COMPARATIVE GRAMMAR
OF GREEK AND LATIN
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By
CARL DARLING BUCK
Professor of Comparative Philology
The University of Chicago

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PREFACE

During the course of some forty years of lecturing on the Comparative Grammar of Greek and Latin I have written and re-written various chapters with a view to eventual publication. New material and new discussions necessitate constant changes in some regard, and, fortunately for our living interest in the subject, there is no time of stabilization.

I am undertaking here to set forth what now appear to me the most essential and best established facts, and what in my present judgment are the most probable views on such disputed matters as I have thought wise to touch upon. Argumentary discussion is avoided, and references to the views of others, whether those adopted or rejected, are omitted or relegated to the Appendix.

My obligations are to the whole body of scholars in the field rather than to any single book. For Greek the grammars of Brugmann-Thumb, Kühner-Blass and Smyth, and for Latin those of Lindsay, Sommer, and Stolz-Leumann have been of the most constant service. The manuals dealing with Greek and Latin together have long since ceased to be representative, with the exception of the recent work of Meillet and Vendryes, the excellent Traité de grammaire comparée des langues classiques.

The practice of combining the treatment of Greek and Latin comparative grammar, whether in lecture courses or in books, is not based upon a belief in a special Graeco-Italic linguistic unity within the Indo-European family. From the point of view of comparative grammar, Greek and Latin are simply two adjacent sister languages of the larger group, and the special relations between them are less striking than those between Latin and Celtic. But owing to the cultural relations, literary and other, between the two great peoples of classical antiquity, their languages are the common concern of the same body of scholars. For classical students each is the obvious and fitting complement of the other as
PREFACE

a basis of comparison. Hence in treating the two together one avoids considerable repetition, and this I believe more than offsets the greater difficulties of arrangement. At least a common outline is the best introduction to the more intensive study of the historical development of either language.

For some of the topics the Greek and Latin history may be interwoven, for others the two sides of the picture are presented in separate paragraphs or chapters. In this matter of arrangement I have followed no principle other than that of practical convenience and clearness.

No acquaintance with Sanskrit, Gothic, Lithuanian, etc., is presupposed, but their forms are freely cited to vivify the reconstructions. Treatment of the Greek and Italic dialects lies outside the scope of the present work. Only some of their outstanding features or matters pertinent to the discussion are occasionally mentioned.

The title of the book is strictly a misnomer without the reservation "exclusive of syntax". For, with the exception of a few remarks in connection with inflection, there is no treatment of syntax (in the customary application of this term). This is not due to any mistrust of the comparative method as applied to syntax. This should show the relatively simple and crude structure out of which developed the sophisticated practice of the Greek and Roman writers. But, as it seems to me, the comparative treatment of Greek and Latin Syntax requires the repetition of a vast deal of illustrative detail which is adequately presented in the school grammars—much more such repetition of familiar facts than is required for the forms—so that for a book of this kind the space demanded would be disproportionate to the gain. However, the real excuse for the omission is perhaps, after all, my lesser interest in this field.

I have no apologies for adhering in the main to the order of treatment that is familiar in most grammars, while well aware of certain illogical aspects and inconsistencies.

Critics will find little or nothing in this book that is strikingly
new. But it reflects long years of experience in teaching the subject and of following critically, with some participation, its progress.

I am indebted to Professor Walter Petersen for assistance in reading the proofs.

C. D. B.

CHICAGO
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CONTENTS

INTRODUCTION

THE INDO-EUROPEAN FAMILY OF LANGUAGES

Classification .......................... 1
Indo-Iranian .................................. 5
Armenian .................................. 8
Albanian .................................. 8
Celtic .................................. 9
Germanic .................................. 9
Balto-Slavic .................................. 11
Tocharian .................................. 14
Hittite .................................. 15

GREEK. OUTLINES OF THE EXTERNAL HISTORY .................................. 15
General characteristics ......................... 16
External influence .................................. 17
Dialects .................................. 18
Literary dialects .................................. 20
Hellenistic Greek .................................. 21
Greek-speaking territory ......................... 22

ITALIC, LATIN AND THE ITALIC DIALECTS. OUTLINES OF THE EXTERNAL
HISTORY .................................. 23
Oscan-Umbrian .................................. 24
Early Latin .................................. 26
Expansion of Latin .................................. 26
Vulgar Latin .................................. 27
Romance languages .................................. 28
External influence upon Latin ......................... 29

SOME GENERAL FEATURES OF LINGUISTIC HISTORY .................................. 30
Mechanism of speech and classification of speech sounds ......................... 31
Varieties of phonetic change .................................. 36
Phonetic laws. Scope, regularity, and causes of phonetic change ......................... 39
Writings and its relation to speech .................................. 42
Analogy .................................. 45
Semantics .................................. 48
Structure .................................. 56
The individual language  
Language and dialect .................................. 60
CONTENTS

Differentiation of languages ........................................... 61
Evolution of a standard literary language .......................... 63
Linguistic results of mixture of population ....................... 64
Language and race ....................................................... 65
Language and nationality ............................................... 66

PHONOLOGY

The Greek and Latin Alphabets ....................................... 68

Vowels and Diphthongs ................................................. 78
Table of correspondences ............................................. 78
i, ï ................................................................. 79
u, ū ................................................................. 80
e ................................................................. 81
o ................................................................. 82
a ................................................................. 84
o ................................................................. 84
ê ................................................................. 84
ō ................................................................. 85
ā ................................................................. 85
ei ................................................................. 86
oi ................................................................. 87
ai ................................................................. 88
eu, ou ......................................................... 88
au ................................................................. 89
Long diphthongs ......................................................... 90
Greek secondary ê and ô. "Spurious diphthongs" ................. 91
Qualitative difference between short and long vowels .......... 92
Lengthening and shortening of vowels in Greek ................ 93
Lengthening of vowels in Latin ...................................... 93
Shortening of vowels in Latin ....................................... 94
"Iambic shortening" .................................................. 95
Contraction of vowels in Greek ..................................... 96
Contraction of vowels in Latin ..................................... 97
Prothetic vowel in Greek ............................................ 98
Anaptyxis in Latin .................................................. 98
Vowel syncope in Latin ............................................. 98
Vowel weakening in Latin ......................................... 100
Syllabic liquids and nasals ......................................... 103
Vowel gradation ...................................................... 106

Consonants ............................................................. 117
Stops ................................................................. 117
Orders .............................................................. 117
CONTENTS

The Greek aspirates .................................................. 118
Aspirates in Latin ..................................................... 119
Dissimilation of aspirates in Greek ............................... 120
"Grimm's Law" ....................................................... 120
The labial and dental stops .............................. 121
   Table of correspondences ...................................... 121
   $p, b, bh$ .......................................................... 121
   $t, d, dh$ .......................................................... 122
   $\tau > \sigma$ in Greek ............................................. 122
   $d > l$ in Latin ................................................... 123
Guttural stops. The various guttural series .................. 123
   Table of correspondences ...................................... 126
   Palatals ............................................................ 126
   Labiovelars ........................................................ 128
Liquids, nasals, and $s, w, \text{and } y$ ......................... 130
   Table of correspondences ...................................... 130
   Liquids and nasals ............................................... 131
   $s$ ................................................................. 131
      Rhotacism in Latin .......................................... 133
      Remarks on the Greek spiritus asper ..................... 133
   $w$ ................................................................. 134
      Latin $v$ ....................................................... 134
      Greek $\varepsilon$ ............................................... 136
   $y$ ................................................................. 138
      Initial $y$ ...................................................... 138
      Intervocalic $y$ ............................................... 139
      Postconsonantal $y$ in Latin ................................ 139
      Postconsonantal $y$ in Greek ............................... 140
Changes in groups of consonants ............................... 142
   Stop+stop ......................................................... 143
   Stop+$s$ .......................................................... 144
   Nasal+stop ........................................................ 145
   Stop+nasal ........................................................ 146
   Groups containing a liquid .................................... 147
   Groups containing $s$ .......................................... 149
   Groups of three or more consonants ....................... 152
Simplification of double consonants ........................... 154
Doubling of consonants ............................................ 155
Assimilation and dissimilation of non-contiguous consonants, Meta-
   thesis, Haplology .............................................. 156
Final consonants .................................................... 156
# CONTENTS

