

A
COMPARATIVE GRAMMAR
OF THE
INDO-GERMANIC LANGUAGES.

**Da muss sich manches Rätsel lösen
Doch manches Rätsel knüpft sich auch.**

Goethe.

A
COMPARATIVE GRAMMAR

OF THE
INDO-GERMANIC LANGUAGES.

A CONCISE EXPOSITION
OF THE HISTORY
OF SANSKRIT, OLD IRANIAN (AVESTIC AND OLD PERSIAN), OLD ARMENIAN,
GREEK, LATIN, UMBRO-SAMNITIC, OLD IRISH, GOTHIC, OLD HIGH GERMAN,
LITHUANIAN AND OLD CHURCH SLAVONIC

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VOLUME III.
MORPHOLOGY, PART II:
NUMERALS. INFLEXION OF NOUNS AND PRONOUNS.

TRANSLATED FROM THE GERMAN

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TO

JOHN PEILE,

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STUDY OF COMPARATIVE PHILOLOGY IN CAMBRIDGE

THIS TRANSLATION IS DEDICATED

IN TOKEN OF THEIR GRATITUDE AND AFFECTION

BY

HIS OLD PUPILS.

TRANSLATOR'S PREFACE.

In this volume I have used, though sparingly, the terms suggested in the preface to volume II — *re-formate* (*formate*), *ad-formate*, *transformate*. These are applied to single words, as on p. 30, Rem. 1. When a word is modified by the analogy of another, it is said to be an *ad-formate* of it (p. 29, line 7 from the bottom, is an example). In its new shape it is *transformed from* the old, or a *transformate of it* (p. 44, footnote). Absolutely regarded, it is a *re-formate* (sometimes, where there can be no mistake, the simple word *formate* stands). *Re-formation* and *transformation* are used when not single words, but groups, come in question (as p. 90, line 6 from bottom); also when certain sound changes are exemplified by the words cited (as the *z* in *sibunzo ahtozo*, p. 40). These terms may be ugly, but they are so very convenient that their ugliness will, it is hoped, be forgiven.

In such words as *Pāli*, *Prākṛit*, *Gāthic* the quantity has not always been marked. It seemed needless to do so when this had been indicated often enough to ensure its being remembered.

The word polysyllable is used to include dissyllables, unless otherwise implied.

I had hoped to get out this volume by Christmas last. The delay is due partly to the waste of time in sending proofs to and fro from Germany, and partly to the almost ceaseless pressure of other duties.

Mr. Conway's criticism and advice has been very useful all through, and I take the opportunity of thanking him for it.

W. H. D. ROUSE.

CHELTHENHAM, May 30, 1892.

CORRIGENDA TO VOLUME II.

<i>page</i>	<i>X</i>	<i>line</i>	<i>1</i>	for <i>masculine</i>	read <i>masculine</i>
" 23	" 19	" <i>Classe</i>	" <i>Classes</i>	" <i>Classe</i>	" <i>Classes</i>
" 360	" 14	" from below	for <i>-ἰῆν-</i>	read <i>-ἰῆν-</i> ,	with stop.
" 366	" 5	" for 116	read 116	—	
" 395	" 15	" " <i>ἰδόντι</i>	read <i>ἰδόντι</i>	—	
" 434,	footnote 2)	" live	" line	" line	
" 437	line 11	from below	for <i>novēji</i>	read <i>novē-jī</i>	
" 443	" 12	" " "	" <i>δῆ-ός</i>	" <i>εἰδ-ός</i>	
" 474	" 13	" " "	" <i>γῆτᾶ-</i>	" <i>γῆτᾶ</i>	
" 486	" 9	" " "	" <i>*συ-άξ</i>	" <i>*συ-άξ</i>	

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THE NUMERALS.¹⁾

§ 164. In the original Indo-Germanic language, the numerals 1 to 999 were expressed in one of three ways. Some were simple words, as **tri-* 'three' (Skr. *tri-*); some were compounds, as

1) Bopp, Vergl. Gr. II³ 55 ff. Schleicher, Compend.⁴ p. 477 ff. Bopp, Über die Zahlwörter im Sanskr., Griech., Lat., Litth., Goth. und Altslaw., Abh. der Berliner Akad. 1833 p. 163 ff. Lepsius, Über den Ursprung und die Verwandtschaft der Zahlwörter in der Indogerm., Semit. und der Koptischen Sprache, in 'Zwei sprachvergleichende Abhandlungen', Berlin 1836, p. 81 ff. J. Grimm, Geschichte der deutsch. Sprache³ 167 ff. Pott, die quinäre und vigesimale Zählmethode bei Völkern aller Welttheile, nebst ausführlichen Bemerkungen über die Zahlwörter Indogermanischen Stammes, Halle 1847. *Id.*, Die Sprachverschiedenheit in Europa an den Zahlwörtern nachgewiesen, sowie die quinäre und vigesimale Zählmethode, Halle 1868. E. Schrader, Über den Ursprung und die Bedeutung der Zahlwörter in der indoeurop. Sprache, Stendal 1854. Zehetmayr, Verbalbedeutung der Zahlwörter, als Beitrag zur Beleuchtung des ursprüngl. Verhältnisses der indogerm. Sprachen zum semit. Sprachstamme, Leipz. 1854. W. Wackernagel, Über Zahl und Ziffern, Michaelis' Ztschr. für Stenogr. 1855. Bernloew, Recherches sur l'origine des noms de nombre japhétiques et sémitiques, Giessen 1861. Krause, Über den Ursprung und die Bedeutung der Zahlwörter, Ztschr. für österr. Gymn. 1865 p. 867 f. J. Schmidt, Über einige numeralia multiplicativa, Kuhn's Ztschr. XVI 430 ff. — Ed. Müller, Sprachvergleichendes über die Numeralia, Fleckeisen's Jahrbücher für class. Phil. 97, p. 535 f. Ascoli, Über eine Gruppe indogermanischer Endungen, Krit. Stud. 85 ff. Osthoff, Formassociation bei Zahlwörtern, Morph. Unt. I 92 ff. J. Baunaek, Formassociation bei den indogerm. Numeralien mit besonderer Berücksichtigung der griechischen, Kuhn's Ztschr. XXV 225 ff. J. Wackernagel, Zum Zahlwort, *ibid.* 260 ff. The Author, Die Bildung der Zehner und der Hunderter in den idg. Sprachen, Morph. Unt. V 1 ff., 138 ff., 268.

**duō-dekṃ* 'twelve' (Skr. *dvā-daśa*); and some were expressed by phrases, as **treies qe vīkṃti qe* 'twenty-three' (Skr. *trāyaś ca viśatīś ca*). Simple words existed only for the numbers 1 to 10, and 100.

We find in the second stage, when the various branches of the language had begun to develop on their own lines, simple words for 1000, as Skr. *sa-hāsra-m*, Gr. Lesb. *χέλλ-ιοι*; but it is uncertain whether a corresponding form **gheslo-* existed in the protoethnic period, or whether the phrase 'ten hundreds' (cp. Skr. *daśa-śatī* f.) was the sole expression for this number. If the simple words for 1000 were not earlier than the second stage, the change was similar to one which took place in Greek, where Homer's *δεκά-χειλοι* '10,000' was replaced later by *μύριοι*.

The word **dekṃ* 'decem' played an important part in the Indo-Germanic decimal system. It is in the highest degree probable that the Indo-Germanic elements **-kmt-* and **-komt-* which appear in the expressions for multiples of ten (Gr. Dor. *ἑκατα* and

Whitney, Sanskrit Grammar, p. 160 ff. Spiegel, Gramm. d. altbakt. Spr. p. 176 ff. — G. Meyer, Griech. Gr.² p. 372 ff. The Author, Gr. Gr. (Iwan Müller's Handb. II²) p. 135 ff. Ahrens, Ein Beitrag zur Etymologie der griech. Zahlwörter, Kuhn's Ztschr. VIII 329 ff. H. Ebert, Quaestionum de vocabulorum cum numeralibus Graecis compositorum formis ac significationibus specimen, Spandau 1858. — Stolz, Lat. Gr. (Iwan Müller's Handb. II²) p. 349 ff. Neue, Formenlehre der lat. Spr. II² p. 144 ff. Merguet, Die Entwicklung der lat. Formenbildung p. 132 ff. Aufrecht, Die lat. Zahladverbien auf *iens*, Kuhn's Ztschr. I 121 ff. — Zeuss-Ebel, Gramm. Celt.² p. 300 sqq. Stokes, Bezenb. Beitr. XI 166 ff. — J. Grimm, Deutsche Gramm. III 226 ff., 634 ff. *Id.*, Über die zusammengesetzten Zahlen, Germania I 18 ff. Holtzmann, Über das deutsche Duodecimalsystem, Germania I 217 ff. *Id.*, Das Grosshundert bei den Gothen, *ibid.* II 424 f. Rumpelt, Die deutsch. Zahlwörter sprachvergleichend dargestellt, Bresl. 1864. *Id.*, Die deutschen Pronomina und Zahlwörter, 1870. Scherer, Zur Gesch. der deutsch. Spr.² 576 ff. Kluge, Zu den german. Numeralien, Paul-Braune's Beitr. VI 393 ff. *Id.*, Paul's Grundriss I 402 ff. — Schleicher, Temy imenū čislitel'nychū vū litvo-slavjanskomū i německomū jazykachū (Priloženie kū X. tomu zapisokū Imp. Ak. Naukū), St. Petersburg 1866. *Id.*, Lit. Gr. p. 149 ff. Kurschat, Gr. der litt. Spr. p. 259 ff. Miklosich, Vergl. Gr. IV 51 ff. Leskien, Handb. der altbulg. Spr.² p. 78 ff. — Reference may also be made to the discussion of the Lycian numerals by Deecke, Bezenberger's Beitr. XIV 181 ff. (see especially p. 240 ff.).

τριακόοντα, etc.), and the word **kmtó-m* 'centum', were connected with **dek̃m*, and came from **-dk̃mt-* **-dk̃omt-* and **dk̃mtó-m*, syncope having taken place because the first syllable was unaccented (I § 310 p. 247); see Scherer Zur Gesch. der deutsch. Spr.² 579, Bugge Bezz. Beitr. XIV 72.

We are in the dark as to the precise significance of the original Indo-Germanic words for 'two' and all the following numerals. Many conjectures have been put forward, some of them not at all amiss. It has been suggested, for example, that **ter-* **tr-i-* 'three' may have been a name for the middle finger, connected with Skr. *tár-man-* 'top of the sacrificial pillar' Gr. *τέρ-θρο-ν* 'end, point, top'; **penqe* 'five' has been compared with Goth. *figgr-s* 'finger' (cp. O.H.G. *füst* O.C.Sl. *pestŭ* 'fist' for **pp̃qsti-s*, II § 101 p. 306), [and the slang phrase for a fist, *bunch of fives*]; and **dek̃m* 'ten' with Gr. *δέχομαι* *δέχομαι* I receive¹⁾. But many others are certainly far from the mark, as Zehetmayr's, in the work cited on the first page.

