m., n. (with iambic shortening, cf. Sommer

1902: 493) represents the last relic of the dual inflection; for the other forms (gen. *duōrum*, dat.-abl. *duōbus*) including the neuter *dva* (*CIL* III: 138) the plural inflection is characteristic. The plural inflection is also characteristic for all known Umbrian forms: acc. n. *tuva* corresponds perhaps to Latin n. *dva*. Nom. m.-f. *dur* can be derived from **duūr* < **duōs* = Latin nom. pl. *duōs*. Acc. m.-f. *tuf* reflects rather **duō-* + *-ns* (common gender) than *⁺duā-* + *-ns* (f.). Dat.-abl. *tuves, tuver-e, duir* < **dueis* < **duois* (Buck 1905: 86; Coleman 1992: 392).

*duwai „2" f. >> Latin *duae* f. (with the ending of nom. pl. of the *ā*-stems, cf. the substantival gen. form *duārum*).

*dwi- in **dwis* „twice" > Old Latin *duis* (Cic. *Or.* 153), Latin *bis* and **dwisno-* > Latin *bīni* „in twos" besides numerous compounds with the first member **dwi-*: Old Latin *dui-dēns* „bidens", gloss. *diennium* „biennium" (**dwi-atnyo-*), *dīmus* „bimus" (**dwi-himos*), *bipēs* „two-footed" etc.

*du- in **dut(i)yo-* > Umbrian acc. sg. n. *duti* „a second time" (*Ig* 6B63), **du-bʰi* *„on two sides" > Latin *dubius* „doubtful" besides numerous compounds as Umbrian dat.-abl. pl. *dupursus* „biped, men" (*Ig* 6B10) < **dupodufs* < **du-pod-bʰos*, **du-plo-* „twofold" > Latin *duplus* „double", Umbrian acc. pl. f. *dupla* (*Ig* 6B18), abl. pl. m. *tupler* (*Ig* 5A19), **du-pl̥H₂k-* > Latin *duplex* „twofold", Umbrian *tuplak* „two-pronged (fork)" etc.

*wi-dḱn̥t-ī „20" > **widĝn̥tī* > **wīĝentī* > Latin *vīgintī*.
(Buck 1905: 86–87; Coleman 1992: 390–92, 397–98, 404–405, 416, 419, 422–23; Sommer 1902: 493; WH I: 104–06, 375–76, 381–84)

Celtic:
Cowgill 1985: 22–25 reconstructs the protoforms for the Celtic numeral „2" as follows:

*duwo „2" m. > Goidelic **duva* > Early Irish **dou* > Old Irish *dáu*, later *dó* & proclitic *da* // Brittonic **dou* m. > Old Welsh *dou*, Middle Welsh *deu*, New Welsh *dau*, Middle Cornish *dow, dew*, Old Breton *dou, dau*, Middle Breton *dou, daou*, Modern Breton *daou* (Cowgill 1985: 24 admits that the reconstruction of Goidelic **duvō* < **duwōu* is possible too, but he prefers other solution for the limitation of the forms terminated in **-ōu*).

*duweH₂iH₁ „2" f. > Celtic **duwai* > **duvī* > Brittonic **dui* > Welsh *dwy*, Old Cornish *dui*, Middle Cornish *dyw, dew*, Breton *diou* // Old Irish *di*.

*dwi- in **dwís* > Old Irish *fo dí* „twice" (cf. also Greene 1992: 521; but perfectly corresponding Gaulish (Larzac) *uo-dui* < **upo-dwǐ* does not indicate the final **-s* — see Lambert 1994: 167).

Vendryes & Lambert 1996: D-6 present a different solution:

*dwōu >**dwāu* > Old Irish *dáu*; Old Welsh *dou* etc. for m. (cf. Greene 1992: 505);

*dwī > Old Irish *dí*, but **dwei* > Welsh *dwy*, etc. for f.

*dwoi- in oblique cases: gen. **dwoyu* > Goidelic **dwēyu* > proto-Irish **dé* > Old Irish *da*[L] (Kortlandt, *Ériu* 37[1988]: 92 derives gen. *da* from **dāwōs*, remodelled after nom. *dáu* < **dāwū* in his reconstruction); dat. **dwoi-bʰyem* > Goidelic **dwēbyen* > Old Irish *deib*[N], *dib*[N] (Greene 1992: 506; Vendryes-Lambert 1996: D-6).

*dwei- in *dwei-plo- > Old Irish *diabol* „double". Cf. Old Brittonic
Δουηκαληδόνιος (Cowgill 1985: 21).

*dwei-ko- or *dwi-ko- > Old Irish *dechenc* „couple, group of two persons"
(Vendryes & Lambert 1996: D-31).

Concerning Old Irish *dïas*ᴸ, gen. *de(i)sse* „two persons" and *déde*ᴺ „two things"
Hamp 1982: 178 has found a tempting solution, reconstructing the collective
*dwis-ad- in Celtic, formally corresponding to Greek δυάς, gen. δυάδος „pair,
couple", which continues in *dwisad-s, gen. *dwisad-os > *(Fer) Diad*, lit.
„(man) of pair", a foster-brother and later a rival of Cú Chulainn. Further *dïas*ᴸ,
gen. *de(i)sse* „two persons" < *dihassā < *dwisad-tā and *déde*ᴺ „two things" <
*dihadiyan < *dwisad-ion.