**Changes in External Combination** ................................................. 158
  Greek .................................................. 159
  The Greek movable ........................................ 160
  Latin .................................................. 160

**Accent** .................................................................................. 161
  Greek .................................................. 162
  Latin .................................................. 165

**Inflection** .............................................................................. 168

**The Parts of Speech** ............................................................... 168

**Declension** ............................................................................ 169
  Gender .................................................. 169
  Number .................................................. 170
  Case ....................................................... 171

**Declension of Nouns** .............................................................. 172
  Table of IE case endings ............................................. 172
  ā-stems. The Greek and Latin First Declension ................. 174
  Table of ā-stem declension ........................................... 175
  Greek masculine ā-stems ............................................. 178
  The Greek type with nom. sg. in -ā ................................ 178
  o-stems. The Greek and Latin Second Declension ................ 180
  Table of the o-stem declension ...................................... 180
  Consonant stems .................................................. 183
  Stems ending in a stop ............................................. 185
  r-stems and n-stems ............................................. 187
  Neuter r/n stems ................................................. 189
  Greek neuter r-stems .............................................. 190
  s-stems .................................................. 191
  i-stems .................................................. 193
  Table of i-stem declension ........................................... 193
  Fusion of consonant stems and i-stems in Latin ................ 196
  Latin mixed stems ................................................. 197
  u-stems and ū-stems ............................................. 198
  Table of u-stem declension ........................................... 198
  Diphthongal stems .................................................. 201
  Greek nouns like βασιλεύς ........................................ 201
  Greek nouns like ἰφως ........................................... 202
  Greek nouns like πειθώ ........................................... 202
  Monosyllabic diphthongal stems ..................................... 203
  The Latin Fifth Declension ............................................ 204
CONTENTS

Nouns of variable declension. Heteroclites ........................ 205
Nouns of variable gender ........................................... 207
Indeclinable and defective nouns ................................. 207

DECLENSION OF ADJECTIVES AND PARTICIPLES .................. 208
o- and ā-stem adjectives ........................................... 208
Greek ū-stem adjectives ............................................. 209
Latin i-stem adjectives ............................................... 209
Consonant stem adjectives .......................................... 210
s-stem adjectives .................................................. 210
n-stem adjectives .................................................. 210
The Greek type χαπίεες ............................................. 211
The Greek γγ-participles ............................................ 211
The Latin nt-participles ............................................. 212
Other consonant stem adjectives in Greek ....................... 212

COMPARISON OF ADJECTIVES ...................................... 213

PRONOUNS ............................................................. 216
Personal pronouns ................................................... 216
Demonstrative, interrogative, indefinite, and relative pronouns 221
Peculiarities of declension ......................................... 221
The Greek demonstrative pronouns ................................ 223
The Latin demonstrative pronouns ................................ 224
The interrogative, indefinite, and relative pronouns ........... 226

NUMERALS ............................................................. 229
Cardinals ............................................................ 229
Ordinals .............................................................. 232
Multiplicatives ....................................................... 233
Distributives ......................................................... 234
Collectives ............................................................. 235
Numeral adverbs ...................................................... 236

VERBS ................................................................. 237
Survey of the verb-system .......................................... 237
Voice ................................................................. 237
Mood ................................................................. 238
Tense ................................................................. 238
Personal endings ..................................................... 240
Personal endings of the active ................................... 241
Personal endings of the middle ................................... 248
The Latin deponent-passive ....................................... 251
## CONTENTS

The augment ........................................... 254
Reduplication ........................................ 255
Formation of the present stem ...................... 256
Survey of the IE present classes .................. 257
The present classes in Greek ....................... 260
  The thematic classes, exclusive of the contract verbs. 260
  The contract verbs ................................. 264
  The unthematic classes ............................ 266
The present classes in Latin ........................ 267
  First conjugation ................................ 267
  Second conjugation ............................... 268
  Third conjugation ................................. 270
  Fourth conjugation ............................... 272
  Irregular verbs ................................. 273
The Imperfect ....................................... 277
The Future .......................................... 278
  Greek ............................................ 279
  Latin ............................................ 280
The Aorist .......................................... 281
  The Greek sigmatic aorist ....................... 282
  The Greek "second" aorist ....................... 283
  The Greek aorist passive ....................... 284
The Perfect ........................................ 285
  The Greek perfect system ....................... 286
  The Latin perfect system ....................... 291
The Subjunctive and Optative ...................... 298
  The Greek subjunctive ........................... 298
  The Greek optative ............................. 299
  The Latin subjunctive ........................... 301
The Imperative ..................................... 302
The Infinitive ..................................... 304
  The Greek infinitives ........................... 304
  The Latin infinitives and supine ............... 305
The Participles ..................................... 306
  The active participles in -nt- .................. 306
  The Greek perfect active participle ............ 307
  The Latin perfect passive participle .......... 307
  The Middle participle ........................... 309
  The Latin gerundive ............................. 309
  The Latin gerund ............................... 310
## CONTENTS

### WORD FORMATION

**Derivation of Nouns and Adjectives**

- Vowel suffixes .......................... 311
- 
  -yo- ..................................... 315
  -wo- ..................................... 316
- Nasal suffixes ............................ 318
- r-suffixes ................................ 319
- l-suffixes ................................ 324
- Dental suffixes ............................ 328
  - t-suffixes ................................. 332
  - d-suffixes ................................ 332
  - dh suffixes ............................... 340
- Guttural suffixes .......................... 342
- s-suffixes ................................ 343
- Survey .................................... 345

**Formation of Adverbs**

.................. 348

**Composition**

- Noun and adjective compounds ........ 352
- Personal names ........................... 354
- Verbal compounds ....................... 360

### APPENDIX

**Selected Bibliography** .................. 364

**Notes and References** ................. 367

### INDEXES

**Greek** .................................. 373
**Latin** .................................. 389
ABBREVIATIONS

Abbreviations of the names of Greek and Latin authors are those familiar in the lexicons.