Our attention will be given first to Cardinal Numbers, to Abstract Numerals — so far only as they are used along with adjectival cardinal numbers in ordinary reckoning — and to the Ordinals. The Abstract Numerals are derived from the Cardinals by the suffixes *-ti-* and *-t-* (*-d-*), which serve as secondary suffixes in other abstract forms besides these (see II § 99 p. 293, § 101 p. 306 f., § 123 p. 390). Some of them were used in the proethnic period along with ordinary numerals; instead of 'ten men', for instance, the expression 'a ten of men' served equally well. Sometimes they even drove the cardinals out of the field altogether; in Balto-Slavonic **dek̃m* is not represented, but only **dek̃m-t(i)-*, which appears in Lith. as *deszimt(i)-*, in Slav. as *deset(i)-*. The Ordinal Numerals contain *-to-* and *-mo-*, suffixes used in comparison; a conjecture as to the origin of these has been given in II § 72 Rem. p. 167 and § 81 Rem. 1 p. 242.

1) Scherer, *op. cit.* p. 578: "It therefore seems most natural to regard the word as an ancient expression for both hands held out to receive something".

CARDINALS, ABSTRACT NUMERALS, AND ORDINALS.

§ 165. One. In the original language, one or more derivatives from a pronominal stem *oi-* served to express 'one': cp. Gr. Ital. Kelt. Germ. Balto-Slav. **oi-no-s* (Skr. has an enclitic *ēna-* with the meaning 'he'), Iran. Gr. **oi-uo-s*, Skr. **oi-go-*.

Aryan. Skr. *ē-ka-s*. Avest. *aφ-va- oi-va-*, O.Pers. *ai-va-*.

Greek. *oi-vó-ς oi-vή* 'ace, the number one on a die', *οἰνή παρὰ τοῖς Ἴωσι μονάς* (Pollux VII 204), *οἰνίζειν τὸ μονάζειν κατὰ γλῶτταν* and *οἰνωῖντα μονήρη* (Hesych.). Then there is the Homeric *οἰέτης* 'of the same age, contemporary', which Wackernagel (Kuhn's Ztschr. XXV 280) derives from **oiFo-Ferης* by syllabic dissimilation (I § 643 pp. 481 f.), whilst *oi-o-ς* Cyp. *oi-Fo-ς* meant 'alone'.

Italic. Lat. *oi-no-s oeno-s unu-s*, Umbr. *unu* 'unum' Osc. *úin[itu]* 'unita'.

Remark. Many scholars connect *ē-ka-s* with Lat. *aequo-s* and Gr. *αἶσα* 'equal portion' (for **ai-k*ka*). If **oi-* belongs to the stem *o-*, **ai-* might be connected with the feminine stem *ā-* (§ 409). But at the same time such forms as Lat. *auri-s*: Gr. *οὔρα* suggest the possibility of a similar vowel variation here. — See Hübschmann, Das idg. Vocalsystem pp. 190 f.

Old Irish. *oe-n*.

Germanic. Goth. *ái-n-s* O.H.G. *ei-n* O.Icel. *ei-nn*.

Balto-Slavonic. Lith. *v-ėna-s* (cp. I § 666. 1 p. 526), Pruss. acc. *ai-na-n*. O.C.Sl. *i-nŭ* (cp. I § 84 p. 82, § 666. 3 p. 527), which in composition means 'one', as *ino-rogu* 'one-horned animal, unicorn'; elsewhere it has the meaning 'alter, alius'.

**sem-* was another word for 'one' in the parent language. The idea originally conveyed by it was probably that of being together or united. This became the regular numeral in Armenian and Greek: Armen. *mi* (gen. *miōj*) for **sm-i* (I § 560 p. 416); Gr. *έν-* instead of **έμ-*, nom. masc. in the dialect of Gortyn *έν-ς* Att. *εις*, fem. *μία* for **σμ-ια*, *μῶννξ* 'one-hoofed' for **σμ-ωννξ* (II § 160 pp. 479 f.). Compare Skr. *sa-kṛt* 'once' Gr. *ἀ-παξ* 'once' *-ἀπλόο-ς* 'single, simple', Lat. *sim-plex*, *sin-gulī*,

semel (see § 182), *sem-per* 'in one unbroken sequence, always', Goth. *simlē* 'once, once upon a time'.

Isolated forms, of doubtful origin, are Hom. Gort. *ἰῶ* Lesb. Thess. *ἰα* (cp. Osthoff, Morph. Unt. IV 186 f.), and Slav. *jedīnŭ jedīnŭ*, the regular word for 'one' in that language.

First. In all periods, from the proethnic onwards, ordinals for this number were formed from the $\sqrt{\text{per-}}$, which is seen in Gr. *πέρῶν πέρ-ουι πρό* etc. (Fick, Wörterb. I³ 140 ff.), by means of the suffixes *-uo-* (Ar., Gr., Slav.), *-mo-* (Ital., Germ., Balt.), *-tymo-* (Ar.) and *-isto-* (West-Germ. and Norse).

**p̄r-uo-*, **p̄r̄-uo-*. The former became O.C.Sl. *p̄rŭ-vŭ*, the latter is seen in Skr. *p̄urv-iyá-s p̄urv-iyá-s* (also *p̄úrva-s* 'situated before'); Avest. *pourviya- pavriya-*; Gr. *πρωτο-ς* Dor. *πῶτο-ς* for **πρωf-ατο-ς*, besides which we have forms without the extension *-ατο-* (cp. *τίτ-ατο-ς* § 167), Dor. *πῶν* 'formerly' for **πρωf-ᾱ-v*, and (with the suffix *-ἰο-*) *πρῶην* 'recently' for **πρωf-ᾱ-v*. Cp. I § 306 p. 242, II § 63 p. 133, § 64 p. 134. Apparently we must assume a form **pro-uo-* for Goth. *fráuja* 'lord', O.H.G. *frō* 'lord' *frouwa* (= Goth. **fráujō*) 'lady'; this **pro-uo-* will be related to **p̄r-uo-* in the same way as **pro-mo-* to **p̄r-mo-*.

**p̄r-mo-*. Goth. *fruma* O.Sax. *formo* A.S. *forma*. Lith. *p̄irma-s*. Cp. O.Ir. *rem-* 'ante, prae' II § 72 p. 168 and Lat. *prandiu-m*, which Osthoff is probably right in explaining as **pram-(e)d-iō-m* 'early food' (cp. Morph. Unt. V p. III). **pro-mo-* is seen in Umbr. *prumum promom* 'primum': cp. Gr. *πρόμο-ς* 'front man, front warrior, leader, prince' Goth. *fram-aldrs* 'advanced in age'. *-mo-* also occurs in Lat. *prīmu-s* Pelign. *prismu* 'primo' or 'primum' (I § 570 p. 427, II § 72 p. 168), which, like *prīs-cu-s* and *prīs-tinu-s*, is derived from a comparative form connected with *prīus* (II § 135 pp. 433 f.).

-tymo-: Skr. *pra-thamá-* (for the *th* cp. II § 73 p. 178), Avest. *fra-tema-* O.Pers. *fra-tama-*. Cp. Avest. *fra-tara-* Gr. *πρό-τερο-ς* 'former, earlier'.

-isto-: O.H.G. *furist* A.S. *fyrst* O.Icel. *fyrst-r*. Cp. O.H.G. *furiro* 'earlier, superior'.

Alban. *i-pare* 'first' belongs to the same root as these words.

Words derived from other roots:

Skr. *ādya-s* from *ā-dī-ṣ* 'beginning'; and later *ādi-mā-s*.

Armen. *nax* and *arajin*, the latter from *araj* 'foremost side, front, origin, beginning' (cp. *verj-in* 'last' from *verj* 'end', *ver-in* 'highest' from *ver* 'above', and the like).

O.Ir. *cēt-ne*, in composition *cēt-*, Mod.Cymr. *kyntaf*, Gall. *Cintu-* in proper names, such as *Cintu-gnātu-s* ('primigenitus'); perhaps, as Thurneysen conjectures, this is connected with Goth. *hindumist-s* 'extreme, outermost' A.S. *hindema* 'last', since the ideas of 'first' and 'last' are easily interchanged. In Irish there is a further form *oen-mad*, used where larger numbers follow; here the termination *-mad* has come from *sechtm-ad* 'seventh' *dechm-ad* 'tenth', where *m* is part of the stem.

§ 166. Two.¹⁾ The stem is **duo- *duyo-* (I § 117 p. 109); in composition and in some ordinary derivatives we have **dwi-*, a form which recalls **tr-i-* 'three' (cp. II § 13 p. 28) and **u-i-* 'two' in *fi-kati* etc. (§ 177). I find it impossible to agree with Bartholomae (Ar. Forsch. III 39), who conjecturally restores **duōi- *duoi- *dwi-* as the primitive base of this numeral.

Skr. *dvāú dvā* (*duvāú duvā*), fem. neut. *dvē* (*duvē*). Avest. *dva*, fem. *duyē* (cp. Bartholomae, Handb. § 92 p. 40).

Gr. *δύω* (used for both masc. and fem., like Lat. *duo* and Lith. dialectic *dù*, cp. also *τὼ στήλα* § 426), *δύο* (which was perhaps originally the neuter, see § 293); *δύ-δεκα* for **δλω-*. The Dor. and Later Att. *δυσί* Lesb. *δύσει* or *δύεσει* Thess. *δύας* are re-formates, apparently caused by *δυνῶν* (*δυνῶν*); the relation of *τρῖσι*: *τριῶν* made it seem natural to coin *δυσί* as dative to *δυνῶν*. *δοιοί* cannot be derived from **duoi-** (cp. I § 130 pp. 117 f.); possibly it came from **duoi-žo-*, cp. Skr. *dvē-dhā* 'double, twice' and §§ 297, 311.

1) Benfey, Das indogerm. Thema des Zahlworts 'zwei' ist *DU*, Götting. 1876. — Zander, De vocabuli *δύο* usu Homericō Hesiodicoque et Attico, I, II, Königsberg 1834, 1845. — Meringer, Die Flexion der Zweizahl, Kuhn's Ztschr. XXVIII 234 ff.

Lat. *duo*, fem. *duae* (cp. §§ 285, 286), acc. *duo*, *duōs*, *duās*, dat. *duō-bus*, *duā-bus*. In Umbrian the inflexion is plural throughout: nom. masc. *dur*, acc. masc. fem. *tuf*, nom. acc. neut. *tuva* (cp. Lat. *dua* beside *duo*).

O.Ir. *dau dō*, older *dāu*, and also *dā* (§ 285), fem. *dā*; O.Cymr. Mid.Bret. masc. *dou*.

Goth. *tvái*, neut. *tva*, fem. *tvōs*; dat. *tváim*, gen. *tvaddjē* (see § 311). The Germanic dialects show various re-formates among the cases, as O.H.G. *zwēne*, which are not yet satisfactorily explained; the latest discussion of them is by Kluge in Paul's Grundriss I 403.

Lith. masc. *dù* for **dvū'*, fem. *dvì* for **dvė*, see I § 184 p. 160, § 664. 3 p. 523. O.C.Sl. *dva dūva*, fem. neut. *dvě dūvě*.

**dvi-*. Examples of this base in composition are: Skr. *dvi-pád-* Gr. *di-novs* Lat. *bi-pēs* A.S. *twi-fēte* 'two-footed', O.H.G. *zwi-valt* 'two-fold'. In derivatives: **dvi-go-*: Skr. *dvi-ka-* 'consisting of two' Gr. *διπλό-ς διπλό-ς* 'two-fold' for **δφι-κ-λο-ς*, O.H.G. *zweho* 'doubt' A.S. *twiǵ* 'twig, branch' (II § 86 p. 257). In Italic we find *du-* (as well as **dvi-*): Lat. *du-plu-s du-plex du-centi* (cp. § 180), Umbr. *du-pursus* 'bipedibus'; this was a re-formation, developed possibly with the aid of *quadru-* (II § 34 p. 61).