*wikn̥tī > Old Irish *fiche*, gen. *fichet*, dat. *fichit* (Thurneysen 1946: 247; Pok-
orny 1959: 1177 reconstructs *wik̂m̥ts); Middle Welsh *ugeint*, New Welsh
ugain, Cornish *ugens*, Breton *ugent*. Pokorny l.c. explains the substitution *gwy-
>> u- under the press of the compound *dou-viceint „2 x 20" > Welsh *deugaint*
„40". But the infuence of the numeral „1" (Welsh, Cornish, Breton *un*) looks
more probably: the vigesimal system in Brittonic (Middle Welsh *deugeint* „40"
= „2 x 20", *triugeint, trugein* „60" = „3 x 20", Welsh *pedwar ugain* „80" = „4 x
20") implicates that „20" represents a unit, hence „1 x 20".

In the Gaulish tribal names *Bocontius, Bocontia, Vocontius*, pl. *Vocontii* the
numeral „20" can be hidden, if *voconti < *(d)wo-kont-i with *(d)wo- instead of
expected *(d)wi- after the (unattested) cardinal and *-kont- instead of expected
*-kant- (cf. the variant *Vocantii*) < *-kn̥t- under the influence of the higher tens
„30–90", cf. *trīcontis* „30" (Bernardo Stempel 1987: 110).

(Cowgill 1985: 22–25; Vendryes & Lambert 1996: D-6, 65, 66, 69)

Germanic:
The most detailed analysis of the Germanic numeral „2" (and Germanic numer-
als at all) was presented by Ross & Berns 1992: 562f:

*dwow „2" nom.-acc. m. > Germanic nom.-acc. pl. n. *twau > Old Icelandic
tuau, Modern Icelandic *tvö*, Faeroese *tvey*, Modern Norwegian *tvau*;

*dwō „2" nom.-acc. m. > Germanic nom.-acc. pl. n. *twō > Old Icelandic *tú*,
Old Swedish, Old Danish *tū*, Old English *tū*. Under the influence of the definite
article (Gothic acc. m. *þans* and nom.-acc. f. *þos* < *þōz) analogical forms of
the numeral „2" originate: acc. m. *twanz > Gothic *twans*, Old Icelandic *tuá* and
nom.-acc. f. *twōz > Gothic *twos*, Old Icelandic *tvær*, Old Saxon *twâ* & *twô*,
Old High German *zwâ* & *zwô* etc. Scandinavian *tū + *tegu- „ 10" (< *dek̂m̥) >
Scandinavian *tutigu „20" > Old Icelandic *tiogo*, Old Norwegian *tiugu*, Old
Swedish *tiughu* etc. with haplological loss of the first syllable. Old Icelandic
tottogo, Old Norwegian also *tuttugu, tutigu* „20" have perhaps origin in a form
corresponding to the unattested Gothic acc. *twans tiguns.

*dwoy „2" nom.-acc. f.-n. > Germanic nom. pl. m.*twae > Gothic *twai*; Old
Icelandic *tveir*, Runic Swedish *tuaiR*, Old Swedish *twē(r)*, Old Gutnic *tueir* etc.;
Dutch dial. (Maastricht, Goerse) *twie* etc. Ross & Berns 1992: 567 reconstructs
also *twaeu (with adjectival -u) > Old High German *zwei*, Old Saxon *twē*, Old

Frisian, Old English *twā*; Gothic *twa* with *-a* instaed of expected **two* is due to analogy with the adjectives. Germanic gen. **twajōⁿ* (reflecting rather gen. pl. **dwoyōm* than gen. sg. **dwoyous* — in contrary Beekes 1995: 565) continues in Gothic *twaddje* (with gen. pl. m.-n. in *-e* forming numerous nouns, adjectives and pronouns, cf. Voyles 1987: 490, fn. 9), Old Icelandic *tveggja*, Old Saxon *tweio*, Old High German *zweiio, zweio* etc. and dat. **twaimiz, twaemuz, -az >* Gothic *twaim*, Old Gutnic *tuaim*, Old Icelandic *tveim(r)*, Old Swedish *twēm*, Old High German *zwêm/n*, Old Saxon *twêm/n*, Frisian *twâm*, Old English *twǣm*. Only dat. *twaim tigum* is known for „20" in Gothic (the unattested nom. **twai tigjus <* Germanic **twae tegewes* „two tens"), while in West Germanic it is a common form reconstructable as **twaimteg, -tig, -tug >* Old High German *zweinzug*, Middle High German *zweinzĕc,-zic*, Old Saxon *twentig,-teg,-tich*, *-tech*, Dutch *twintig*, Old Frisian *twintich, -tech*, Old English *twēntig*.

Cf. further Germanic **twa-libą & *-lifą* „12" (lit. „two left") > Gothic *twalif*, gen. *twalibe*, dat. *twalibim* (but Crimean Gothic *thune-tua* „12" = „10 + 2"), Old High Germanic *zwelif*, Old Saxon *tuuelif*, Old English *twelf*, Old Icelandic *tolf* etc. besides the abstract **twalifti-* > Old Icelandic *tylft* „dozen", Old Swedish *tylpt*.