The following are employed for languages and dialects:

Aetol. = Aetolian
Alb. = Albanian
Arc. = Arcadian
Arg. = Argolic
Arm. = Armenian
Att. = Attic
Av. = Avestan
Boeot. = Boeotian
Byz. = Byzantine
ChSl. = (Old) Church Slavic
Cor. = Corinthian
Corc. = Corcyrean
Cret. = Cretan
Cypr. = Cyprian
Cyren. = Cyrenaean
Dan. = Danish
Delph. = Delphian
Dor. = Doric
Du. = Dutch
El. = Elean
Epid. = Epidaurian
Eub. = Euboan
Fr. = French
G. = Greek
Gmc. = Germanic
Goth. = Gothic
Hitt. = Hittite
IE = Indo-European
Ion. = Ionic
Ir. = (Old or Middle) Irish
It. = Italian
L. = Latin
Lac. = Laconian
Lesb. = Lesbian
Lett. = Lettic
Lith. = Lithuanian
Locr. = Locrian
LG = Low German
Marruc = Marrucinian
ME = Middle English
MHG = Middle High German
ML = Mediaeval Latin
Meg. = Megarian
Mod.G. = Modern Greek
NE = New (= Modern) English
NHG = New (= Modern) High German
NJ = New (= Modern) Irish
NWG = Northwest Greek
OE = Old English
OHG = Old High German
ON = Old Norse
OPers. = Old Persian
OPru. = Old Prussian
Osc. = Oscan
Pael. = Paelignian
Pamph. = Pamphylian
Phoc. = Phocian
Praen. = Praenestine
Rhod. = Rhodian
Rum. = Rumanian
Russ. = Russian
Sab. = Sabine
SCR = Serbo-Croatian
Skt. = Sanskrit
Sp. = Spanish
Sw. = Swedish
Teg. = Tegean
Ther. = Theran
Thess. = Thessalian
Umbr. = Umbrian
Vest. = Vestinian
W. = Welsh
INTRODUCTION

THE INDO-EUROPEAN FAMILY OF LANGUAGES

1. Greek and Latin are two of the sister languages which make up the great Indo-European family, comprising most of the languages of Europe and some of Asia. The interrelations between the main branches, based on the points of contact between them, are mainly in accord with their relative geographical position, and are best exhibited in a scheme like the following. Omitted are Tocharian, Hittite, and some minor IE languages, for which see 13, 14, 15.

The vertical line separates the “centum” and “satem” languages, according to their treatment of the gutturals (143). This is the most striking and comprehensive feature of demarcation.

The term Indo-European (hereafter IE), which appears to have been first used in 1813, and indicates the range from the languages of India in the east to the European in the west, is the one established in English and accords with what is most nearly the international usage. German scholars, after using “indoeuropäisch” for a time, have long since settled on “indogermanisch”, whence “Indo-Germanic” in some English books, especially translations of German works. The term Aryan is also used, mainly by historians and ethnologists, in the same sense, but to philologists this generally connotes more specifically the Indo-Iranian branch of the family.
But the grouping which it shows is not to be understood as applicable in other respects or to be taken as a general classification of the IE languages.

Other important phenomena show other groupings. Indo-Iranian is distinguished from all the other branches in many respects, notably in the simpler vowel system (73.4). There are important points of agreement between Balto-Slavic and Germanic, notably the case-endings with $m$ parallel to those with $bh$ in the other branches (230.7); between Germanic and Celtic; between Celtic and Italic, so striking that some scholars believe in a period of special Italo-Celtic unity; between Italic and Greek, though certainly not sufficient to justify the old view of a Graeco-Italic unity.

All these relations are best explained by assuming that they reflect the germs of dialectic variation in the parent speech, the differentiation of the later more definite divisions beginning when they were still in geographical contact and in the relative positions indicated in the scheme above, these relative positions being substantially kept in their earliest spread.

What region was the common center, the home of the IE-speaking people, the "cradle of the Aryans" in popular parlance, has been a notorious subject of discussion, with theories ranging from the Scandinavian peninsula to central Asia. No conclusive evidence is available or likely to be forthcoming. But the best working hypothesis is that which favors the region extending north of the Black Sea and the Caucasus.

The period of IE unity can only be roughly estimated as around 3000 B.C. It is safe to say that by 2000 B.C. the main branches of the family had been differentiated and some of the IE-speaking peoples were on the march in the direction of their historical locations.

The more detailed classification is shown in the table and comments of the following paragraphs.
2. *Table of classification.*—Extant modern languages are in the last column.

<table>
<thead>
<tr>
<th>I. Indo-Iranian</th>
<th>Indic</th>
<th>Vedic Sanskrit</th>
<th>Classical Sanskrit</th>
<th>Pali, Prakrit dialects</th>
<th>Bengali Hindi Marathi Gujarati, etc.</th>
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<tbody>
<tr>
<td>Iranian</td>
<td></td>
<td>Avestan Old Persian</td>
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<td>Pahlavi Sogdian Sacian</td>
<td>Mod. Persian Kurdish Ossetan Afghan Baluchi, etc.</td>
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<td>II. Armenian</td>
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<td>Old Armenian</td>
<td>Armenian</td>
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<td>III. Albanian</td>
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<td>Albanian</td>
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<td>IV. Greek</td>
<td>East Greek</td>
<td>Attic-Ionic Arcadian-Cyprian Aeolic: Lesbian, Thessalian, Boeotian</td>
<td>The koine or Hellenistic Greek</td>
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<td>Mod. Greek</td>
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<td>West Greek</td>
<td>NW Greek: Locrian, Phocian, Elean Doric: Laconian, Argolic, Corinthian, Cretan, etc.</td>
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<td>(Tsakonian dialect)</td>
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<td>V. Italic</td>
<td>Latin-Faliscan</td>
<td>Latin Faliscan</td>
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<td>Vulgar Latin</td>
<td>French Provençal Catalan Spanish Portuguese Italian Rhaeto-Roman Rumanian</td>
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<td>Oscar-Umbrian</td>
<td>Oscar Umbrian Paelignian Volscan, etc.</td>
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<td>East Germanic</td>
<td>Celtic Inscriptions</td>
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<td>Old High German</td>
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3. Indo-Iranian or Aryan.—Indic and Iranian show a very close relationship, pointing to a period of special unity.

Certain forms that are clearly Aryan, either still undifferentiated Aryan or Proto-Indic (cf. aika- ‘one’ like Skt. eka- in contrast to Av. aēva-), occur in cuneiform records of western Asia dating from the 14th cent. B.C. These are the names of some of the kings of the Mitanni (that is, the dynasty was Aryan), of four of their gods, and a series of numeral compounds appearing in a Hittite work on horse-training. They constitute the earliest certain record not only of Aryan but of IE speech (Hittite, on which see 15, is known from about the same date), though some proper names in still earlier cuneiform records are thought, not improbably, to be Aryan.

4. Indic.—The earliest form of Indic is that of the Vedic texts, of which the oldest is the Rigveda, a collection of hymns in extent slightly less than the Iliad and Odyssey together. Its date of composition is unknown, but may be fairly estimated as about 1000 B.C. The language of this and the other collections of hymns, with the prose works attached to them, is known as Vedic, and differs considerably from the later Sanskrit, much as Homeric from Attic Greek. But the comparison holds only for the relative antiquity of forms. Vedic and classical Sanskrit are not believed to rest on different local dialects, like Homeric and Attic. Classical Sanskrit is thought to be the result of literary evolution from Vedic, with elimination of obsolete forms and concessions to the spoken language, an artificial product not reflecting any local dialect.

Classical Sanskrit (or Sanskrit in the strict sense, for such was the application of the term samskṛta-‘adorned, perfected’) is the literary language in the form studied and fixed by the grammarians, especially Pāṇini in the 4th cent. B.C. It is the vehicle of a literature of vast extent, embracing all branches, and covering a period reaching down into the Middle Ages (or in a limited sense even to the present time). The masterpieces of lyric poetry and the drama are from the 6th cent. A.D., and some favorite texts for easy reading date from the 11th cent. A.D. and
later. The position which Latin held in western Europe down through the Middle Ages, Sanskrit held in India—and beyond, for as a literary language it spread to Ceylon, Borneo, Java, and even to the Philippines. During all this time it remained substantially in the form fixed by the grammarians, much more stable than the written Latin of later periods.