Remark 1. Side by side with Lat. *bi-*, *dvi-* is found twice in composition, *dvi-dēns* and *dvi-cēnsus* (Paul. Fest.). This, like O.Lat. *duis* = *bis* (§ 182), may have preserved an Idg. **dvi-* (cp. Ved. *dvīṣ* beside *dvīṣ*), or it may simply be a modification of *bi-* on the analogy of *duo* (and of *du-*); I leave the matter undecided. In either case we may reject the view of Skutsch (De nominum Latinorum compositione, Nissae 1888, p. 35), who holds that *bi-* arose from the *dvi-* which is preserved in these two compounds. On the other hand, I agree with this scholar in regarding *di-* in late compounds (as *di-lōris*) as borrowed from the Greek *δι-* (p. 36).

Armen. *erku* (gen. dat. *erku-ç*), of uncertain origin. Bugge (Beitr. zur etym. Erläuterung der arm. Spr., 41 f.) derives the word from **ku-* = Idg. **dvi(u)*, with *er-* prefixed on the analogy of *ereḱ* 'three'; a most daring suggestion. Fr. Müller would connect it with Suanian *jēru* Georgian *ori* 'two'.

Second. For this numeral the different languages show very different forms.

Skr. *dvi-tīya-s*, Avest. *bi-tya-* Gāthīc *d²bi-tya-* O.Pers. *dūvītiya-* (I § 159 p. 143).

Armen. *erkir* and *erkr-ord* (for **erkir-ord*).

Remark 2. Perhaps *erkir*, like *çorir* 'fourth', was formed on the analogy of *eri-r* 'third'. The termination *-ord*, found in *erkr-ord* and all the numerals which follow, is very common in other words besides numerals: e. g. *hanapaz-ord* 'daily' from *hanapaz* 'always', *parap-ord* 'otiosus' from *parap* 'otium', *ors-ord* 'hunter' from *ors* 'hunt', *lc-ord* 'companion, *σύζυγος*' from *luc* 'yoke'. Petermann (Grammatica Linguae Armen. p. 162) and Bopp (Vergl. Gr. II³ 97 f.) offer very questionable conjectures as to its origin.

Gr. *δέυτερος* properly means 'removed to a distance from something, at a distance from it, coming after it in time or position' (*δέυτατος* is also found). It is etymologically connected with *δέομαι* and the Sanskrit adj. *dū-rá-* 'far off, afar', and did not belong to the numerals until Greek had become a separate language. Its similarity in sound with *δίω* certainly had something to do with this new use. See the Author, Kuhn's Ztschr. XXV 298 ff.

Lat. *secundu-s*, connected with *sequor*; see II § 69 p. 161.

O.Ir. *aile* (Mid. Cymr. Mod. Bret. *eil*) = Lat. *aliu-s*, and *tānise*, which is connected with *imthānad* 'change', though nothing further is known of its etymology.

Goth. *an-þar* O.H.G. *andar*. Lith. *añtra-s* O.C.Sl. *vūtorū*. Cp. II § 75 p. 198. It possibly may be analysed *vū-torū* (cp. Skr. *u-bhāú*), see § 285.

§ 167. Three. Idg. masc. neut. **tr-i-*. The *-i-* was a suffix, as is proved by such forms as Skr. *ṭṛ-tīya-s* Gr. Lesb. *τέρ-το-ς*.

Skr. *tráy-as*, loc. *tri-śú*. Avest. *þrāy-ō*, loc. *þri-šva*.

Armen. *ere-kē*, gen. dat. *eri-ç*, instr. *eri-vkē*, see I § 263 p. 213.

Gr. *τρεις* Gortyn. *τρεις* for **τρει-ες*, loc. *τρι-οί*; Hipponax has *τρισσι*, which was suggested by *τριών* (*τρία*). The Boeot. *τρέ-πεδδα* (beside *τρι-novς* etc.), taken in conjunction with Lat. *trē-centī*, Lith. *trē-czia-s* O.C.Sl. *tre-třjǫ* 'third' Lith. *tre-jū* 'three by three', seems to point to an old stem **tr-e-* (**tr-o-*).

Lat. *trēs*, dat. abl. *tri-bus*, Umbr. *trif tref* acc. 'tres' *trīia* 'tria'.

O.Ir. *trī* dat. *tri-b*.

Goth. *þreis* dat. *þri-m*, O.H.G. *drī* dat. *dri-m*.

Lith. *trīs* loc. *tri-sė*. O.C.Sl. *trǫj-e trǫj-e* loc. *trǫ-chǫ*.

For the feminine there was a special form in the parent language, preserved only in Aryan and Keltic, **tiser- *tisir-*: nom. Skr. *tisr-ās* (for the weak form of the stem see § 320) Avest. *tīšar-ō*, O.Ir. *teoir* O.Cymr. *teir* (cp. I § 576 p. 431). It is conjectured that **tisir-* came from **tri-sr-* by dissimilation, and that its second part is identical with the second part of **sue-sor-* 'sister'; see Bugge, *Bezzenb. Beitr.* XIV 75 f. Skr. *cátasr-as* is a similar formation (see § 168).

Third. The Indo-Germanic languages have forms with *-to-*; those without the *-i-* of **tr-i-* may be considered the oldest: Skr. *ṭṛ-tīya-s*, Gr. Lesb. *τρί-τος*, Lat. *ter-tiu-s* Umbr. *tertim* 'tertium', Pruss. *tir-ti-s* acc. *tir-tie-n* (*tir-* = **ṭṛ-*).

The following have **tr-i-*. Avest. *þri-tya-* O.Pers. *šī-tiya-*. Gr. Att. etc. *τρί-τος*, and the Homeric *τρίτ-ατος* on the analogy of *εἰνατος* *δέκατος*, cp. *πρωτος* for **πρωf-ατος* § 165 p. 5 and *ἑβδόμη-ατος* § 171. Lat. *trit-avo-s*, unless the true form of the word be *strit-avo-s*, see II § 81 p. 246. Mod.Cymr. *trydydd* for **tri-tiño-* or for **ṭṛ-tiño-*, we cannot tell which. With different suffixes: Armen. *eri-r* (and *err-ord* for **erir-ord*, cp. § 166 Rem. 2) and O.Ir. *tri-s*, in composition *tress-* (see II § 81 p. 247).

For *tr-e-* in Lith. *trėczia-s* for **tretija-s* and in O.C.Sl. *trětǫjǫ*, see last page.

The last-named forms make it doubtful whether Goth. *þridja* O.H.G. *dritto* are derived from **tri-tiño-*, or from **tre-tiño-* (according to I § 67. 3 p. 57).

§ 168. Four. The Idg. stem masc. neut. **qetuer- *qetuer-* had a variety of ablaut-forms; this was because there were several distinct weak-grade forms of the second syllable: **q(e)tur- *q(e)tūr- *q(e)tru- *q(e)tuy- *q(e)tuy̆-*. Cp. I § 155 p. 140, and J. Schmidt, Kuhn's *Ztschr.* XXV 43 ff. and 138, Pluralbild. 191 f.; Wackernagel, Kuhn's *Ztschr.* XXV 283 ff., XXVIII 136;

G. Meyer, Gr. Gr.² 376 f.; Osthoff, Phil. Rundsch. I 1592, Morph. Unt. IV 333; Kluge, Paul-Braune's Beitr. VIII 517 ff., Paul's Grundr. I 403 f.

The nom. plur. masc. in the original language would be **qetwōr-es*: Dor. τέτορες Lat. *quattuor* Skr. *catvār-as*; neut. **qetwōr* **qetwōr-ə*: Skr. *catvāri*, Lat. *quattuor*, Goth. *fidwōr*, whose *ō* passed over into the masculine.

Skr. *catvār-as* acc. *catūr-as*; in composition *catūr-* instead of pr. Ar. **catru-*. Avest. *caḥwār-ō*; *catūr-a-* 'occurring four times'; in composition *caḥru-*, as *caḥru-karana-* 'four-cornered', and *caḥwar^e-*, as *caḥwar^e-zawgra-* 'four-footed'; the latter was probably suggested by *caḥwar^e-sat-* '40' (see §§ 176, 178, and the Author, Morph. Unt. V 30). For the ablaut in the first syllable cp. Avest. *ā-xtūrya-* 'occurring four times' and the ordinals Skr. *tūr-ya-* *tūr-īya-* Avest. *tūrya-* for **ktūr-* (I § 646 p. 491).

Armen. *čor-kē*, gen. *čor-i-ç*, from **qetwōr-* or **qetur-*, see I § 455 p. 336. Also *kār-*, in *kār-a-sun* '40', probably from *(*q*)*tūř-*, see §§ 176, 178.

Gr. Dor. τέτορες, Late Ion. τέσσερες Arcad. τεσσερά-κοντα, Lesb. πίσυρες Hom. πίσυρες, Att. τέτταρες Hom. τέσσαρες Boeot. πέτταρες, dat. Hom. τέτρα-σι. Cp. I § 166 p. 147. *π-* in *πέσυρες* *πίσυρες* *πέτταρες* can hardly have been taken over from **πτρα-* (*τράπεζα*) and **πτρν-* (*τρν-φάλεια*), since these had dropped their *π-* in the proethnic Greek period. More probably it came from *πέντε*. Two other forms are *τετρα-* and *(*π*)*τρα-*. The former is seen in *τέτρα-σι*, *τετρά-κις* 'four times', *τέτρα-το-ς* (beside *τέταρτο-ς*) and in most compounds, as *τετρά-κυκλος* 'four-wheeled'; the latter in *τρά-πεζα* 'table' for *(*π*)*τρά-πεζα* (beside *ταρ-* in *τάρων* = *τετάρων*, a word used by the comedian Amphis, and in *ταρτημόριον* = *τεταρτημόριον*, preserved by Hesychius¹). *τετρα-* stands for **τετρα-* (**qetwōr-*) and *(*π*)*τρα-*

1) Hesychius' explanation, τὸ τριτημόριον, seems to be corrupt; read τὸ τεταρτημόριον. It is not at all probable that this word has preserved a form *ταρτο-* belonging to Skr. *trītya-s* Pruss. *tirti-s* 'third'.

for **(π)ρφρα-* (**qtux-*), *F* having been lost in proethnic Greek (the Author, Gr. Gr.² pp. 43, 71). *τετρώ-κοντα* for **qetux-*, see §§ 176, 178, 341. *Τυρταῖο-ς*, if Pott is right in adding this to the list (cp. *Τυρταῖο-ς*), should be compared with Skr. *túr-ya-*; *τυρ-* instead of **πτυρ-* on the analogy of *τρυ-*. With Homer's *τεσσαρά-βοιο-ς* 'worth four oxen' compare another Homeric form, *ἔεικοσά-βοιο-ς* (beside *δωκαεικοσί-πηχυν-ς*).

Lat. *quattuor*, *quadru-* (in composition), *quadrā-gintā* instead of **quettuor*, **quedru-*, **quedrā-*, being assimilated to *quartu-s* (see next page). *quattuor*, nom. pl. masc. and nom. acc. neut. (see last page), dropped its inflexions because the following numerals (*quinque* etc.) were not inflected. *quadrā-* stands for **qetux-*, see §§ 176, 178. *-d-* has taken the place of *-t-*, reminding us of a similar change of the breathed to the voiced sound in *angulu-s* for **anoklo-*, *septin-gentī septuā-gintā* (I § 499 p. 366, III § 177), Gr. *ἑβδομο-ς* O.C.Sl. *sedmī* (§ 171). Umbr. *petur-pursus* 'quadrupedibus', Osc. *petora* 'quattuor' (Fest.) and *petiro-pert* 'quater'.