*dwi- in **dwis* „twice" continuing probably in its gen.-loc. du. **dwiswous* (perhaps contaminated with **dwis-wēro-*) > Germanic (i)**twiswauz* > Old Icelandic *tysuar*, Old Swedish *twiswar*; (ii) **twizwauz* > Old High German *zwiror*; (iii) **twizwaus* > Old High German *zwiro* besides Ingvaeonic **twiwō* > Old English *t(w)uwa*, Old Frisian *twi(i)a*, Old Saxon *twîo* etc. and with adverbial *-es* in Middle Low German *twîges & tweyes*, early Modern Frisian *tweis*, English *twice*; **dwisno-* > Germanic **twizna-* > Old Icelandic *tuiþr & tuinnr*, Old Swedish *twinni* „two" besides the umlauted form **twezna-* > Old Icelandic *tueþr*, Icelandic *tvennr*, Swedish *tvenne* „of two kinds", Old English *ge-twinn* „twin" etc.; **dwist(H)-* > Germanic **twist-an-* > Old (West ?) Germanic *Tuisto* (Tacitus, Germania 2.2); further in compounds as Old English *twi-fēte* „two-footed", Old High German *zwi-houbit* „two-headed" etc. The isolated Old Icelandic *tuítán* „20" (**twī-tēχan* with the second member forming teens, cf. e.g. *siaután* „17", *áttián* „18") could be perhaps remodelled under the influence of **twi-* via **twī-χanþī* (cf. the tribal name *Tuihanti* attested in two altar-inscriptions, found near Housesteads by Hadrian's wall, dedicated to *Deus Mars* by *Tuihanti*, described in one as *Germani*, in the other as *cunei Frisiorum* — see Szemerényi 1960: 170–71, finding the closest parallel in the Gaulish tribal name *Vocontii*) from **wĭk̑ontī* (*-o-* after the higher tens as in *Vocontii* — see above).

*dwei- in **dweikno-* > Germanic **twīxna-* > Gothic nom. pl. m. *tweihnai* „two each"; Proto-Norse **twēxnR > *twēnR* > Old Icelandic *tuénn* „double", Old Frisian *twîne* „two, of two kinds, double", cf. also Old English dat. pl. *be ... twēonum*, English *between*; **dwei-plo-* > Germanic **twīfla-* „doubt" > Gothic *tweifl(s)*, Old High German *zwīfal*, Old Frisian *twîfel* etc.

Like in the case of the Celtic numeral „2" Cowgill (1985: 13f) proposes the best founded alternative solution:

*duwo „2" (uninflected) > Gothic nom.-acc. n. *twa*, Crimean Gothic *tua*; Cow-

gill 1985: 14 judges that Old Icelandic nom.-acc. n. *tvau* belongs here too, explaining *tvau* from **tva* plus **-u* < Germanic **-ō* of polysyllabic neuter plurals (so already A. Kock, *PBB* 15[1890]: 250f.).

*duwoyH₁ „2" n. du. > Germanic **twai* > Old Saxon *tvē*, Old English, Old Frisian *twā̆*, Old High German *zwei* (with *-i* takèn from gen. *zweiio* and dat. *zweim*).

Balto-Slavic:

*d(u)wṓ „2" m. > East Baltic **d(u)vúo* > Lithuanian nom.-acc. m. **d(v)úo* > *dù*, Old Latvian **duo* in *duokart, duoreiz* (Adolphi 1685), *dū* (1732), while modern Latvian m. *divi* was remodelled after f. *divi*; Yatwingian *duo* // Slavic **dŭva* m. > Old Church Slavonic *dъva*, Bulgarian, Macedonian, Serbo-Croatian, Slovenian *dvâ*, Czech, Slovak *dva*, Upper Sorbian *dwaj*, Lower Sorbian, Polish *dwa*, Polabian *dåvo*, Old Russian *d(ъ)va*, Russian, Ukrainian, Byelorussian *dva*. **Dъva* plus **desęti*, the dual of **desętь*, form the numeral „20" in Slavic: Old Church Slavonic *dъva desęti*, Old Czech *dvadcěti*, Upper Sorbian *dwaceći*, Russian *dvádcať* etc.

*d(u)wai „2" f. > East Baltic **d(u)vái* > Latvian nom. f. **duvi* > *divi*, Lithuanian nom.-acc. f. **dvìe* > *dvì* // Slavic **dŭvě* f.-n. > Old Church Slavonic *dъvě* & *dьvě*, Bulgarian, Macedonian *dve*, Serbo-Croatian, Slovenian *dvê*, Slovak *dve*, Czech *dvě*, Upper & Lower Sorbian *dwě*, Polabian *dåve*, Polabian *dwie*, Old Russian *dvě*, Russian *dve*, Ukrainian *dvi*, Byelorussian *dzve*.

*d(u)woi „2" n. (?) > Prussian *dwai* acc. m. (Toporov 1975: 395 judges that n. was generalized).

In Lithuanian the expected nom.-acc. n. **dvìe* could be recognized in **dvie-li(e)ki(e)* „12", remodelled in *dvýlika* after *trýlika* „13" (Stang 1966: 281 following Mažiulis). Slavic **dŭvě* n. has merged with f. Cf. also **dŭvě sŭtě* „200" > Old Church Slavonic, Old Russian *dъvě sъtě*, Czech *dvěstě*, Upper & Lower Sorbian *dwěsće*, Polish *dwieśćie* etc.