But vernaculars, on a later stage of linguistic development, existed contemporaneously with the earliest classical Sanskrit and even in the Vedic period. From one of these, in the time of Buddha (died 480 B.C.), sprang Pāli, the sacred language of Buddhism. Others are called the Prakrit dialects. They are known from inscriptions and from their use in the Sanskrit drama (scenic Prakrit). Here they are employed, not like the dialects in Aristophanes to reflect the local speech of characters introduced, but with a curious social distribution. Only the gods and the leading male characters use Sanskrit, the leading female characters use a particular Prakrit which ranks highest in esteem, while the other characters use a variety of other Prakrits appropriate to their social rank. Pāli and the Prakrit dialects constitute what is known as Middle Indic, being on a stage midway between the ancient (Vedic and classical Sanskrit) and the modern Indic languages.

The modern Indic languages include Bengali, Hindi, Mahratti, and many others, some of them established literary languages. The languages of southern India, Tamil, Telugu, etc., are non-Aryan, Dravidian, though full of loanwords from Sanskrit.

Among the Indic derivatives is the language of the Gypsies, who are in origin wandering tribes from northwestern India. In spite of the great divergence of the Gypsy dialects and the large number of words adopted from the languages of the countries where they have lived, the main substratum is of obvious relationship to Sanskrit.

5. **Iranian.**—Iranian speech extended over the old Persian Empire east of Mesopotamia and Elam, namely from Media and Persia in the west to Bactria and Sogdiana in the northeast. The ancient Scythians, or at least their rulers as shown by their names
in Herodotus, were also of Iranian speech. Records of Middle Iranian have been found in the present Eastern Turkestan and even farther east.

Two ancient Iranian languages are known.

Avestan (formerly called Zend by a misunderstanding), the language of the Avesta, the Zoroastrian Bible. Certain hymns known as the Gāthās show an earlier form of the language than that of the later portions. They belong to the time of Zoroaster (Zarathushtra), whose date is disputed but lies somewhere between 1000 and 600 B.C. The rest of the Avesta was composed at various later times, and may be taken as reflecting mainly the language of say 500–300 B.C. The final redaction was made under the Sassanian dynasty in the 4th cent. A.D., and was accompanied by a commentary in the language of that time, namely Pahlavi (see below). The extant Avesta is only a small part of the original. Just what part of Iranian territory was the home of the Avestan language is uncertain. There are some arguments in favor of Bactria (hence the name Old Bactrian once used by some scholars, but to be rejected as begging the question). It was clearly not Persia proper.

Old Persian, known from the cuneiform inscriptions of the Achaemenian kings, mainly of Darius I and Xerxes, and representing their official language, based on that of their home land, Persia proper. These inscriptions are trilingual, the versions being in order (1) Persian, (2) Susian, (3) Babylonian. The Old Persian was the first to be deciphered, and this furnished the key to the decipherment of the other cuneiform scripts and the reading of Babylonian-Assyrian texts. The longest inscription, and one of the most important documents for history as well as for language, is that of Darius I at Behistun, the ancient Bāγištanov ḍroṣ, southwest of Ecbatana.

Middle Iranian is represented by:

Pahlavi, the language of Persia in the Sassanian period (3d–7th cent. A.D.), known from inscriptions, the commentaries on the Avesta, and other religious texts.
Sogdian, known from Buddhist, Manichaean, and Christian texts discovered in Eastern Turkestan and farther east. Sacian (?), known likewise from texts found in Eastern Turkestan, and formerly called North-Aryan (a misnomer, the language being clearly Iranian), now thought to be the language of the Sacae.

Modern Iranian is represented by Modern Persian (the only one with a literature of importance), the closely related Kurdish, the isolated Ossetan in the Caucasus, Afghan in Afghanistan, Baluchi in Baluchistan, several minor languages spoken on the Pamir Plateau, and an isolated relic of Sogdian.

6. Armenian.—The Armenians of IE speech were late comers in Armenia, which is known to have been occupied about 950–650 B.C. by a people which left records in a non-IE language. The Armenians are believed to be related to the Phrygians, but the records of Phrygian are so meager that it is not included in the classification and Armenian is given a place by itself. The language is full of Iranian loanwords, so that it was once mistakenly classed as Iranian. The earliest records are from the 5th cent. A.D. Much of the early literature consists of translations from Greek.

7. Albanian.—Spoken in the newly constituted state of Albania on the Adriatic coast, and in adjacent regions. There are also Albanian colonies, dating from the 15th cent. A.D. in Greece, southern Italy, and Sicily. Except for some meager records of the 16th and 17th centuries, the language is known only from recent times, and there has been no standardized written language until within these last few years. The largest element of the vocabulary is of Latin origin, and there are also great numbers of Greek, Slavic, and Turkish words. But there is a substratum of words and grammatical structure which is IE but not borrowed from any of these sources. This is doubtless a relic of the speech of some Illyrian or Thracian tribes which were almost but not quite Romanized. The present location of Albanian speech makes Illyrian origin seem the more natural, and this is the most widely current view. But against this, and in favor of Thracian origin, is the fact that Albanian is a “satem” language (2, 143), while Il-
lyrian on the evidence of place names appears to belong to the "centum" group.

8. Celtic.—Celtic speech, now restricted to a small territory and small numbers, was in ancient times spread over a vast territory. Celtic-speaking tribes occupied not only the British Isles, Gaul, and part of Spain, but also central Europe, extending through Bohemia (which takes its name from the Celtic Boii) and present Austria, while the Galatians passed over into Asia Minor. Upper Italy (Gallia Cisalpina) was mainly Celtic about 400 B.C.

The old continental Celtic is known only from proper names and a few short inscriptions from Gaul and Italy. The better-known languages fall into the two groups Gaelic and Brittanic, with Irish and Welsh the chief representatives of each.

Old Irish is known from the 8th cent. A.D. chiefly from glosses inserted in Latin texts by the Irish monks on the Continent. There is an extensive Middle Irish literature. Modern Irish is spoken by only a very small proportion of the population of Ireland, but is in process of revival. Manx and Scotch Gaelic are very closely allied to Irish.

Old Welsh is known from the 8th cent. A.D., and there is a large Middle Welsh literature. Modern Welsh is still very widely spoken in Wales. Cornish became extinct at the end of the 18th cent.

Breton, in the French province of Brittany, is not a relic of the old Celtic of Gaul, but was brought in by immigrants from England after the Anglo-Saxon invasion. Hence its close relationship to Welsh.

9. Germanic.¹—Except for some brief runic inscriptions, the earliest record of Germanic speech is the Gothic Bible of Bishop Wulfilas, who lived in the 4th cent. A.D. The other remains of Gothic and of other East Germanic dialects are of small account.

Old Norse, representing the North Germanic branch, is known from runic inscriptions and the extensive Old Icelandic literature. By gradual differentiation arose the present Scandinavian

¹ The term Germanic accords with international usage, and is preferable to Teutonic. It is sufficiently differentiated from the narrower German. The latter is a substitute for the earlier Dutch (= NHG deutsch), after this had become restricted to the language of Holland.
languages, Swedish, Danish, Norwegian, and Icelandic. The Norwegian literary language is based upon and still very close to the Danish, the latter having been adopted in the long period of union between Norway and Denmark.