O.Ir. *cethir* (dat. *cethrib*), O.Cymr. *petguar*. Gall. *Petru-coriu-s* and *petor-ritum* 'four-wheeled vehicle'.

Goth. *fidvōr* for **fidvōr-(i)z* like *stiur* 'steer, ox' for **stiur(a)-z* (I § 660. 6 p. 516, III § 194), dat. *fidvōri-m*, see § 169; *fidur-dōgs* 'lasting four days' (*fidūr-?* or *fidūr-* instead of **fidaūr-* because the second syllable was unaccented?). The *t*-sound which appears in Gothic is not found elsewhere, except in A.S. and O.Swed. compounds; e. g. A.S. *fyðer-fēte* 'four-footed' for pr. Germ. **fiþur-* (II § 19 p. 36). O.H.G. *fior* O.Sax. *fiwar* A.S. *feówer* O.Icel. masc. *fjörer* neut. *fjogor* *fjugur* point to a form **kʷekʷor-* **kʷekur-* before the great Sound-shifting (*Lautverschiebung*) in proethnic Germanic; for the change of *-ʷ-* to *-y-* see I § 444 c p. 330. I assume that in **kʷetʷor-*, *-tʷ-* was assimilated to the initial guttural (cp. **pempē* Goth. *fimf* for **penʷe*, § 169 p. 14); then **kʷetur-* followed suit, and became **kʷekur-*. In Gothic, on the other hand, *fidur-* held its ground, and *fidvōr* (instead of **fi(ʒ)vōr*) has been assimilated to it.

Remark 1. I have discussed this *-ty-* in Morph. Unt. V 53 f. It has been differently explained by Kluge in Paul-Braune's Beitr. VIII 517 ff., and in Paul's Grundriss I 403; but I do not feel convinced by his arguments.

Remark 2. Even in pr. Germ. this numeral was declined as an *i*-stem; e. g. O.H.G. *florin* like Goth. *fidvōri-m*. The same *i*-inflexion is seen in the numerals 5 to 12, as Goth. *finfi-m* O.H.G. *finfn*. The origin of this inflexion is doubtful; perhaps the *i*-forms are to be traced to more than one source. See on this subject the Author, Morph. Unt. V 53 ff.

Lith. *keturì*, stem *ketur-ja-*, but acc. *kētur-is*, declined in the same way as the following numbers *penkì szeszì* etc. Side by side with this is found *ketverì* (stem *ketver-ja-*), the distributive — used as a cardinal numeral with plural substantives —, whose termination *-erì* spread to the numerals which followed (*penk-erì szesz-erì* etc.). The same suffix *-io-* occurs in *tre-jl*, Avest. *ā-xtūiryā-* 'occurring four times', Gr. *δισοὶ δισσοί-ς*, and in many other numerals (cp. § 183). From *ketver-ì*, *-io-* passed over to the proper cardinal numeral, but the acc. *kēturis* = Skr. *catūras* Gr. *πίσσας* (common ground-form **qetur-ys*, § 333) was preserved by the aid of *tris*, and then the numerals which followed were declined precisely like *keturì* (cp. the Author, Morph. Unt. V 55 f.).

O.C.Sl. *četyr-e*, gen. *četyr-ŭ* acc. *četyr-i*, fem. nom. acc. *četyr-i*. Distributive *četver-o*.

We trace an original fem. of **qetuer-*, answering to **tiser-* 'three' (§ 167 p. 8), in Skr. *cātasr-as* Avest. *catanr-ō* (I § 558 p. 415) and Mod.Cymr. *pedeir* O.Ir. *cetheoira cetheora*. These justify the conjecture that *-uer-* in **qetuer-* was a suffix of some kind.

Fourth. Skr. *catur-thā-s* and *tūr-ya-s tur-īya-s*, Avest. *tūiryā-* (see p. 9).

Armen. *čor-ir čorr-ord* for **čorir-ord* and *kair-ord* (cp. § 166 Rem. 2 p. 7).

Gr. *τέταρ-τος* Hom. *τέτρα-τος* Boeot. *πέτρα-τος* (*π-* as in *πέτταρες*), ground-form **qetūr-to-*. *ταρτο-* ground-form **qtūr-to-* in *ταρτημόριον*. Cp. p. 10.

Lat. *quartu-s* for **qtūr-to-* (I § 306 p. 242), which no doubt became first **tūr-to-*, and then *quarto-* through association with

quattuor. Prenest. *Quorta* (Schneider, Dial. Ital. I no. 217) is so isolated that I cannot venture on the strength of it to assume **qtuy-to-* as well as **qtūy-to-* for Italic; cp. Stolz, Lat. Gr.² p. 385. Osc. *trutum* 'quartum' *trutas* gen. 'quartae' (Bugge, Altital. Stud. 1878 p. 53 ff.) are formed from **qtrū-*.

O.Ir. *cethramad* formed after the analogy of *sechtmad* 'seventh' *dechmad* 'tenth'.

O.H.G. *fior-do* A.S. *feór-ða* beside O.H.G. *fior*, see p. 11.

Lith. *ketviř-ta-s* O.C.Sl. *četrvi-tū* ground-form **qetuy-to-*.

§ 169. Five. Idg. **peŋqe*. This number, along with the numbers 6 to 10, was indeclinable in the original language, and also more or less in Aryan, Armenian, Greek, Italic, Keltic, and Germanic during the historical period. We may conjecture that it is a survival from the time when the attributive adjective needed no case-endings. For example, Ved. *pāñca kṛṣṭīṣu*, Gr. *πέντε δακτύλων*, Lat. *quinque virōrum*, Goth. *fimf hláibans*. But it came to be declined more or less frequently in all the different branches of Indo-Germanic except Italic: Skr. gen. *pañcānām*, Armen. gen. *hngi-ç*, Gr. Lesb. *πέμπων*, Mid.Ir. *cōic m-bō* 'quinque vaccarum', O.H.G. dat. *finfin* (inflected only where it followed the substantive). In Lithuanian alone *penkì* is invariably inflected from the earliest period at which we know the language (cp. last page). In Slavonic the adjectival numeral, along with those immediately following up to 10, had died out before the beginning of our record.

Skr. *pāñca*, Avest. *panca*.

Armen. *hng*, see I § 330 p. 265, § 455 p. 336.

Gr. *πέντε*. -π- is regular (I § 427 p. 312) in Lesb. *πέμπων* (see above), and in *πεμπ-ώβολο-ν*, *πεμπάς πεμπάζω*; whilst in Lesb. *πέμπε* the -π-, and in *πεντάβολο-ν* *πεντάς* etc. the -τ- was due to form-association. In compounds, besides *πεντε-* (e. g. *πεντε-γάλαντο-ς*) we find *πεντα-* (e. g. *πεντα-κόσιοι*, *πεντά-πηγυ-ς*), which is a re-formation following the model of *τετρα-*, *έπτα-*, *ένα-*, *έννεα-*, *δέκα-*.

Remark 1. Two stems are found; *πεμπάς* like Skr. *pañcāt-*, and a *ti-* stem with the same meaning, Skr. *pañcātī-* § O.Icel. *fimt* O.C.Sl. *peři*. The

first two words are ad-formates of *δεκάς* and *δαśát-* respectively; and considering how widely the suffix *-ad-* was used in Greek — *μονάς, ἐνάς, δυάς, τριάς, τετράς, ἑξάς, ἑβδομάς* (cp. *ἑβδομή-κοντα*) *ἑπτάς, ὀγδοάς* (cp. *ὀγδοή-κοντα*) *ἑκτάς, ἑννεάς, τετταρακοντάς, ἑκατοντάς, χιλιάς, μυριάς* — it is extremely doubtful whether there is any immediate historical connexion between *πεμπάς* and *pañcdt-*. For the *-d-* of *-ad-* see II § 123 p. 392 and III § 178.

Lat. *quinque quinq̄ue* (for *ī*, see Thurneysen in Kuhn's Ztschr. XXX 501 f.), Umbr. *pumpeřias* Osc. *pumperias*, equivalent to 'quintiliae' or 'quincuriae', Osc. *Púmpaiians* 'Pompeianus'. Pr.Ital. **k̄uēnk̄ue*, see I § 336 p. 267. *quincu-*, in *quincu-plex* etc., through association with *quadru-*.

O.Ir. *cōic*, O.Cymr. *pimpr*, Gall. *πεμπεδουλα* 'πεντάφυλλον' (Dioscor.), see I § 436 p. 324. Pr.Kelt. **k̄uēnk̄ue*, see I § 339 p. 269.

Goth. *fimf* O.H.G. *fimf finf* (the *u* of O.H.G. *funf* is discussed below under the ordinal). Probably the second *f* is to be explained by supposing that **penk̄ue* became **pemp̄e* (cp. I § 444 Rem. 1 pp. 329 f.) as **k̄uēt̄uor-* became **k̄uēk̄uor-* (III § 168 p. 11). The *i*-inflexion, which we see in Goth. *fimfim* O.H.G. *finfin*, is discussed in § 168 Rem. 2 p. 12.

Lith. *penk̄i* and *penk̄-er̄i*, see § 168 p. 12.

In Slavonic, the cardinals 5 to 10 inclusive were represented by the abstract formation: *peři* 'fivefold character, the number five' (= Skr. *pañcti-* O.Icel. *fipt*) governing the gen. pl. of the thing. The old numerals were indeclinable, and this may have had something to do with their being dropped.

Remark 2. Be it observed in passing that the Albanian numerals 5 to 10 are based upon these same *ti*-abstracts: *pese* 'five', *gašte* 'six', *štate* 'seven', *tete* 'eight', *nende* 'nine', *štete diete* 'ten'. See G. Meyer, Albanes. Stud. II 50 ff.

Fifth. Idg. **p̄n̄q-to-* (which can be traced with certainty in Germanic, but nowhere else); and perhaps **pen̄q-to-* too is proethnic (cp. **pen̄qe*).

Skr. *pañcamá-s* (following *saptamá-s* etc.) and *pañca-tha-s* (cp. O.Ir. *cōiced*). Avest. *pučā-* (for *-ā-*, cp. *uxā-* I § 475 p. 351), according to von Fierlinger (Kuhn's Ztschr. XXVII 194), comes from **p̄n̄qto-*; but why should it have *u* and not *a*? The *u* reminds us of Gr. *πυγμή* Lat. *pūgnu-s*. Besides *pučā-* we find the further form Avest. *pañtan̄she-m* acc. 'one-fifth'.

Armen. *hing-er-ord*.

Remark 3. For *-ord*, see § 166 Rem. 2 p. 8. The *-er-* which precedes *-ord* in this and the succeeding numerals is still unexplained.

Gr. *πέμπ-τος*, Gortyn. *πέντο-ς* (I § 427 a p. 312).

Lat. *quīntu-s* *Quīnctiu-s*, Osc. Púntiis *Πομπτιες* 'Quinctius'. The ground-form may be either **penqto-* or **pṛqto-*. Bartholomae (Kuhn's *Ztschr.* XXIX 503) conjectures that Lat. *quint-* Osc. *pont-* were the regular forms, while the cardinals were responsible for *-c-* in *quinct-* and *-p-* in *pompt-*.