*d(u)woi- in oblique cases: **d(u)woy-ou(s)* > Old Church Slavonic gen.-loc. *dъvoju*, Lithuanian adv. *dvíeau(s)* „in two", **d(u)woi-m(ō)* > Old Church Slavonic dat.-instr. *dъvěma*, Lithuanian dat. *dvíem*, instr. *dviẽm*.and with **-yo-* extension in Slavic **dŭvojь,-ja,-je* m./f./n. „double" > Old Church Slavonic *dъvoi* / *dъvoja* / *dъvoje* etc.

*d(u)wei- with **-yo-* extension in Lithuanian collective-distributive *dvejì*, Latvian *divēji* „je zwei", *dvēja* „two kinds of", *dvējetas* „duality" and in the derivative **dweig⁽ʰ⁾o-* > Lithuanian *dveigỹs* // Serbo-Croatian *dviz* „two-year-old" (Trubačev 1978: 189–90 rejects a compoud corresponding to Hittite *dāyuga-* „two-year-old", where *yuga-* means „yearling" — see above; he prefers the comparison with Greek *δισσός* & *διττός* „double" < **δϝιχιός*, while the compound **dwi-* & **yugo-* continues indoubtedly in Slovincian *dvjĩɵ* „yoke for two oxen" = Latin *bīgae* < **dwi-yugai*).

*dwi- in derivatives as Lithuanian *dvýnas, dvynỹs*, Latvian *dvĩņi* „twin"// Old Russian *dvína* „couterus" (extended in **-īno-/-ā*, cf. Sławski 1974: 120–23) and in compounds as Lithuanian *dvìdešimt*, Latvian *div(i)desmit* „20", Prussian

dwigubbus, Lithuanian *dvigubas* „double" (but Old Church Slavonic *dъvogubьnъ* „duplus, geminatus", Slovenian *dvogùb* „double" etc.), *dvikõjis* „two-footed" etc.

(Comrie 1992: 731–35, 774; Fraenkel I: 107–08; Karulis I: 220–21; Stang 1966: 277; Toporov 1975: 395–96; Trubačev 1978: 185–93; Vaillant 1958: 621–26; Zinkevičius 1984: 11–12)

Tocharian:

*dwōw „2" m. > A m. *wu*.

*dwai „2" f. >A f. *we*, B m. & f. **wai* > *wi* (after *antapi* „both"; the old diphthong could be preserved in *wai* „and", originally perhaps gen.-loc. du. of the numeral „2", cf. Van Windekens 1976: 540, Klingenschmitt 1994: 341). On the other hand, Adams 1988: 38 reconstructs **dwoy*.

*dwi- in **dwito-* „2nd" > A *wät*, B *wate*, *wäte* and in compounds as B *wi-pew* „two-footed" (**dwi-pedwent-* ?): .

*dwist(H)o- in adv. **dwist(H)ā*, orig. nom.-acc. pl. n. > A *wäṣt*, B *wasto*, *wästo-* „double" (Čop saw here abl. or inst. sg. in **-ō(d)* — see Hilmarsson 1986: 154).

*dweist(H)o- + adverbial suffix **-ōr* > distributive suffix *-ār* continues in B *yästär* „je das Doppelte" (Van Windekens 1979: 283; Klingenschmitt 1994: 325–26).

*wïk̑ṇti „20" > A *wiki* & *wīki*, B *ikäṃ* & *īkäṃ*. One would expect A ⁺*wikäñc*, B ⁺*ikäñc* (Van Windekens 1976: 572 who assumes **wïk̑ṃt*). In the puzzling termination Werner 1992b: 116–17, 139–40 sees a contamination with the ordinals A (unattested) **wikiñci*, B *ikante* (**ikäñcte*) and a following back-formation consisting in a separation of *-ṇci* and *-te* resp. Adams 1991: 39, fn. 50 solves the problem of the termination reconstructing proto-Tocharian **w'ikänn* < **w'ikänt* < **wi(d)k̑ṃt*. Kortlandt 1991: 8 presents another, less convincing solution. He assumes a loss of the expected final **-i* (the inanimate dual marker) analogically to **dek̑ṃt* „10", while *-i* in A *wiki* has to be a copy from the particle *-pi* in such instances as *wiki ṣapi* „21".

(Adams 1988: 15, 19, 137; Van Windekens 1976: 585–86; Werner 1992b: 103–04, 116–17)

§2. Reconstruction and internal analysis

1. The analyzed material allows to reconstruct an uninflected *o*-stem **d(u)wo*. Among inflected forms representing the dual of *o*-stem for m.& n. and *ā*(= *eH₂*)-stem for f. only nom.-acc. and gen.-loc. are hopefully reconstructable (Oettinger 1988: 356–59; Adams 1991: 22–23; the reconstruction **-H₂(i)H₁* was anticipated already by Risch 1975: 253, fn. 15 and Watkins 1975: 368):

	masculine		neuter		feminine	
	Brugmannian	laryngealistic	Brugmannian	laryngealistic	Brugmannian	laryngealistic
nom.-acc.	**d(u)wōw*	**d(u)woH₁w*	**d(u)woi*	**d(u)woiH₁*	**d(u)wai*	**dweH₁iH₁*
gen.-loc.	**dwoyou(s)*	**dwoy(H)ou(s)*	= m.	= m.		**dweH₁iH₁ou(s)*