West Germanic falls into two divisions, the Anglo-Frisian and one that includes High and Low German with Dutch. Old High German, in various dialects (Franconian, Alemannic, etc.), is known from the 8th cent. on. Old Low German is represented by the Old Saxon of a 9th cent. poem, the Heliand. New High German, the present German literary language, or what we call simply German, is based mainly on the East Franconian dialect. The Low German speech of northern Germany survives in the local dialects, but is subordinate to the standard German literary language.

In the Netherlands a literary language developed, based chiefly on Low Franconian, namely the Dutch. The Flemish speech of northern Belgium is closely related and in the form restored to written use by the “Flemish movement” is virtually the same as Dutch.

The Anglo-Frisians (the Ingaevones of Tacitus and Pliny) once occupied the coast region from about the mouth of the Scheldt to Schleswig-Holstein inclusive. Frisian, the continental language most closely related to English, now survives chiefly in the West Frisian of the Dutch province of Friesland.

The Angles, Saxons, and Jutes, whose home was in the Schleswig-Holstein region, invaded Britain in the 5th cent. A.D. and brought their Germanic speech. Britain was still mainly Celtic. During the period of Roman occupation the country had been partially Romanized, especially the garrison towns, but not thoroughly like Gaul. The invaders settled in hordes, forcing the Celtic Britons ever farther west until most of the land was of Germanic speech, with little admixture of Celtic. For the amount of Celtic in English (apart from what came in through Latin) is insignificant, less than the number of Indian words in American English. But the later Danish invasions and occupation of the land north of the Saxon domain introduced a related Germanic, but Scandi-
navian, element, which resulted in a permanent mixture. The number of English words which reflect the Scandinavian rather than the true English form is very large.

The language was always called English, after the Angles, so even by the Saxon King Alfred. Hence Old English is the appropriate term for the language of this period, rather than Anglo-Saxon, which was a political term, apparently first used to distinguish the Saxons of England from those of the Continent. Most of the Old English texts are in the West Saxon dialect (King Alfred, the abbot Aelfric, etc.), which had the status of an official language (the earliest non-Latin official language in western Europe). The Anglian dialects are more meagerly represented (the Northumbrian Gospels, etc.).

After the Norman Conquest French was the language of the court, and the country swarmed with Norman officials, monks, and tradesmen. English ceased to be cultivated as a literary language and persisted only in the speech of the masses. But with the loss of Normandy and the other French possessions the interests of the ruling classes were centered in England and they came to feel themselves English. In the 14th cent. English emerged again as a literary language (Chaucer, Wiclif), and was substituted for French in the schools. This literary Middle English was based on the speech of London as then current in the court. Most of the inflectional system of Old English had been lost in the meantime, and much of the vocabulary replaced by French. Hence English is a Germanic language in the main line of descent, but in vocabulary and general character much less so than the other Germanic languages.

10. Balto-Slavic.—The Baltic and Slavic languages have so many points of striking agreement in form and vocabulary that they are properly grouped together, though the relationship is not nearly so close as that between Indic and Iranian. They were doubtless separated and pursuing their independent development long before the beginning of our era.

11. Of the Baltic languages the most important is Lithuanian, spoken in the present Lithuania. Between the 11th and 14th
centuries A.D. the Lithuanian chiefs conquered much Russian territory and the old Grand Duchy of Lithuania once extended from the Baltic to the Black Sea. But this was only in small part of Lithuanian speech, and Lithuanian was not then employed as a written language. After the union with Poland the Lithuanians were submerged in Polish history. The earliest records of the language are from the 16th cent. A.D. Lithuanian is remarkable among living languages for the conservation of old forms and inflection, and hence is of great importance in IE comparative grammar.

Lettic, spoken in the present Latvia, is known from about the same period, but is on a later stage of linguistic development.

Old Prussian, once spoken in what is now East Prussia but extinct since about 1700 A.D., is known only from meager remains, mainly a catechism of the 16th cent. But it preserves some notable early forms, paralleled only in Gothic, early Greek, or Sanskrit.

12. The Slavs in the time of the Roman writers (the Venedi of Tacitus and Pliny) occupied the region northeast of the Carpathians in what is now southeastern Poland and western Russia. Hence they spread in all directions, the migrations west and south occurring between 200 and 600 A.D., after the great Germanic migrations. In the south they came into contact with Graeco-Roman civilization, and here arose the earliest Slavic states and the earliest form of written Slavic.

Slavic tribes on the Danube were in conflict with the Eastern Empire in the time of Justinian and in the 7th cent. were settled in Moesia and Thrace. Here they were conquered by a band of invaders of Asiatic origin, the Bulgars, who established the Bulgarian state, to become for a time a serious rival to the Byzantine power (cf. Bury, History of the Eastern Empire). These Bulgars, whose native tongue was of the Turkish family, adopted Greek as their official language. But they were soon absorbed in the mass of the Slavic population, so that the Bulgarian language is Slavic in all but name (just as French is Romance, though bearing the name of the Germanic Franks who founded the state).

Old Church Slavic is the language employed in their missionary
work by the Slavic apostles, the brothers Constantine (Cyril) and Methodius, who lived in the 9th cent. They were Greeks of Thessalonica and no doubt had learned the language from the Slavs of the surrounding region, though their actual mission in 863 was to Moravia. The language is the early form of the Slavic that came to be known as Bulgarian (cf. above) and hence is sometimes called Old Bulgarian.

Church Slavic is the earliest recorded form of Slavic and for a long time it was the only written or literary language among the Slavs, for whom it held the same position as Latin in the West. Moreover, while not identical with the primitive undifferentiated Slavic, it comes so near to reflecting this that it serves as the main representative of Slavic in comparative grammar, and is the foundation of Slavic linguistics.

The other South Slavic languages, besides the Church Slavic and the modern Bulgarian, are Serbo-Croatian and the closely connected Slovenian, now united in the present Yugo-Slavia.

The West Slavic languages are: Bohemian (Czechish) with the closely connected Slovak, now united in the present Czechoslovakia; Polish in Poland; Wendish or Sorbian, spoken by a small Slavic enclave in Germany northeast of Dresden; some minor dialects, partly extinct. (After the Germanic migrations Slavs occupied the land as far west as the Elbe and even beyond, and in the time of Charlemagne all this region, including Berlin, Leipzig, etc., was still Slavic. Later it was gradually Germanized. Wendish is a surviving relic.)

East Slavic is represented by Russian in its various forms, namely: Great Russian, the standard Russian; Little Russian or Ukrainian in the south; White Russian in the region adjacent to and partly in the present Poland.

13. Several other languages, not included in the foregoing classification, are known from meager remains, only sufficient to show that they belong to the IE family.

Phrygian is known, apart from proper names and glosses, from a few old inscriptions in an archaic Greek alphabet and some others of Christian times. It is believed that the Phrygians, with
the Trojans, and the later Armenians, were closely akin to the Thracians, constituting a Thraco-Phrygian group.

(Most of the old languages of Asia Minor, as Lydian, Carian, Lycian, are not IE, but belong to a group or perhaps several groups, which it is convenient to call Anatolian.)

Thracian is known from proper names and glosses, and there is one obscure inscription believed to be Thracian. Cf. above under Phrygian.