O.Ir. *cōiced* O.Cymr. *pimphet*, see II § 81 p. 247.

Goth. *fimfta* in *fimfta-taihunda* 'fifteenth', O.H.G. *finfto* *finfto*. A form **fuwaxta-* = **pṛqto-* must be assumed for pr. Germ. to explain Mod.H.G. Swab. *fuchzē* '15' *fuft* 'fifth', O.H.G. *funfto funf*, Mod.H.G. Rhine-Frank. *fufzēn fufzich* etc.; see Kauffmann, Paul-Braune's *Beitr.* XII 512. Compare too O.H.G. *fūst* (pr. Germ. **fuwaxsti-z*) O.C.Sl. *pěstī* 'fist' common ground-form **pṛqsti-s*, II § 101 p. 306 f.

Lith. *peñkta-s*. O.C.Sl. *peṭū* may stand for **penqto-* or **pṛqto-*.

§ 170. Six. Three forms may be restored with more or less probability. Iranian, Greek, and Keltic point to **sueks*; Armenian and Baltic to **ueks*; Sanskrit, Latin, Germanic, Baltic, and Albanian to **seks* (Alban. *gāste*, see G. Meyer, Alban. *Stud.* II 56 ff.). **sueks* and **ueks* would be parallel forms like \surd *suēlq-* and *uelq-* 'draw' (Gr. *ἔλκω* Lat. *sulcu-s*: Lith. *velkū*) and other pairs of the same kind; see I § 589.3 pp. 445 f. **sueks* and *seks*, again, recal such pairs as **sue-* (Skr. *svā-* 'suus' etc.) and **se-* (Avest. *hē hōi*, Lat. *sē*, Goth. *si-k*), **suesor-* (Skr. *svāsar-* 'sister' etc.) and **sesor-* (Lith. *sesū* O.C.Sl. *sestra*) and so forth; see I § 170 p. 150, § 184 p. 160 (and see II p. 441 footnote 2), § 187 p. 162.

Both in the prehistoric parent language, and in the historic period of Aryan, Armenian, Greek, Italic, Keltic and Germanic, this word was indeclinable. For example: Avest. *xšvaš satāiš* 'with six hundred', Gr. *ἕξ ἡμέρας*, Lat. *sex mēnsibus*, Goth. *afar dagans saihš* 'after six days'. But it was sometimes inflected,

as Skr. *ṣadbhīṣ*, Armen. gen. *veç-i-ç*, Gr. *ἕξαι* or *ἕξαισι* (in an inscr. of the fourth century A. D., C.I.G. no. 5128. 27 *τοῖς ἕξαισι βασιλείοις*) like *τέτρασι*, Mid.Ir. gen. *se m-bō* 'sex vaccarum', O.H.G. dat. *sehsin* (only used when the subst. precedes). The Latin word, *sex*, was never declined; the Lithuanian, *szeszì*, always.

Skr. *ṣāṣ* (*ṣāt*, see I § 401 Rem. 2 p. 297); cp. *ṣōḍaśa* '16' for **ṣaṣḍaśa*, like *vōḍhum* for **vaṣḍhu-m* (I § 404. 2 pp. 298 f.), and *ṣaṣṭhā-s* 'sixth'. Avest. *xšvaš*, also *xštva-*, which latter is regarded as standing for **xvšta-*. Apparently it should be assumed that there were two forms in proethnic Aryan, **smaš* and **saš*, which became **šmaš* and *šaš* by assimilation of the sibilant. These would become quite regularly Avest. *xšvaš* (see Bartholomae, Ar. Forsch. III 20) and Skr. *ṣāṣ* respectively.

Armen. *veç* doubtless represents **meks*; see I § 560 Rem. p. 417, § 589. 3 p. 446.

Gr. *ἑξήξ* for **sueks*. For *ἐκ ποδῶν, ἐγ δακτύλων, ἐκ-πλεθροῦ ἐκ-μυνοῦ* etc. see the Author's Gr. Gr.² p. 71. *ἕξα-* in *ἕξα-κόσιοι* and other compounds follows the type of *τετρα- ἑπτα-* etc.

Lat. *sex*.

O.Ir. *sē* (cp. *mōr-feser* 'magnus seviratus') Mod.Cymr. *chwech* for **sueks*, see I § 175 p. 154, § 517 p. 377, § 576 p. 432, § 657. 10 p. 510. The second *s* has been preserved in the Irish *ses-ca* 'sixty' and *sess-ed* 'sixth'.

Goth. *saihs* O.H.G. *sehs*, ground-form **seks*. Cp. p. 18 footnote 1.

Lith. *szesz-ì* (cp. *ketur-ì* § 168 p. 12) doubtless represents **seszì*, as *szeszura-s* represents **seszura-s* (I § 587. 2 p. 442). Pruss. *wuscht-s uscht-s* 'sixth'; probably we have a borrowed word in Lith. *ūszės* beside *szēsziōs* pl. 'childbed'. Slavonic has the abstract, *šestĭ*: cp. Skr. *ṣaṣṭī-ṣ* ('group of six tens, sixty') O.Icel. *sētt*. *šestĭ* brings us to **chestĭ* at the first step backwards, and is doubtless one of the instances of *ch- = s-* (see I § 588 Rem. 3 p. 444); this change has not yet been satisfactorily explained.

Sixth. The parent language may have had the word **suek-to-s* (**se-*, **ue-*): cp. Skr. *ṣaṣṭhā-s* Avest. *xštva-* (see above),

Gr. ἑκτο-ς, O.H.G. *sehto* O.Icel. *sétte sētti*, Lith. *szēsztas* Pruss. *wuscht-s* O.C.Sl. *šestū*. And the *-s-* of Lat. *sextu-s* Umbr. *sestentasiaru* 'sextantariarum' Osc. Σεστεις 'Sextius', Goth. *saihsta* O.H.G. *sehsto* (beside *sehto*) may have come from the cardinal. But it is uncertain whether or not pr. Idg. **suekto-s* grew out of **sueks-to-s* by a purely phonetic change. Who can tell whether the *-s* of **sueks* was not an inflexional suffix? If so, it would not at first be found in the ordinal any more than (say) the *-e* of **penqe* 'five' in **penqto-s*. Cp. I § 589 Rem. 2 p. 446.

Armen. *veç-er-ord*.

O.Ir. *sessed* Mod.Cymr. *chweched*. As to the supposed origin of this re-formation see Zimmer, Kuhn's Ztschr. XXX 214.

§ 171. Seven. Pr. Idg. **septm̃*; the accentuation is inferred from Skr. *saptá*, Gr. ἑπτὰ and Alban. *šta-te* (G. Meyer, Alban. Stud. II 65). Another form of the same stem, **septom-*, is perhaps to be inferred from Gr. ἑβδομήκοντα ἑβδομάς ἑβδομάκις O.Ir. *secht-moga* (cp. **-d̃k̃m-t-* beside **-d̃k̃m-t-* § 164 pp. 2 f.), see § 178.

The word was originally indeclinable: examples are Ved. *saptá sindhušu* 'in septem fluminibus' Avest. *hapta satāiš* 'with seven hundred', Goth. *sibun hláibans*; and Gr. ἑπτὰ, Lat. *septem*, O.Ir. *secht n-* were never declined. Inflected forms are: Skr. dat. abl. *saptá-bhyas*, Armen. gen. *evtan-ç*, O.H.G. *sibin-in* (only used where the subst. precedes). In Lith. only the word is always inflected, *septyni*.

Skr. *saptá*, later *sápta*, Avest. *hapta*; we may conjecture that the Skr. word was originally **saptám*, but followed the lead of *náva* and *dáśa*; see I § 226 p. 193, § 230 p. 196.

Armen. *evtn*, see I § 330 p. 265, § 560 p. 416. The final *-n* must be explained in the same way as that of *tasn* (§ 174).

Gr. ἑπτὰ, which we may conjecture should have been **ἑπτάν*, but took its present shape under the influence of ἑννέα and δέκα; see I § 226 p. 193, § 235 p. 198.

Lat. *septem*. In composition we find beside *septem-* the re-formation *septu-* *septi-*, like *octu-* *octi-*.

O.Ir. *secht n-* Mid.Cymr. *seith*; see I § 339 p. 269.

Goth. O.H.G. *sibun*. For the retention of *-n* (on the analogy of the ordinal Goth. **sibunda* O.H.G. *sibunto*, unless indeed it came from an older form **sibun-i*), see the Author, *Morph. Unt.* V 55¹⁾. As to the loss of *-t-* — we assume **septm̃* to be the Idg. ground-form — we must certainly not ignore Ascoli's theory that the parent language possessed two forms, one with *-t-* (**septm̃*), and one without (cp. Skr. *aśtī-ṣ* 'eighty' beside Idg. **oktōy*) which was kept in Germanic (see Ascoli's *Krit. Stud.* 101). But it is more natural to assume that there were two forms in proethnic Germanic, **septmó-* 'seventh' which became **sepmó-* and then **sebmó-*, and **septm̃*, which became **seftum* (this seems to be the form represented in the Salic Law by *septun* = *seftun*) and was then assimilated to **sebmó-* and became **sebum*; cp. Pruss. *sepma-s* beside *septma-s* 'seventh' and pr. Balto-Slav. **ośmo-* 'eighth' for **oštmo-* (§ 172). Sievers (Paul-Braune's *Beitr.* V 119) and Osthoff (*Morph. Unt.* II 51 f.) think that the *m̃*-form **septm̃* could become **sep̃m̃* in pr. Germ. by a direct phonetic change; cp. also Noreen, *Urgermansk judl.* p. 108.

Lith. *septyn-i*, like *devyn-i* 'nine' in its ending, and similar to *asztūn-i* 'eight'. It may be conjectured that these three forms once were **septin(-i)* **devin(-i)* — cp. the ordinals *septin-ta-s* *devin-ta-s* — and **asztū(n-i)*, and that their present shape is due to mutual assimilation. The long *ū* caused the lengthening of *i* to *y*; similarly the long vowel of *trylika* etc. caused the lengthening of the antepenult in *vėnūlika* (p. 28), and that of Idg. **tri-* caused the lengthening in **getuŷ-* **perqē-* (§ 178); many other examples might be found. **septin-i* *septin-ta-s* instead of **septim-i* **septim-ta-s* owe their *n* to **devin-i* **devin-ta-s*.

O.C.Sl. *sedmŃ*, an abstract noun, beside *sedmŃ* 'seventh', was shaped on the analogy of *šestŃ* : *šestŃ* etc. (II § 97 p. 290). The

1) If it is assumed that there were proethnic forms, **sibun-i* **niun-i* **tehun-i*, ad-formates of **fimfi* = Idg. **perqe*, it follows that O.H.G. *sehs*, which should have been **sihs*, must be regarded as modelled upon the analogy of *sehsto* *sehsto*. For on this assumption there must have been a pr. Germ. **seχs-i*, which would then have become **siχsi*.

pr. Idg. abstract would doubtless be **septm-ti-s* : Skr. *saptatī-ṣ* ('seventy'), O.Icel. *sjaund*.

Seventh. Idg. **septmó-* (perhaps **sepdmó-* **sebdmó-* may be inferred from Gr. *ἑβδομο-ς* O.C.Sl. *sedmŭ*; see I § 469 p. 345) and **septmómó-*. Possibly **septm-tó-* may also be regarded as proethnic.

Skr. *saptamá-s*. Also *saptátha-s* Avest. *haptaṣa-*.

Armen. *evṭn-er-ord*.