Beekes 1995: 194 differentiates gen. and loc., reconstructing *-$H_i e/oHs$ (>
Avestan -$\acute{a}$) vs. *-$H_i ou$ (> Avestan -$\bar{o}$) resp. He tries also to take care of the
problem of $\cdot b^h$- and m-endings in dat./instr./abl., postulating dat.-abl. *-me/oH
vs. instr. *-$b^h iH_i$ and their later contamination. Elsewhere (p. 212) he recon-
structs loc. *$dwoyHous$ on the basis of the Germanic forms with 'Verschärfung'
(Gothic *twaddje*, Old Icelandic *tveggja*). Adams 1991: 23 explains the presence
of the laryngeal in some forms assuming their rebuilding on the basis of locative
duals in non-thematic stems. The most important difference between Beekes on
the one hand and Adams & Oettinger on the other hand is in the reconstruction
of the nom.-acc. Beekes 1995: 212 reconstructs only m. *dwo-H_i vs. f.-n. *dwo-
iH_i (Kortlandt 1991: 5 sees in *-iH_i a contamination of two originally different
markers of dual: animate *-H_i and inanimate *-i). Beekes admits that he is not
able to explain satisfactorily the final -u in Old Indic *dváu* and the uninflected
Greek δύο. Hollifield 1980: 48 and Eichner 1992: 47–48 analyze the final *-$\bar{o}w$
< *-o-H_i-w. Oettinger 1988: 358, fn. 15 mentions the variant *-o-H_i-u (quoted
also by Eichner l.c.) giving Indo-Aryan *-$\bar{a}u$ thanks to the Brugmann's law. Ac-
cepting the 'Brugmannian' reconstruction nom.-acc. m. *$d(u)w\bar{o}w$ (with a
regular sandhi variant *$d(u)w\bar{o}$) and gen.-loc. m. *$dwoyou(s)$, Adams 1991: 20
identifies here a 'dual collective' *-$(o)u$-. Separating it, we get uninflected
*$d(u)wo$ and inflected dual with the minimum paradigm nom.-acc. *$d(u)w\bar{o}$ vs.
obl. *$dwoy$. It is tempting to mention the parallel situation for the Semitic nu-
meral „2" reconstructable only in dual (*-ni represents 'nunation', i.e. the de-
terminer characteristic for the dual which is missing before noun):

	m.	f.
nom.	*ṯin-ā(-ni)	*ṯin-at-ā(-ni)
acc.-gen.	*ṯin-ay(-ni)	*ṯin-at-ay(-ni)

(Moscati 1964: 94;
Dolgopolsky 1995, p.c.)

This remarkable parallelism between the Indo-European dual of o-stems and
the common Semitic dual was mentioned e.g. by Cuny 1930: 41–42 and 1946:
251, 254; Levin 1990: 155–57, 1992a: 252. Levin 1992b: 117 tries to find an
exact correspondent to the Indo-European nom.-acc. dual ending *-$\bar{o}w$ in such
the Hebrew dual forms as *yrḥw* „two months" (Gezer calendar inscription) or
w-ydw „and [a man's] hands" (1x in Ezekiel 1:8). On the other hand, in his re-
view of Cuny 1930 Kořínek, *Listy filologické* 61[1934]: 201–07 asks, why just
the dual of o-stems corresponds to the common dual in Semitic. Let us add the
analysis of Egyptian m. *sn.wj*, Coptic *CNAY* „2" vocalized by Vycichl (1957:
363) as follows: *$s(i)ntww^e j$ < *$siniwwaj$ < *$siny$- -$\bar{u}$- -$\bar{a}y$, i.e. ROOT +
PLURAL + DUAL. For support Vycichl quotes convincing examples demon-
strating the derivation of the dual from the plural stem, e.g. Arabic ʔ*anta* „thou"
: ʔ*antum* „you" : ʔ*antum-ā* „both you". The Vycichl's analysis allows a sugges-
tive identification of Indo-European and Egyptian markers: *-oy- // *-$\bar{a}y$- (dual)
and *-u // *-$\bar{u}$- (collective // plural) (cf. p. 365).

Villar 1991: 136–54 isolates the pure root *du, while the forms *dui/*duoi/*duei and *duō(u) he interprets as plural and dual resp. It can be supported by the following paradigm of the masc. demonstrative stem *so-/*to- „this, that" (Brugmann 1911: 374–75; Beekes 1995: 204):

	sg.	pl.	du.
nom.	*so	*toi	*tō(u)
acc.	*tom	*tons	= nom.
gen.	*to-syo	*toi-/*te-som	*toy-(H)ous
dat.	*to-sm-ōi	*toi-m/bʰus	?
loc.	*to-sm-i	*toi-su	*toy-(H)ou