Illyrian is known mainly from proper names. Languages for which Illyrian origin is claimed or disputed are Venetic and Messapian in ancient Italy, Macedonian, and Albanian.

Macedonian, that is, the native speech of the Macedonians as distinguished from the Attic κοινή which they came to adopt as their official language, is known from proper names and rather numerous glosses in the Greek lexicographers. Their language was certainly not Greek in the sense of being a regular Greek dialect co-ordinate with the others. It may be regarded as a sort of detached Greek with independent development and mixture with Illyrian—or as Illyrian with Greek mixture. Which is the more fundamental relation cannot be determined from the scanty evidence.

14. Tocharian.—This is a newly discovered IE language which has come to light in writings found in Eastern Turkestan and dating from the 7th and 8th centuries A.D. It appears in two dialects known as A and B. The name Tocharian rests on the evidence that the language is that referred to in a MS as тoξξη, and the further identification with the Тoξξαροι (in Bactria) of Strabo, Skt. Тukhāra-, Chin. Tu-ho-lo. The material is only partially published and interpreted, but its IE character is obvious and unquestioned. The remarkable fact, for a language in this region,

1 The expeditions (British, French, German, etc.) which were conducted from 1900 on in Eastern Turkestan and partly in the western provinces of China proper brought to light an astounding mass and variety of new linguistic material. The manuscripts represent three religions (Buddhist, Manichaean, and Christian), a dozen different languages or dialects, and a still greater variety of scripts. The languages hitherto unknown are the Tocharian and two new Middle Iranian languages, Sogdian and Sacian (see above, 5).
is that the language is IE but not Indo-Iranian. In the treatment of the gutturals it goes with the "centum" group (cf. above, 1), and the vowel system is European rather than Aryan.

15. Hittite.—The decipherment of the cuneiform records of the Hittites, whose empire in Asia Minor flourished about 1450–1200 B.C., shows that their official language was one of IE descent, though with a large admixture of non-IE vocabulary. It presumably is the language of conquerors of IE speech, mixed with that of the old native Hittite element, the "Proto-Hittite" or better distinguished simply as "Hattic", which is also preserved in some records.

While the IE affinity of the official Hittite is now undisputed, a question has arisen as to the precise nature of the relationship—namely whether Hittite is co-ordinate with the other branches of the IE family, or whether, as some are convinced, it represents an offshoot from an early form of IE antedating the differentiaion of the other branches, in which case one would refer the relationship to an IE-Hittite (or "Indo-Hittite", for short) period. Opinions on this point are still divided, and one must await the fuller exploration of Hittite itself. The material is only partially published, and the grammatical analysis is in process of being worked out.

GREEK

OUTLINES OF THE EXTERNAL HISTORY

16. Archaeological discoveries have carried back the history of Greek lands, in the matter of material civilization, to periods far antedating any written records and long before the arrival of the historical Greeks of IE speech.

The population of the Neolithic Age, lasting till about 2500 B.C., is of unknown affinities, though presumably akin to that of the Danubian region.

In the early period of the Bronze Age, about 2500–2000 B.C., known as Early Helladic in mainland Greece, Early Cycladic in the Cyclades, and Early Minoan in Crete, the population was, there is reason to believe, akin to that of Asia Minor, constituting
what is conveniently called Aegean. Many names are survivals from this period, notably those with \(-νθ-,\) as Τιρυς, \(-υθος,\) Κρυθος, 'Ερυμανθος, etc., similar to the numerous \(nd\)-names of Asia Minor.

Actual records of pre-Greek speech are found in outlying regions. The language of the undeciphered Cretan script was undoubtedly pre-Greek, and some specimens of this script have been found in mainland Greece. There are three "Eteocretan" inscriptions from eastern Crete written in the Greek alphabet, two of them as late as the 4th cent. B.C. An archaic inscription of Lemnos is in a form of Etruscan.

Whether the Greek invasion began about 2000 B.C., corresponding to the break between the Early and Middle Helladic periods, or some centuries later is disputed. But it is reasonably clear and now pretty generally admitted that at least from the beginning of the Late Helladic, that is, the Mycenaean period (ca. 1600–1200 B.C.), the dominant element of the population was Greek. This is indicated by working back from the historical period and allowing for the prehistoric movements to be inferred from the relations of the Greek dialects. For the Doric invasion of about the 12th cent. B.C. was only the last of these prehistoric waves of Greek invasion, and must have been preceded by several centuries of Greek occupation. The identification of Hitt. \(Akkīyawā\) with \(*\text{Ἀχαία}" (cf. \'Aχαιοί, whence L. \(Aχινί\)), and of certain other proper names as Greek, in Hittite records of the 14th and 13th centuries B.C., is contested. But there are other reasons for believing in the early Greek occupation of parts of Asia Minor and Cyprus.

17. Some general characteristics of Greek.—From the time of the earliest records Greek appears, not as a unified language, but in numerous dialects. The differentiation of the larger dialect groups goes back to a remote period before the Greeks had entered Greece. Nevertheless there are many distinctive features common to all the Greek dialects, from which is to be inferred a period of common development, a relatively unified Greek language. Of such general characteristics some involve retention of the old in
contrast to changes elsewhere, while others are innovations, and
of these latter many are exclusively Greek while some have parallels elsewhere. Some of the most striking are as follows:

**Phonology.**—Preservation in large measure of the old vowel system, with the old diphthongs (73.2), and of gradation (117 ff.); pitch accent, with special laws regarding position, recessive accent in finite verb (218–20); αρ, ρα and αλ, λα from IE γ, l (114); α, αυ from IE υ (115); prothetic vowel before init. ρ, etc. (106), three series and three orders of stops, the latter including voiceless aspirates (128–30); labials, dentals, and gutturals from IE labiovelars (151–53); ι from IE init. s (161) and y (177); loss of intervocalic s (164); loss of IE y as a separate sound, its union with preceding consonant forming new groups (181 ff.), and its development initially in some words like dy, as in ζυγόν (177); change of τ to σ before ι, though in part only dialectic (141); loss of final stops (211.1); change of final m to n (211.2).

**Inflection, word-formation, syntax.**—System of five cases, with merging of the genitive and ablative, and of the dative, locative, and instrumental (228); dat. pl. in -σι (230.10); retention of IE dual (227); genitive absolute construction (abl. abs. in Latin, loc. abs. in Sanskrit, dat. abs. in Balto-Slavic); pers. pron. pl. ἄμμεσ, ἡμείς, etc. (299); ν-stem forms in τίς, τίνος, etc. (309); retention of subjunctive and optative in distinctive uses (326), and of aorist and perfect in distinctive uses (327); κ-perfect (406); aor. pass. in -να, -θνα (401); σθ-forms in middle endings (394.5); masc. a-stems, especially -τάς, -τῆς (484); productive type of nouns in -ες (452); formation of comparatives in -μων, -ων (293); comparative and superlatives in -τερος, -τατος (294); great productivity in noun composition (516) and in varieties of denominative verbs (363).


18. **External influence upon Greek.**—The place names with -νθ-, like Τιφών, Τιφθός, Κόρυθος, etc., have already (16) been noted.
as survivals of the earlier Aegean occupation. The influence of this Aegean speech was doubtless considerable, at least in vocabulary, but cannot be proved in detail, since our knowledge of Aegean speech is so slight. The lack of a satisfactory IE etymology for a given Greek word is no proof that it is not of IE origin; it merely invites the suspicion that it may be a loanword. Nevertheless there are many common words, for articles of commerce, plants, etc., and some titles (τύπαννος, ἄναξ, βασιλεύς), for which pre-Greek, Aegean origin is altogether probable.