Gr. *ἑβδομο-ς* Epidaur. *ἑβδεμαῖο-ς*, cp. *ἑβδομήκοντα* Heracl. Delph. *ἑβδεμήκοντα*; Hom. *ἑβδόμ-ατο-ς* like *πρωῖτο-ς* (**πρωf-ατο-ς*) and *τριτ-ατο-ς*, see § 167 p. 9. The history of *ἑβδομο-* is obscure. There seem to have once been two parallel forms, **ἑβδμο-* = O.C.Sl. *sedmo-* and **ἑπταμο-* = Skr. *saptamá-*; more we cannot say with certainty. Cp. § 178 for *ἑβδομήκοντα*, and the Author, Morph. Unt. V 36 ff.

Lat. *septimu-s*.

O.Ir. *sechtmad* Mid.Cymr. *seithuet* for **septm-eto-s*, see II § 72 p. 168.

O.H.G. *sibunto*.

Pruss. *septma-s sepma-s*. Lith. *sėkma-s (sėkma-s)*, see I § 345 p. 271, § 377 p. 286; the ordinary word now is *septiñta-s* (Lett. *septitāis*) instead of **septim-ta-s* through assimilation to *deviñ-ta-s*. O.C.Sl. *sedmŭ*.

§ 172. Eight. Idg. **októ* **októy*. *-t-* must have been something of the nature of a suffix, as *ašt-ti-ṣ* 'eighty' seems to shew; this word is unintelligible if regarded as a derivative from **októy (aštáú)*.

Remark. It can hardly be a mere coincidence that the ending agrees with that of the nom. acc. du. masc. of *o*-stems (§ 285). **okī* too, which we see in *ašt-ti-ṣ*, may have been a dual, like **oqī* 'the two eyes' (§ 295). Perhaps the meaning may have been 'two sets of four' (cp. Mid.Cymr. *deu-naw* 'eighteen', properly 'two nines', etc.) It must be admitted that in that case the numeral 'two' might have been expected before **októy*, as in Lat. *vī-gintī* 'two tens', *du-centī*, and so forth. Still this might have been dropped in course of time.

Uninflected in pr. Idg.: e. g. Avest. *ašta satāis* 'with eight hundred'; and Gr. *ὀκτώ*, Lat. *octō*, O.Ir. *ocht n-* are always

indeclinable. Inflected forms are: Skr. instr. *aṣṭā-bhīṣ*, Armen. *uṣ-i-ç*, O.H.G. dat. *ahtow-en* (only used when the substantive precedes). Inflexion is regular only in Lithuanian, *asztūni*.

Skr. *aṣṭā aṣṭāu*, Avest. *ašta*. In Skr. we find also *aṣṭā*, loc. *aṣṭā-su* etc., an ad-formate of *saptā*. Compounds with *aṣṭa-* (cp. Lat. *octi-*) had not a little to do with giving currency to this form.

Armen. *uṣ*, for **uvṣ*, and that for **optō(y)*, whose *p* came from the numeral seven (cp. El. *ὀπτῶ*); see Bugge, Beitr. zur etym. Erl. der arm. Spr. 43.

Gr. *ὀκτώ*. The numeral seven gave its rough breathing to Heracl. *ὀκτώ*, its *π* to El. *ὀπτῶ*, and its *α* to *ὀκτα-* in *ὀκτα-κόσιοι* (Lesb. *ὀκτω-κόσιοι*) *ὀκτά-πovς* (beside *ὀκτώ-πovς*: Skr. *aṣṭā-pad-*). Boeot. *ὀκτό* is like *δύο*, see §§ 166, 293.

Lat. *octō*. In composition *octō-* and *octi- octu-*, cp. Skr. *aṣṭa-* Avest. *ašta-*. Osc. *Úhtavis* 'Octavius'.

O.Ir. *ocht n-* (see I § 517 p. 377) follows *secht n-*; for forms without the nasal see Stokes, Bezenb. Beitr. XI 170. Mod.Cymr. *wyth* Mod.Bret. *eiz* for **oktī*, older **oktū* **oktō*.

Goth. *ahtáu*; O.H.G. *ahto*, inflected dative *ahtowen*. See I § 659. 3 p. 512, § 660. 3 p. 515, § 661. 3 p. 519.

Lith. *asztū-n-i*, cp. § 171 p. 18.

O.C.Sl. *osmī* (ordinal *osmū*) follows *sedmī*, see § 171 p. 18. The original Idg. abstract numeral is represented by Skr. *aṣṭī-tī-ṣ* ('eighty'), cp. p. 19.

Eighth. Idg. **oktōy-ó-* or some such form. The *mo-* forms follow the example of the numeral seven, as do Skr. *navamā-s* Umbr. *nuvime* (§ 173 p. 22).

Skr. *aṣṭamā-s*, Avest. *aṣtema-*.

Armen. *uṣ-er-ord*.

Gr. *ὀγδοο-ς* for **ὀγδοφο-ς* (in Homer also *ὀγδό-ατο-ς*, like *ἑβδόμ-ατο-ς*), cp. *ὀγδο-ή-ροντα*, *ὀγδο-άς*. *-γδ-* for *-πτ-* follows the *-βδ-* of 'seven'. In all other points the history of *ὀγδο(φ)ο-ς* is obscure; see the Author, Morph. Unt. V 36 ff., and below § 311.

Lat. *octāv-o-s*, Osc. *Úhtavis* 'Octavius'; the *ā* is strange nor has it been satisfactorily explained even by the attempts

of Thurneysen and Meringer (Kuhn's Ztschr. XXVIII 154, 232). Cp. the vulgar Latin *octuā-gintā*, for **octov-ā-*, which is like Gr. ὀγδο(φ)-η-. See the Author, *loc. cit.*

O.Ir. *ocht-mad*, Mid. Cymr. *wyth-uet*.

Goth. *ahtu-da*, O.H.G. *ahto-do*; O.Fris. *ahtunda* following *sigunda niugunda*.

Lith. *āszma-s* (now growing obsolete), Pruss. acc. *asma-n*, O.C.Sl. *osmŭ*, pr. Balto-Slav. **oš(t)-mo-s*. The Lith. has another word *asztuŋta-s*, an ad-formate of *septiŋta-s deviŋta-s*.

§ 173. Nine. Idg. **nény* and **énny*, the latter in Armenian and Greek. Also **enyen-*, which is preserved in Gr. ἐνεν-ήκοντα (§ 178). The final was -*ny -n*, not -*ny -m*, as we see from Gr. ἐνεν-ή-κοντα, Lat. *nōn-ā-gintā nōn-u-s* and Lith. *deviŋ-ta-s* (contrast *desziŋ-ta-s* 'tenth').

In Indo-Germanic, it was not inflected; e. g. Avest. *nava satāiš* 'with nine hundred'; and in Greek, Latin, and Old Irish it is always indeclinable. Inflected forms: Skr. gen. *navānām*, Goth. gen. *niun-ē*, O.H.G. dat. *niun-in* (only when the substantive precedes). It is always declined in Lithuanian, *devyn-į*.

Skr. *nāva*, Avest. *nava*.

Armen. *inn*, pl. *inun-kē* or *innun-kē* (cp. Osthoff, Morph. Unt. I 122), see I § 232 p. 197.

Gr. **énfa* preserved in Ion. εἰνά-νυχες εἰνα-κόσιοι εἰνα-το-ς Att. ἐνα-κόσιοι ἔνα-το-ς, Hom. ἐν-ῆμαρ like ἐννή-κοντα (§ 178). Also ἐννεία, which should probably be explained with Wackernagel (Kuhn's Ztschr. XXVIII 132 ff.) as **én nefā* 'nine in all, a good nine', this original meaning having been subsequently weakened; Heracl. ἐννεία, like ὀκτώ, following ἑπτά. ἐνεν-ή-κοντα 'ninety' preserves an original **enyen-*, cp. § 178.

Lat. *novem* instead of **noven* follows *septem decem*. -*n* is kept in *nōn-ā-gintā nōn-u-s*. *noun-dinu-m nōn-dinu-m*, usually *nūn-dinu-m*. Umbr. *nuvis* 'novies'.

O.Ir. *nōi n-*, Mod.Cymr. Corn. *naw*. But whence came this *a*?

Goth. O.H.G. *niun* for **niyun*, I § 179 p. 156. O.Sax. *nigun* A.S. *nizon*, where *z* is a transition-sound or glide (cp. Jellinek, Paul-Braune's Beitr. XIV 582). The ending -*un* is

to be explained in the same way as that of *sibun*, for which see § 171 p. 18.

Lith. *devyn-ì* O.C.Sl. *devetì* instead of **navynì* **novetì* on the analogy of the initial *de-* of 'ten'; Pruss. *newìnts* ('ninth') has been influenced by the Germanic form. For the termination of *devyn-ì* see § 171 p. 18. *devetì* is the Idg. abstract **neuy̥-ti-s*: cp. Skr. *navati-ṣ* ('ninety'), Avest. *navaiti-ṣ* ('nine' and 'ninety'), O.Icel. *nīund*.

Ninth. Idg. **neuy̥n-ó-* or **neuy̥-tó-* (**enuy̥n-ó-* or **enuy̥-tó-*), perhaps both.

Skr. *navamá-s* Avest. *naoma-* = **navema-* (as *ker^enaom* = **ker^enavem*, I § 158 p. 141) O.Pers. *navama-* instead of **navaná-*, following (Skr.) *saptamá-* *daśamá-*, cp. Umbr. *nuvime*.

Armen. *inn-er-ord*.

Gr. Hom. *ἔνα-το-ς*, Att. Hom. *ἔνα-το-ς* for **ἔνφα-το-ς*.

Lat. *nōn-u-s* for **noven-o-*. If the *dzenoine* of the Duenos inscription means 'die noni', its *oi* makes some difficulty, although not for the reasons which Pauli suggests (Altital. Stud. I 32 ff.). Umbr. *nuvime* 'nonum', where *m* is not original, but is like that of Lat. *novem* and Skr. *navamá-s*.

O.Ir. *nō-mad*, Mid.Cymr. *naw-uet*, re-formates like *ocht-mad wyth-uet* etc.

Goth. *niun-da* O.H.G. *niun-to-*, pr. Germ. **niyun-dá-n-*.

Lith. *deviñ-ta-s* (Pruss. *newìnt-s*, see above), O.C.Sl. *devę-tū*.

§ 174. Ten. Idg. **dék̑m*. Originally indeclinable, and still so in Ved. *dáśa kakṣṭyabhiṣ* 'with ten girdles', Gr. *δέξα νασί*, Lat. *decem nāvium*, Goth. *taihun skattans*, O.H.G. *stat zehen burgo* 'Decapolis', and similar phrases. Inflected: Skr. instr. *daśá-bhiṣ*, Armen. instr. *tasam-bḗ* *tasam-b*, Gr. gen. *δέξων* in a Chian inscription (a trace of Lesbian influence), dat. Goth. *taihun-im* O.H.G. *zehin-in* (in O.H.G. only found where the substantive precedes). **dék̑m* has died out not only in Slavonic, but in Baltic too.

Skr. *dáśa*, Avest. *dasa*.

Armen. *tasn*. If the acc. *mard* 'hominem' is a regular development from **mṛto-m*, in which case original final *-m* was

dropped, *tasn* like *evñ* must be an ad-formate of *in-n* 'nine', cp. I § 202 p. 169, § 651.2 Rem. p. 497. But it is preferable to regard the ending of *tasn* as coming quite regularly from **dekñ*, and *mard* as being a nominative used for the accusative (see § 212).