The o-grade *dwoi- extended in *-yo- (or *-Ho- after Beekes 1995: 216) forms the adjective with a collective meaning. The form *dwi- appears frequently in compounds (e.g. *dwi — ped-/ pod- „two-footed"). There are very old derivatives as *dwis „twice", *dwisno- „twofold" (in Anatolian „two-year-old" ?), *dwi-pl(o)- (besides *duᵒ and *dweiᵒ) „twofold". Besides the very archaic ordinal *dwi-yo- (or *du-yo- ?) attested only in Anatolian there are innovations in ꜣt- (*dwi-to-/-tyo-/-tῐyo-) in Indo-Iranian, Albanian, Illyrian, Messapic, Umbrian, Tocharian (cf. the most recent innovations in German zweite and Bulgarian dveki for *dveti, i.e. cardinal dve + ordinal suff. -t-, see Comrie 1992: 735) and probably in *-tero- in Greek. The same suffix forms the ordinal „2nd" (orig. „other") in some other branches: *H_2en-tero- > Old Indic ántara- „far, various, other", Avestan antara- „other, second", Khotanese handara-, Ossetic Digor ændær „other"; Armenian andra- „back, again"; Gothic anþar, Old Icelandic annarr „other, second", Prussian anters,-ars, Lithuanian añtras & añtaras id., ? Old Church Slavonic vъtorъ, Upper Sorbian wutory „second", cf. Czech úterý „thuesday", vs. *H_2en-yo- > Old Indic anyá-"other, various, foreign", Avestan aniia-, Hittite han-ti „anderswo", Armenian ayn „ille" (Pokorny 1959: 37; Mann 1984–87: 27; EWAI I: 80) and *H_2el-tero- > Latin alter „other", Middle High German alder „or, else" besides *H_2el-yo- > Celtic *alyo- „second" > Gaulish (Coligny Calendar) *alio- „second" (Olmsted 1988: 268, 293–95), Old Irish aile „second, other", further Armenian ayl, Greek ἄλλος, Latin alius, Gothic alja-, Tocharian A ālya-k „other" etc. (Pokorny 1959: 25–26). Let us mention a remarkable parallel in Semitic: Ugaritic ꜥl „second" (Segert 1984: 196). Is it an accidental coincidence or a result of an areal influence or even a common heritage?

At first sight the numeral „20" seems quite ambiguous. In the first approximation it can be reconstructed *wīk̂ṇtī (Szemerényi 1960: 23–25), in the laryngealistic projection *H_1wiH k̂ṇtiH$_1$ = *ʔwi-ʔk̂ṇt. This reconstruction allows to assume the original compound *dwi-dk̂ṇt-iH$_1$ „two-ten-DUAL with following dissimilation *dwidk̂ᵒ > *ʔwidk̂ᵒ and with further assimilation in *ʔwiʔk̂ᵒ (cf. Kortlandt 1983: 100). Less probable, because inconsistent looks the point of view of Brugmann 1911: 11 identifying in *wī- the root *wi appearing in Old

Indic *ví* „auseinander", *vi-ṣva-* „nach beiden Seiten", *u-bhaú* „both" etc. (cf. yet Hollifield 1980: 48 who reconstructs *H_1wiH_1-dk̂m̥t-iH*$_1$ seeing in *H_1w* a numerical element meaning „2"; in contrary to the tradition we prefer to reconstruct two variants of the numeral „10": *dek̂m̥* and *dek̂m̥t-*; the reasons are explained in a special article).

§3. Etymologies and their comments

1. Stewart 1906: 234 derives the numeral „2" from the root √*dŭ* „in die Ferne gehen", comparing the semantic development to Klamath *spéluiš* „index finger", related to *spélšna* „to put it forward". Similarly Schmid 1989: 12–13 and Lehmann 1991: 135 and 1993: 254 derives the numeral „2" from the root *dew-* „distant, further", assuming the primary semantics *"that one farther away".

But the correct reconstruction should be *$dweH_2$* — with the probable primary meaning „to withdraw, retire" (EWAI I: 739), cf. Old Indic *dūrá-* „far", *dávīyas-* „farther", *daviṣṭha-* „farthest" = Old Persian *duvaišta-*, Hittite *tūwan* „far" (*$dweH_2m$* with the regular loss of *H_2* — see Hollifield 1980: 48), Armenian *erkar* „long, slow", Greek adv. *δηρός*, Doric *δāρός* „for a long time", Greek *δήν*, Doric *δ(o)άν* „far", Old Church Slavonic *davě* „at one time" etc. (Pokorny 1959: 219). It is evident that the numeral *d(u)wō(w)* „2" nor its bare root *du-* are not derivable from *$dweH_2$-*. On the other hand, the opposite development is more plausible phonetically, morphologically (*-eH_2-extension — see Kronasser 1966: 422–32, esp. 430; Watkins 1969: 158) and semantically too (cf. Middle Persian of Turfan *dwdy* „ferner, dann" < Iranian *dvit(y)a-* „second" — see Emmerick 1992b: 320).

2. There are various attempts to divide the numeral in two parts: *dV-* plus the rest. Blankenstein 1907: 110 analyzes the numeral „2" in *de & *we, identifying the first member, a proper bearer of the meaning „2", with the first syllable of *dek̂m̥* „10" (= „2 hands") and the second member with *wě* „or" (why ?) (Pokorny 1959: 75).

3. Separating the dual ending *-ō(u)*, Erhart 1965: 19–33, 1970: 90–94 and 1982: 139 reconstructs *d(u)w-(o)* < *d^oH^wo- and finds a bearer of duality in *-H^wo* (forming also the separated dual ending *-ō(u)* ; cf. Hollifield 1980: 48 ascribing the meaning „2" to *-H_1w-, while *H_3* = *H^w* as the dual marker is besides Erhart reconstructed probably only by Cowgill 1985: 27, fn. 1: *$duwoH_3$). Similarly as Blankenstein, Erhart assumes the same origin of the initial dental of the numerals „2" and „10", but in contrary to him he expects its meaning „one". Hence *d(V)-H^wo* = „ 1 x 2 " and *de-k̂m̥t* = „1 x 10". The Erhart's identification *d(V)-* = „1" was quite independently supported by Olzscha 1968: 146, who deduces from the dual *dw-ō* „2" the singular *du* *"1". He finds an unexpected evidence in Etruscan *θu* „ 1". Also Holmer 1966: 25–26 separates *d-* and finds it in *dek̂m̥* „10" too, while the proper bearer of the meaning „2" would be *-w-* (~ Basque *bi* „2" < *wi ?!).