Phoenician influence was not limited to the alphabet, which was adopted by the Greeks from the Phoenician traders. Various words for articles of commerce, clothing, measures, etc., were adopted. But some words common to Greek, Latin, and Phoenician, as those for 'wine', may be from a common Aegean source.

Latin influence begins only in the Hellenistic period, and other influences much later, so that these have no bearing upon classical Greek.

19. The Greeks of the heroic age, the period portrayed in Homer, were speakers of the "Old Hellenic" dialects representing the Attic-Ionic, the Aeolic, and the Arcadian-Cyprian groups, of which the last two have important characteristics in common and very probably represent divisions of a larger group co-ordinate with the first or Ionic in the wider sense. For a remoter period, the assignment of these groups to a particular series of waves of migration is somewhat speculative. But there are some grounds for the hypothesis that the earliest wave was the Ionic, covering Attica and the shores of the Saronic Gulf, and perhaps considerable parts of central Greece and the Peloponnesus. However this may be, the situation in the period preceding the Doric invasion was as follows.

Northern Greece beyond Attica and except in the far northwest was Aeolic—not only Thessaly and Boeotia which remained Aeolic in speech, with some West Greek admixture, but also Locris, Phocis, and southern Aetolia, as indicated by tradition, Mycenaean remains, and some linguistic evidence. Aeolic speech
was carried to Lesbos and the adjacent coast of Asia Minor, where it survived in its purest form.

Most of the Peloponnesus was occupied by those whose speech survived the Doric invasion in the inland Arcadia. From the eastern Peloponnesus (the later Doric lands, not of course from the later Arcadia) it was carried to Cyprus, where it remained dominant, the dialects of Cyprus and Arcadia being most closely akin; also to Pamphylia, where it remained in a more mixed form; and to Rhodes, Crete, Thera, etc., where some scattered traces of it survived in its later Doric. There are also some survivals in the Doric of Laconia and Argolis.

The West-Greek-speaking tribes were entirely out of the picture in the heroic age, and presumably located in the northwest. The Doric invasion which followed was part of a general West Greek expansion, which affected northern Greece scarcely less than the Peloponnesus; and brought about a greatly changed distribution of dialects—the one we know in the historical period. Phocis, Locris, and Aetolia became West Greek, and there is a strong West Greek admixture in Boeotian and Thessalian, so that these dialects share in some of the important West Greek characteristics (notably δίδωτι = δίδωκα, etc.), while retaining distinctive Aeolic characteristics. The West Greek admixture is greater in Boeotian than in Thessalian. In the Peloponnesus the dialects of Elis and Achaea are nearest to the Northwest Greek dialects of Locris and Phocis. Megara, Corinth, Argolis, Laconia, and Messenia became Doric. Doric speech was carried from Argolis and Laconia to Rhodes, Thera, Crete, etc., and the southern part of Asia Minor; from Corinth to Corcyra and the Acarnanian coast, to Sicily, etc.

The relationship between the Doric and the Northwest Greek dialects is very close. In fact, the general characteristics of the Doric dialects as a whole are common also to the Northwest Greek, in other words are really West Greek.

20. The classification of the Greek dialects has been indicated in the preceding paragraph, and is given in summary in the table
(2). We know these dialects mainly from the thousands of inscriptions, rather than from Greek literature, which shows only a few of them and would give no idea of the actual linguistic diversity. For Greece was as decentralized in language as in politics. As there was no unified Greece as a state, but only a number of city states and changing leagues, so there was no standard Greek language, but only a series of local dialects. Not only in early times, but also, in most parts of Greece, long after Attic had become the norm of literary prose, each state employed its own dialect, both in private monuments of internal concern and in those of a more external or interstate character, such as decrees in honor of foreigners, decisions of interstate arbitration, and, in general, communications between different states. Many of the dialects remained in common written use down till about 200 B.C., and some till the beginning of our era, though more or less mixed with Attic. How long they may have survived in spoken form, especially in remote districts, no one can say. Eventually they were replaced by the *kouvi* (22) both as the written and spoken language and from this is descended Modern Greek. The only exception is the present Tsaconian dialect, spoken in a small portion of Laconia, which is in part the offspring of ancient Laconian.

21. The literary dialects are mainly the result of literary evolution. They came to be characteristic of certain classes of literature, and their rôle once established, the choice of one or the other usually depended upon this factor rather than upon the native dialect of the author.

The language of Homer is Old Ionic, but with an admixture of undoubtedly Aeolic forms. These can only be explained as survivals from an earlier period of Aeolic lays. There was to be sure some actual mixture of dialect in the region near the border of Aeolic and Ionic, as in Chios. But the mixture in Homer is of a very different kind and cannot possibly be regarded as reflecting any natural spoken dialect. It is a literary mixture.

The Homeric language was closely imitated in all later epic poetry; it was followed in the main by Hesiod and by the elegiac and iambic poets like the Ionian Archilochus, the Athenian Solon,
the Megarian Theognis, etc.; and to some extent it influenced all Greek poetry.

Alcaeus and Sappho employed their native Lesbian, with some traces of epic forms. Their language was imitated by Theocritus in three of his idyls, and certain of their Lesbian forms were used by other lyric poets and even in the Doric choral lyric.

The language of the choral lyric is Doric, whether the poet is a Boeotian like Pindar, or an Ionian like Simonides and Bacchylides. This Doric, however, is not identical with any specific Doric dialect. It is rather a conventionalized Doric, an artificial composite, showing many of the general Doric characteristics, but with elimination of local features and with some admixture of epic and Lesbian forms. The language of Alcman is more nearly the local Laconian. A Sicilian literary Doric appears in the scanty fragments of Epicharmus and Sophron, and later in Theocritus. There are fragments of Doric prose by writers of Magna Graecia.

Corinna of Tanagra, whose fame was scarcely more than local, used her native Boeotian. The Boeotian, Megarian, and Laconian dialects appear in crude caricature in Aristophanes.

The earliest prose writers were the Ionic philosophers and historians of the 6th cent. B.C., and in the 5th cent. not only Herodotus, but Hippocrates of Cos, a Dorian, wrote in Ionic. In the meantime, with the political and intellectual supremacy of Athens, Attic had become the recognized language of the drama, and before the end of the 5th cent. was also employed in prose. The earlier prose writers as Thucydides, like the tragedians, avoided certain Attic peculiarities which were still felt as provincialism, as the native ττ and ρρ (πράττω, ἄρρην) for which they used the σσ and ρσ of Ionic and the majority of dialects, while later writers conformed to the Attic ττ, ρρ. Attic became the established language of literary prose.

22. Hellenistic Greek, or the κοινή, which was spread by the Macedonian conquests over a vast new territory and was permanently established in places which became leading centers of Greek civilization, is unquestionably based in the main upon Attic, with some Ionic influence (e.g. both ττ and σσ frequent).
But owing partly to the natural development of all living speech, even in Athens itself, and partly to its wide currency among non-Attic Greeks, this Hellenistic Greek became something quite different from the Attic of the older Attic writers. "Atticism" was a protest against the innovations, an attempt to hold fast to the old Attic tradition and conform to the language of the great Attic writers. Lists were made of expressions which were to be approved as Attic as contrasted with those to be rejected as Hellenistic. Thus "νεῖν καὶ νῆχεσθαι Ἄττικοι. κολυμβᾶν Ἑλλῆνες." The latter is the Modern Greek word for 'swim', and so in many other cases the Hellenistic words are those that survived, just as the words disapproved by the Roman grammarians as vulgar are those that survive in the Romance languages. The language of the New Testament is Hellenistic Greek, with considerable variation in the degree of colloquialism.