Gr. *δέξα*. Arcad. *δρό-δεχο* (Bullet. de corresp. hellén., IV 1889 p. 281) like *δέχορο-ς* (see p. 24).

Lat. *decem*. -*decim* in *ūn-decim* etc. is due to the accentuation, see I § 65 p. 53. Re-formatives are *decu-plu-s dec-eni-s dec-unx* etc. beside *decem-plex* etc. Umbr. *desen-duf* 'duodecim' tekuries *dequrier* 'decuriis', Osc. *dekmanniúis* 'decumanis'.

O.Ir. *deich n-* (indeclinable, since *deich* and *dech* are meaningless variations in the mode of writing the same sounds), O.Cymr. *dec*.

Goth. *taihun* O.H.G. *zehan*. The final *-n* must be explained in the same way as that of *sibun*, see § 171 p. 18. We should not have expected the *-a-* which is found in O.H.G. *zehan* O.Sax. *tehan*; cp. O.H.G. *zehanzo* beside Goth. *taihuntē(-hund)* § 179. Possibly in words like *drī-zehan*, *-*tehun* became *-*tehy* and then *-tehan*, and the *a* passed thence into **téhun* etc. (cp. O.H.G. *Sīgi-frid* as contrasted with *fridu*). A different explanation is given by Noreen, Arkiv III 26.

In Balto-Slavonic the only forms left are the two Idg. abstracts: Lith. *deszim-t-* O.C.Sl. *desę-t-* and Lith. *deszim-ti-* O.C.Sl. *desę-tī-*: cp. Skr. *daśát-* Gr. *δεκάς* Goth. gen. pl. *taihuntē* (in *taihuntē-hund* '100', see § 179) and Skr. *daśatī-ṣ* ('tenfold character, group of ten', specialised to mean 'group of ten tens, hundred') O.Icel. *tíund*. In early Lithuanian *deszimti-* is still an inflected singular substantive and is followed by the genitive; but now the inflexion is gone, and we have *dēszimt* (doubtless both acc. sing. = *desętī* and loc. sing. = *desęte*) and *dēszimts desziūmts* (doubtless nom. pl. = *desęte*)¹⁾, although still

1) The history of the plural form *dēszimts* needs further investigation. Has it been influenced by *dvideszimts* 'twenty' *trīsdeszimts* 'thirty' etc.? Or is it merely due to an idiom of the language which we find in the old books, whereby the abstract noun is used like an adjective with the

governing the genitive plural. O.C.Sl. *desęti* is declined throughout as an *i*-stem; there is a parallel stem *desęt-*, e. g. in *jedinü na desęte* (loc. sing.) 'eleven' = 'one upon ten'.

Tenth. Idg. **dek̑m-to-* (**dek̑m-t-o-?* see II § 81 Rem. 1 p. 242) and **dek̑m-o-*.

Skr. *daśamá-s*, Avest. *dasema-*.

Armen. *tasn-er-ord*.

Gr. *δέκατο-ς*. Lesb. Arcad. *δέκατο-ς* (cp. Arcad. *δυό-δεκο*), whose *o* follows *-κοντα -κοστο-ς*, cp. §§ 176, 177.

Lat. *decimu-s*, Osc. *dekmanniúis* 'decumanis'.

O.Ir. *dechm-ad*, Mid.Cymr. *decu-et*.

Goth. *taihunda*, O.H.G. *zehanto* (cp. p. 23).

Lith. *deszimta-s*, O.C.Sl. *desęti*.

§ 175. Eleven to Nineteen. When the units were added to multiples of ten in the parent language, both units and tens of the resulting number were independent in the sentence. The copula 'and' may have been generally used with them, as in the phrases Ved. *ékā ca viśatī ca* acc. '21', *tráyaś ca triśác ca* '33', Gr. *δύω καὶ πενήκοντα* '52', Lat. *quattuor et vīgintī*; but not always, as we infer from Ved. *triśátā trīn* acc. '33', Gr. *πεντήκοντα δύο*, Lat. *vīgintī quattuor* etc. But in the cardinal numbers 11 to 19 there was a closer combination between the unit and the numeral 'ten' which followed it (see II § 16 pp. 31 f.). In the numbers 11 to 14 the unit was inflected, in 15 to 19 it was not; hence 15 to 19 readily became true compounds, whilst 11 to 14 may not have become compounds so soon, since their ending had first to become stereotyped.

Remark. There can be no doubt as to the reasons for this difference between the expressions for 11 to 19 and those for 21—29, 31—39 etc. The former group was more often used, for one thing; but the chief reason was that the words for 20 and the other multiples of ten were themselves compounds, and therefore it was less convenient to compound them again with other words.

name of the thing whose number is stated, and takes the case of it; as loc. *deszimtisa męstosu* 'in decem urbibus' (cp. Bezenberger, Beitr. zur Gesch. der lit. Spr. 178 f.)?

But the numbers 11 to 19 were not expressed in the parent language only by pairs of words in juxta-position, like Skr. *dvā-daśa* Gr. *δύ-δεκα*. We are justified in regarding as original expressions like Gr. *δέκα δύο*, *δέκα τρεῖς*, Lat. *decem duo*, *decem tres*. We may also believe that phrases of subtraction were used for the numbers immediately preceding twenty as well as for those immediately preceding thirty, forty and so forth; such, for example, as we find when the languages had begun to follow their own separate lines — Skr. *ekōnaviśati-ś*, *ūnaviśati-ś* and *ēkan ná viśati-ś* for 19, *tryūnaśaśti-ś* for 57, Gr. *ἐνὸς δέοντα εἴκοσιν ἔτη* '19 years', *μιάς δέονσαι τετραράκοντα νῆες* '39 ships', Lat. *ūn-dē-vīgintī duo-dē-trīgintā*, A.S. *twā lās twentiz* for 18, *ān lās twentiz* for 19, H.G. dial. *ains-min-zwainzich zwai-min-dreisich* (Goth. 2 Cor. 11. 24 *fidvōr tiguns ainamma vanans* to translate *τεσσαράκοντα παρὰ μίαν*).

Of the different modes of expressing the ordinals which we find, the Latin for 13th to 19th, *tertius decimus* etc., occurs in Armenian, Greek, and Germanic besides. We may therefore fairly regard this as original.

Aryan. Cardinals. 11 Skr. *ēka-daśa*; the first part of which crystallises the form of the instr. sing. masc. (Ved.) and nom. sing. fem.; the form thus chosen was suggested by *dvā-daśa*, cp. Avest. *aēvan-dasa-* etc. '11th' below. 12 Skr. *dvā-daśa* *duvā-daśa* Avest. *dva-dasa*. 13 Skr. *trāyō-daśa*. 14 Skr. *cātur-daśa*, showing now the stem without inflexion, cp. Avest. *caṣru-dasa-* '14th'. 15 Skr. *pāñca-daśa*, Avest. *panca-dasa*. 16 Skr. *ṣō-daśa*. 17 Skr. *saptā-daśa*. 18 Skr. *aṣṭā-daśa*. 19 Skr. *nāva-daśa*, also *ekōnaviśati-ś* (*ēka-ūna-viśati-* 'a score too little by one, a score less one'), or simply *ūna-viśati-ś*, and *ēkan* (i. e. *ēkad*) *ná viśati-ś* (cp. Delb., Altind. Synt. pp. 112, 543).

Ordinals. In Sanskrit all the numbers have both *-daśá-s* and *-daśama-s*, cp. Lat. *-decimu-s*. 11th Skr. *ekādaśá-s*, Avest. *aēvan-dasa-*, *aēva-dasa-*, *aēvō-dasa-*; *aēvu-dasa-* may be like *dva-dasa-* = Skr. *dvā-daśá-*, or is it the bare stem instead of a case, as in *pri-dasa-* *caṣru-dasa-*? cp. II § 25 p. 41.

12th Skr. *dvādaśā-s* (*dvādaśama-s* like *duodecimū-s*), Avest. *dvadasa-*. 13th Skr. *trayōdaśā-s*, Avest. *prīdasa-* with the bare stem instead of a case. 14th Skr. *caturdaśā-s*, Avest. *caṇrudasa-*, cp. the cardinal. 15th Skr. *pañcadaśā-s*, Avest. *pancadasa-* and *pancadasya-*, the latter like *tāiryā-* 'fourth' *bityā-* 'second'. 16th Skr. *ṣoḍaśā-s*, Avest. *xšvaśdasa-*, etc. Side by side with Skr. *navadaśā-s* (Avest. *navadasa-*) '19th' is found *ēkōnaviśā-s*, *ūnaviśā-s* and *ēkānnaviśā-s*, cp. the ordinal.

Armenian. Ordinals. 11 *me-tasan*. 12 *erko-tasan*. 13 *erek-tasan*. 14 *çorek-tasan*. 15 *hnge-tasan*. 16 *veš-tasan*. These are all inflected as *i*-stems; e. g. gen. dat. *metasaniç*, instr. *metasanivk* (cp. *kšan* '20', gen. dat. *kšaniç*). The numbers from 17 onwards have *ev* 'and', and inflect sometimes both parts, sometimes only *tasn* (cp. *air-ev-ji* II § 28 p. 46). 17 *evēn-ev-tasn*. 18 *uē-ev-tasn*. 19 *inn-ev-tasn*.

Ordinals. Two modes are used. *tasn-erord* ('tenth') may be followed by the ordinal of the unit, as *tasnerord çorrord* 'decimus quartus'; or *-er-ord* may be simply added to the cardinal, as *metasan-erord* '11th' *çorekšasan-erord* '14th'.

Greek. Cardinals. 11 *ἐν-δεκα* (*ἐν-* is nom. acc. neut.), Delph. *δέκα εἷς*. 12 *δύο-δεκα* (Hom. *δύω-δεκα*), Hom. *δυο-καί-δεκα*, and in Att. and Dor. *δέκα δύο* as well. 13 *τρεις καὶ δέκα* and (with the nom. *τρεις* crystallised) *τρεις-καί-δεκα*¹⁾, Att. Dor. *δέκα τρεις* as well. 14 *τέτταρες καὶ δέκα*, *τετταρισ-καί-δεκα* and *δέκα τέτταρες*, and so forth. As to the form of *ξξ* in *ἐκ-καί-δεκα* beside Boeot. *ἐσ-κη-δέκατος* see the Author's Greek Grammar² § 59 p. 71. In Attic *δέκα δύο*, *δέκα τρεις* etc. were used when the substantive preceded; e. g. *δραχμαὶ δέκα τρεις* but *τρεις καὶ δέκα δραχμαὶ* (cp. Wackernagel, Kuhn's Ztschr. XXV pp. 284 f. and Philol. Anzeiger 1886 pp. 78 f.; Meisterhans, Gr. der att. Inschr.² pp. 126 f.).

Ordinals. 11th *ἐνδέκατος*. 12th *δωδέκατος*, epic *δυωδέκατος*,

1) If the by-form *τρισκαίδεκα* is to be admitted (cp. Meisterhans, Gr. der att. Inschr.² p. 126), it contains the acc. *τρῖς* = **τρῖνς* (Wheeler, Der gr. Nominalaccent 42) in a crystallised shape, or *τρῖς*, the form it assumed in proethnic Greek before consonants (I § 204 p. 171).