The original meaning of this *dV-* seems to be more probably deictic than numerical, cf. Slavic *ed-inъ* „one", orig. „that one" and perhaps Crimean Gothic *ita* „one", derived by Hamp from the unattested compound *ita-aina-* (Lehmann

1986: 208). Accepting the deictic function of *dV-*, it could be identified with the anaphoric pronoun attested in Prussian acc. *din* „him", *dien* „her" etc. and Avestan, Old Persian acc. *dim* „him, her" (Brugmann 1911: 391). The most se-. rious objection consists in vocalism. In the case of *di-* + *Hʷo* one could assume an irregular development *diwo* > *duwo*. But how to explain *di-* („that" ?) + *ḱn̥t* („hand") > > *deḱn̥t* „ 10". Why the meaning is not „5" or *ḱn̥t* is not in dual ? The second serious objectin concerns the determination of the laryngeal marker of the dual: it was probably *H₁* and not *H₃* (cf. Oettinger 1988: 356–59; Adams 1991: 22–23; Beekes 1995: 194–95).

4. In agreement with his premise that the Indo-European counting system was based on fingers beginning the left little finger, Fay 1910: 416 tries to identify the „left ring-finger" in „2". But his attempt to find a source of the type Greek *δύη* „miseria", or Old Indic *dv-iṣ-* „odisse" („in view of the weakness of that finger") was not convincing even for him and so he admits the opposite derivation.

5. There are various attempts to find external cognates:

5.1. Semitic *tauʔām* „twin" with two variants: (i) *táuʔam* > Arabic *tauʔam* „one of the twins", Hebrew pl. *tōʔām-īm*; (ii) *tuʔám* > Arabic *tuʔām* „twins, a twin, something· double", Hebrew pl. *təʔōm-īm*, Judeo-Aramaic *tᵉjōm*, Syriac *tāmā* (> *Θωμᾶς*, 3x called „*δίδυμος*" in John's gospel 11.16, 20.24, 21.2), Akkadian *tū(ʔ)amu(m)*, New Assyrian *tuʔû* (Brockelmann 1908: 79; AHw 1364; Klein 1987: 688), cf. Brunner 1969: 81; Levin 1992a: 255–56 (Semitic + Greek *δίδυμοι* „twins"). This comparison implicates the *-m-* extension in Semitic (cf. Cuny 1924: 413–14).

 Brockelmann 1908: 384 and Cuny 1924: 361, 396 have convincingly demonstrated that it is derived from the root √w-ʔ-m, cf. Arabic *wāʔama* „he agreed mutually, imitated".

5.2. Balto-Fennic *to-ńće* „second" (with the ordinal suffix *-ńće*) > Finnish *toinen*, gen. *toisen*, Estonian *teine ~ tõine*, Livonian *tʷoy*, gen. *tʷoyz* etc. (SKES 1327–28), cf. Menges 1964: 27 inspired by Schott 1936: 90 (Indo-European + Balto-Fennic).

    Majtinskaja 1979: 182 derives this word from the demonstrative root *tɤ*.

5.3. There are remarkable Altaic parallels:
Turkic *düř* „equal", *[d]üŋ* „pair" // Mongolian *ǯi(w)rin* „2" (about women) // Tungus *ǯöwi(-är)* „2" // Old Korean *tüpɜr ~ *tüβɜr* „2" > early Middle Korean *tufuri*, Middle Korean *turh* // Old Japanese *ture* „companion" (Blažek 1997: 44, 55, 63), cf. Koppelmann 1933: 54 & Kořínek 1935: 272, fn. 1; Menges 1964: 25–27 (Indo-European + Korean + Tungus + Balto-Fennic). Accepting the relationship of Altaic and Indo-European numerals „2", Starostin 1991: 33 reconstructs proto-Altaic *diüwV „2".

    But there are certain discrepancies. In agreement with the 'Moscow Nostratic school' proto-Altaic *d-* corresponds to Indo-European *dʰ-*, not to *d -*, while a regular correspondent of Indo-European *d-* should be proto-Altaic *t-* (Illič-Svityč 1971: 147). On the other hand, it is generally accepted that Altaic *d- >* Turkic *j-*. Elsewhere I tried to demonstrate that the initial dentals / affricates of the common Altaic numeral „2" represent regular responses of the proto-Altaic

*t- in palatalizing environment (Blažek 1997: 45; independently Dolgopolsky p.c.). The modified proto-Altaic reconstruction *töwi ~ *tüwi is fully compatible with its Indo-European counterpart.

5.4. Already F. Bopp (1840) has mentioned a remarkable similarity between the Indo-European „2" and Austronesian *Duwa or DewHa „2"; cf. lastly Dyen 1970: 436, # 35.

The comparison looks really suggestively, but it is quite unique within the set of hopeless parallels collected by Dyen (l.c.).

5.5. The same can be said about the comparison of the Indo-European „2" and Ainu tu „2" (Naert 1958: §129). Among various attempts to classify the isolated Ainu language the solution of Gjerdman (1926) comparing the Ainu with Austronesian and Austro-Asiatic languages looks as the most hopeful. From this point of view it is natural to connect Ainu tu and Austronesian *Duwa „2" (Gjerdman 1926: 63).