Ion. *δωδέκατο-ς*. From 13th onwards the usual mode of expression in classical Attic, followed consistently in the inscriptions, is *τρίτος καὶ δέκατος*, *τέταρτος καὶ δέκατος* etc. Homer has *τρεῖσκαιδέκατο-ς ὀκτωκαιδέκατο-ς*, and Herodotus *τεσσαρεσκαιδέκατο-ς πεντεκαιδέκατο-ς*, while we find *ἑσκηδέκατο-ς* in Boeotian.

Italic. Cardinals. The following is the ordinary Latin mode of expressing these. 11 *ūn-decim*, the first part of which we may conjecture to have come from more than one case-form (cp. *ūn-dē-vīgintī*), cp. I § 633 p. 474, II § 36 p. 62. 12 *duo-decim*. 13 *trēdecim* for **trēz-decim* (I § 594 p. 450); also *trēdecim*, perhaps following *trēcentī*. 14 *quattuor-decim*. 15 *quindecim* for **quingu(e)-decim*, see I § 633 p. 474. 16 *sēdecim* for **segz-decim*, see I § 594 p. 450. 17 *septen-decim*, see I § 207 p. 174. 18 *duo-dē-vīgintī*. 19 *ān-dē-vīgintī*, cp. *ūn-decim*. Other expressions are interchanged with these, such as *trēs et decem*, *octō et decem*; *decem duo*, *decem novem*; *decem et ūnus*, *decem et duo*.

Umbr. *desen-duf* acc. 'decem duo', see I § 207 p. 174.

Lat. Ordinals. 11th *ūndecimu-s*. 12th *duodecimu-s*. 13th *tertius decimus*, 14th *quartus decimus* etc., rarely *decimus tertius* etc. 18th *duodēvīcēsimu-s*, rarely *octāvos decimus*. 19th *ūndēvīcēsimus*, rarely *nōnus decimus*.

Old Irish. In the cardinals we have the form *deac*, dissyllabic in the older language, in the later contracted into *dēc* (Mod.Ir. *déag*). 11 *oen* — *deac*, 12 *dā* — *deac*, 13 *trī* — *deac* etc., with the noun in between, as *dā cath deac* '12 battles'. *deac dēc* has nothing to do with *deich n-*; it was possibly a word meaning much the same as Skr. *adhika*- Goth. *-lif* Lith. *-lika*.

Ordinals. 11th *oenmad* — *deac*, 12th *aile* — *deac* etc.

Germanic. Cardinals. 11 and 12 contain *-libi-*. This is a noun stem connected with Goth. *bi-leiban* 'to remain' (√ *leiþ-*, Skr. *limpāmi* 'I cleave, stick'), and it originally meant 'excess' or 'being in excess' — *elf* would then be 'one in addition', i. e. to ten; cp. below Lith. *-lika* from √ *leiþ-*, and Skr. *adhika*- 'being

in excess' as used where 10 and its multiples are coupled with units, e. g. *aštadhikanavati-š* 'a ninety increased by eight' = '98'. Goth. *ain-lif* O.H.G. *ein-lif*, Goth. *tva-lif* O.H.G. *zwe-lif* appear inflected under the same conditions and in the same way as the numbers 4 to 10, e. g. *tvalibi-m*, *zwe lifin* (O.Sax. *elleban* '11' nom., following *tehan* '12'). 13 O.H.G. *drī-zehan*, but also *fone dien anderen drin zēnin* (Graff, Ahd. Spr. V 628). 14 Goth. *fidvōr-taihun*, O.H.G. *fior-zehan*. 15 Goth. *fimf-taihun* O.H.G. *finf-zehan*. 16 O.H.G. *sehs-zehan*. 18 O.H.G. *ahto-zehan*. 19 O.H.G. *ninn-zehan*.

Ordinals. 11th (fem.) O.H.G. *einlif-to* O.Icel. *ellifte ellifti*. 12th (fem.) O.H.G. *zwe lif-to* O.Icel. *tolfte tolf ti*. The following ordinals began by being phrases of the same type as Lat. *tertius decimus*; but their first member crystallised, it would seem, in proethnic Germanic, and they then conformed to the rules of stem-compounds. Goth. Luke 3. 1 *in jēra fimfta-taihundin* 'ἐν ἔτει πεντεκαίδεκάτῳ'. O.H.G. *dritto-zehanto*, *fiordo-zehanto* etc., and also with *-a-* (later *-e-*) as the final of the first member. Another series, derived from the cardinal, was used in later O.H.G., as *fierzēn-do sehszēn-do*. Icelandic has a corresponding series, *fin(m)tān-de sextān-de* etc.

Balto-Slavonic. Lithuanian. 11 *vėnū-lika*, 12 *dvj-lika*, 13 *trj-lika*, 14 *keturió-lika*, 15 *penkió-lika*, 16 *szeszió-lika*, 17 *septynió-lika*, 18 *asztūnió-lika*, 19 *devyniό-lika*; 11th O.Lith. *lėka-s*, 12th O.Lith. *antras lėkas*, but the words now used have *-likta-s*, as 11th *vėnūlikta-s*, 12th *dvjlikta-s*. *trj-lika*, *keturió-lika* etc. contain forms of the neut. pl. in both parts (§ 338), and accordingly O.Lith. has the dat. *-likams* and instr. *-likais*. When the neuter dropped out of use in Lithuanian (§ 403), *-lika* was treated as a nom. sing. fem.; and then it was declined gen. *-likos* etc. This inflexion is seen in Old Lithuanian, and is still found in dialects of the language. *-lika* came from an adjective **lika-s* 'remaining over, being in excess', a by-form of the O.Lith. *lėka-s* just mentioned; and to this day *lėka-s* is in regular use in the sense of 'remaining over singly, odd'. The root is *leiq-* (Lat. *linquo* Gr. *λείπω*). Cp. Goth. *ain-lif* above. In

věnu'-lika and *dvj'-lika* the final of the first member has assimilated itself to the numerals immediately following, and become long; cp. Skr. *ēka-daśa* p. 25 and § 326. Cp. Bezzenberger, Beitr. zur Gesch. der lit. Spr. 179 ff.; Kurschat, Gram. p. 269; the Author, Lit. Volkslieder p. 309, and in Techmer's Internat. Ztschr. I 251 f.; Mahlow, Die langen Vocale 49; Joh. Schmidt, Pluralbild. 39, 42. — Slavonic. 11 *jedinū na desęte* (loc. sing. of stem *desęt-*) = 'one upon ten', 12 *dūva na desęte* 'two upon ten' etc. Cp. Lett. *win-pa-dsmīt* '11' = 'one over ten' *diw-pa-dsmīt* '12' etc., and Gr. Thess. *τᾶ ἔκτρα ἐν' ἰκάδι* (Collitz, Samml. der Gr. Dialektinschr., no. 345. 10). There are two types of ordinals. Sometimes only the unit takes the ordinal form, as *osmyjř na desęte* 'the eighth upon ten' = 18th; sometimes *-řnū* was used to make a derivative from the expression for the cardinal number. In the latter case the unit might either show the form of the nom. acc., as *peřř-na-desęřřnū* '15th'; or be treated like the first member of a stem-compound, as *peřto-na-desęřřnū*, cp. II § 47 p. 86.

§ 176. Twenty to Ninety-nine.

The Indo-Germanic expressions for multiples of ten from 20 to 90 at first meant two, three, or the proper number of tens. Originally both parts of the phrase were inflected; both the unit (except the uninflected units 5 to 9, see §§ 169 ff.) and the word for a ten — a neuter **kōmt-* **k̑mt-* (for **dkōmt-* **dk̑mt-*, see § 164 pp. 2 f.). '20' was a dual, **uī (?) k̑mt-i*; the others plural, as '30' **trī kōmt-ə*. But these expressions for multiples of ten are not inflected in any language; in all of them the nom. acc. has become stereotyped. Some at least of the units in these phrases were stereotyped in the parent language itself. This is proved by **qetyř-kōmtə* (Gr. *τετρακόσια* Lat. *quadrā-gintā* Avest. *cařwar^e-sat-* Armen. *kar-a-sun*) and **peręqē-kōmtə* (Gr. *πεντήκοντα* Skr. *pañcā-śāt-*), which were ad-formates of **trī-kōmtə*. It is doubtful whether **k̑mti* and **kōmtə* had also become crystallised so soon.

These forms of the nom. acc. pl. (du.) neut. became in the Indo-Germanic period the foundation upon which were built singular abstract nouns (collectives) of the feminine gender, and

ordinals whose first member was the nom.-acc. form. The abstract nouns were ad-formates of the feminine **dek̄mt-* 'group of ten'¹⁾: examples are Skr. *triśát-* 'group of 30', Gr. Boeot. *φικάς* Att. *εικάς*, O.Ir. *fiche* 'group of 20' gen. *fichet*. The ordinals were derived from these by the suffixes *-to-* and *-t-ημο-*. When these two groups of abstract nouns and ordinals sprang up, the expressions for the cardinal numerals, from which they were derived, had not yet fully become compounds. Thus **trikomt-* **trik̄mt-* 'τριακάς' and **trik̄mt^sto-* **trik̄mt^stημο-* 'τριακοστός' may have stood related to **trī komtə* 'three tens' much in the same way as O.C.Sl. *dūwadeset̄nū* '20th' to *dūva deset̄i* '20', and as Lat. *quartadecumdnī* to *quarta decuma*, *Sacraviēnsēs* to *sacra via* etc. (II § 3 p. 5).

Remark 1. Perhaps the re-formates **geiuf-* and **perogē-* first appeared only in collectives and ordinals, in which there was a closer connexion between the word for the unit and the word for the ten. This might explain certain pairs of forms, *τετρώ-κοντα* and *τετταρά-κοντα* in Greek, *pancā-sat-* and *panca-sat-* in Avestic; and the difference between Avest. *caṇwar^e-sat-* and Skr. *catvāri-śát-*. Gr. *τετρώκοντα* would then be an ad-formate of *τετρωκοστός*; while *τετταρακοστός*, on the contrary, would have followed *τετταράκοντα*.

The dual **k̄mt-i* once had the weak stem in all its cases; hence come Avest. *vī-saiti* Armen. *k-san* Gr. *φί-κατι* Lat. *vī-gintī*, hence also the collective with *-k̄mt-*: Gr. *φικάς* *εικάς* O.Ir. *fī-che* (O.Cymr. *u-ceint* Corn. *u-gans*). But the nom. acc. pl. was **komt-ə*, whence Armen. *-sun* Gr. *-κοντα* and the collectives Avest. *pri-sqs* O.Ir. *-cha -ga*. In cardinals and collectives of the tens from 30 upwards **k̄mt-* is also found (Lat. *-gintā* and Skr. *tri-śát-* Avest. *pri-sat-* etc., Gr. *τριά-κάς*). Two possible causes may be assigned for this. (1) Beside **komt-ə* there may have once been weak cases with **k̄mt-*, as loc. **k̄mt-su*, or (2) the corresponding forms for the number 20 may have set the type. The ordinals had all of them doubtless **k̄mt-* to begin with, as Gr. Boeot. *φικαστός* Skr. *tri-śattamā-s* Lat. *trī-cēsīmu-s*.

1) Words were formed later on the same principle in Old Icelandic, in Lithuanian, and in Greek. Examples: O.Icel. *tvítog-t* 'εικάς' *þrítog-t* 'τριακάς' etc.; Lith. *dvideszimti-s* 'εικάς' (e. g. *po dvideszimtēs metu*, in Bretken) from **dvi dšzimti* '20'; Gr. *ένδεκάς* *δωδεκάς* etc.