5.6. Sino-Tibetan *Tür „pair" > Archaic Chinese *ḍur „each (of a pair)", Written Tibetan dor „a pair (of draught cattle)" (Peiros & Starostin 1996: 182, # 672), cf. further Sbalti dor „a pair, couple (of things)", Magari nis-tor „pair" (nis „2") and without the final -r Written Tibetan do „a pair, a couple", Maru dau „to be like, resemble" etc. (Shafer 1963: 34–35 comparing Sino-Tibetan & Indo-European).

5.7. Reinterpreting the Indo-European „2" according to the glottal theory (*d- = *t'-), Knobloch 1995: 382 seeks a cognate in Cherkes (= Adyghean) t'ū „2". He judges that it represents a durative participle of the verb t'ə-n „spalten".

Adyghean and Kabardean ṭʷə (sic) „2" with closest cognates in Ubykh ṭq̇ʷa and Abkhaz ʕʷ-bá id. are inherited from West Caucasian *tql:ʷA „2", which together with East Caucasian counterparts, e.g. Avar ḳi-go, Ginukh q̇ono, Tabasaran q̇lu, Khinalug ḳu etc., are derivable from North Caucasian *(t)q̇Hwā̃ „2" (NCED 924). It is evident that the direct relationship proposed by Knobloch is improbable. Starostin 1989: 121, # 180 offers a solution shifting the relationship of the Indo-European and North Caucasian numeral „2" to the hypothetical genetic unity of predecessors of the Indo-European and North Caucasian proto-languages, i.e. proto-languages of Nostratic and Sino-Caucasian macro-families respectively.

§4. Conclusion

1. The proper root of the numeral „2" was probably only *du. First it was extended by 'the dual collective' in *-u- (Adams 1991: 20). The second extension had to express the gender distinction: m.(-n.) *duw-o, originally perhaps with an individual meaning, vs. f. *duw-eH₂, originally perhaps with a collective function. The third extension had to emphasize the duality: m. *duwo-H₁ or only *duwō (?), obl. *d(u)w-oy-, n. *duwo-iH₁, f. *duw-eH₂-iH₁ The facultative final *-u appearing in nom. du. m. of o-stems can represent the 'dual collective' proposed by Adams l.c., perhaps when the 'first' *-u- has lost this function and has merged with the root of the numeral.

2. Alternatively, the analysis can be based on the oblique stem *d(u)woy-. Er-

hart 1982: 139 and p.c.1997 assumes the identity of the segment *-oy- (*H_3AI in his reconstruction) and the root of the numeral „1", namely *(H)oy- (extended in -no-/-wo-/-ko-), proposing the primary meaning *"one of two". Accepting this starting point, the numeral „2" could be analyzed *du-(u)-(H)oy- „the second of two". In further development *duwoy- was determined by the dual marker *-H_1 and finally perhaps under the influence of the facultative 'dual collective' *d(u)woyH₁u contracted in *d(u)wōu. Analyzing the inconsistence of the dual inflection of o-stems, Georgiev 1973: 48 derives the puzzling masculine ending *-ōw < *-owʔ < *-oyʔ (ʔ = H_1) with -w- under the influence of gen.-loc. du. in *-ow(s). The parallel ending *-ō had to be created after the nom. pl. in *-ōs < *-o-es.

3. None of the internal etymologies presented in §3.1–4 cannot be accepted. Among the external parallels only Altaic *töwi ~ *tüwi „2" (usually extended by the dual or collective ending *-ăř) looks as a safe cognate inherited from a common source: Nostratic *tu or *tuwi (Starostin l.c. reconstructs *tuʔV, Dolgopolski p.c. *tüʔ[o], but the Semitic parallel with *-ʔ- cannot be taken in account). On the other hand, the dual inflection in Afroasiatic, namely the Semitic dual endings nom. *-ā vs. obl. *-ay (cf. also the parallel plural ending *-ay in Semitic — see Brockelmann 1908: 453–54) and the plural marker *-ū- forming the dual stem together with the dual ending (Egyptian), corresponds suggestively with their Indo-European counterparts even including order: Indo-European obl. *du-w-oy- (= „2" + 'COLLECTIVE' + DUAL or „one of two") = Egyptian *siny-ū-āy (= „2" + PLURAL + DUAL).

Similarly as the discrepancy in the dual endings of masculine o-stems in Indo-European also the difference nom. du. *-ā vs. obl. du. *-ay in Semitic (Arabic) should be explained. Vycichl 1957: 359–60 offers the following solution: nom. du. -ā < *-āy-u, acc.-gen. du. -ay < *-āy-i. Besides the external comparison (Egyptian, Hausa; Zaborski 1992: 429 added Beja) he has found a support for his reconstruction in such examples where *-āy was preserved also in the nom. du. in Semitic: Medieval Arabic (office language) ṭulṭāy „²/₃", ḫumsāy „²/₅" and further Qatabanian sm-y „both they" vs. sm „they", Sabaic hm-y vs. hm id., but Arabic hum-ā vs. hum id.

Accepting the alternative analysis of the Indo-European numeral „2" presented in §4.2. and the Vycichl's proto-Semitic dual paradigm, the paralelism in formation of the numeral „2" between Semitic/Afroasiatic and Indo-European is more than suggestive.

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