Hellenistic Greek is the source of Modern Greek. Many Latin words were adopted, some in the early centuries of Roman rule, others in the early Byzantine period when the court at Constantinople was Latin-speaking. In later times some Slavic and many Turkish words were borrowed. But mixture in vocabulary is common to most of the present European languages. There were also changes in pronunciation, in syntax, and in the meaning of words, similar to the changes that have taken place in the other European languages. The present spoken language is naturally quite different from ancient Greek, but it is its lineal descendant in the same sense that Italian is a modern form of Latin.

23. The extent of Greek-speaking territory.—Long before 1000 B.C. Greek speech covered the Greek mainland, the Aegean islands including Crete, the western coast of Asia Minor, Pamphylia on its southern coast, and a part of Cyprus. Before 500 B.C., after the period of western colonization, southern Italy and a large part of Sicily were Greek, and there were flourishing Greek colonies on the northern African coast (Cyrene, etc.) and on the Mediterranean coast of Gaul and Spain. Other colonies covered the northern coast of the Aegean and the shores of the Black Sea. The Macedonian conquests left some knowledge of Greek in some
even distant parts of the East, and Greek became the language of the educated classes in Syria, Palestine (so in the time of Christ, when the vernacular was Aramaic), and Egypt, where it remained the official language even under Roman domination. The Hellenization of interior Asia Minor belongs mainly to the Byzantine period.

Southern Italy and Sicily, and the Greek colonies in Gaul and Spain, were eventually Romanized, but not fully until well into our era. After the Arab conquests the whole northern fringe of Africa and the lands on the eastern Mediterranean became Arabic in speech. Slavic peoples occupied much of the previously Hellenized Thrace and Macedonia. The Turkish conquests made Asia Minor Turkish in speech, except for the Greeks on the coast and in a few scattered communities in the interior, and in the last years these Greeks have been expelled.

Thus the present Greek-speaking territory, except for the loss of the Asia Minor coast, is substantially what it was in the old Greek world before the western colonization and the Macedonian conquests.

ITALIC. LATIN AND THE ITALIC DIALECTS

OUTLINES OF THE EXTERNAL HISTORY

24. In contrast to Greece, which in the historical period was a country of one language though many dialects, Italy was still a land of many languages—non-IE, IE but not of the Italic branch, and those that were sister languages to Latin but not dialects of it.

Etruscan, the language of that people which had the most profound influence upon early Roman civilization, is certainly not IE, and there is increasing evidence that it is related to the old languages of Asia Minor and the pre-Greek "Aegean". The tradition of the Lydian origin of the Etruscans (Hdt. 1. 94) may be substantially true. There are about eight thousand Etruscan inscriptions, most of them mere epitaphs, but a few of some length. The force of certain suffixes and the meaning of a few
words are known, but the language as a whole still resists interpretation.

Ligurian, along the Gulf of Genoa, is now believed to be IE, intermediate between Italic and Celtic. The linguistic material is very scanty—local and tribal names, together with the "Leptonetic" inscriptions, from the region of the North Italian lakes, which probably represent a form of Ligurian.

There are nearly two hundred short Venetic inscriptions from the land of the Veneti at the head of the Adriatic, and about as many Messapian from Calabria. Both are IE, and perhaps belong with Illyrian. A few short inscriptions from the region of Picenum, erroneously called Old Sabellian, are unintelligible and of unknown relations.

Celtic tribes, which poured in from the north and sacked Rome in the early 4th cent. B.C., settled in northern Italy, Gallia Cisalpina. Greek colonies occupied nearly the entire southern portion of Italy, and this "Magna Graecia" remained Greek in speech until late times.

26. The languages that constitute the Italic branch of the IE family fall into two distinct groups, Oscan-Umbrian and Latin-Faliscan.

The Oscan-Umbrian group, so named from its two most important members, includes also the minor dialects of central Italy, as Paelignian, Marrucinian, Vestinian, Volscian, Marsian, Sabine, etc.

Oscan, though the name comes from the Campanian Oscans, was the language of all the Samnites. In one of the Samnite wars the Roman consul sent out spies acquainted with the Oscan language (Livy 10. 20). The Oscan inscriptions, over two hundred in number, are from Campania, Samnium, northern Apulia, Lucania, Bruttium, and some written by the Campanian Mamertines in Messana. Most of them date between 200 B.C. and the social war in 90–89 B.C.

Umbrian is known mainly from the Iguvinian Tables, seven bronze tablets from the ancient Iguvium. They contain an account of the ceremonies of the Atiedian Brothers, similar in general character to the Roman Acta Arvalium.
Oscan and Umbrian are written partly in the native Oscan and Umbrian alphabets, both derived from the Etruscan, and partly in the ordinary Latin alphabet; a few Oscan inscriptions also in the Greek alphabet.

26. Oscan-Umbrian has much in common with Latin, reflecting a period of common Italic development. The inflectional system is substantially the same in broad outlines and in many details: the same types of declension and conjugation; the merging of ablative and instrumental; extension of the ablative singular in -d from the o-stems to the other declensions; partial fusion of i-stems and consonant-stems (going farther in Latin than in Oscan-Umbrian); use of the interrogative-indefinite pronoun as relative; fusion of aorist and perfect, and of subjunctive and optative; formation of imperfect indicative and imperfect subjunctive; the gerundive. In phonology, the change of the aspirates to fricatives (also Greek, but later) and especially of dh to f. In vocabulary, common words for 'say' as L. dicō, Osc. deicum (in other IE languages 'point out', and different words for 'say'), or 'law' as L. lēx, Qsc. ligud.

27. There are many striking differences between Oscan-Umbrian and Latin, in general more radical than those between the Greek dialects. Thus, to mention only a few:

Phonology.—p and b in contrast to L. qu and v from the labiovelars (151, 152), as Osc. pis 'quis', Umbr. benust 'venerit'; retention of Italic medial f in contrast to L. b or d, as Umbr. tefe 'tibi', Osc. mēfiái 'mediae'.

Inflection.—Nom. pl. of -ā-stems in -ās, of o-stems in -ōs; infinitive in -om, as Osc. ezum, Umbr. erom 'esse'; different formation of the future and the future perfect, as Umbr. ferest 'feret',

1 In quoting Oscan and Umbrian it is customary to distinguish the forms written in the native alphabets and those written in the Latin alphabet by some difference in type, here as Osc. fākiád 'faciat', but factud 'facito'. The signs i and ú in Oscan words, as pīd 'quid', púd 'quod', transcribe certain differentiated forms of the letters i and u that denote differences in quality. Marks of quantity are not supplied, even where the length of the vowel is beyond question, as in Osc. gen. sg. eītuas (cf. L. pater familias), gen. pl. egmasum (L. -ārum).
benust 'venerit'; an f-perfect and others, but none corresponding to the L. vi-perfect.

Vocabulary.—her- 'velle', toutā- 'civitas, populus', medes- 'ius', pūr- 'ignis', ner- 'vir, princeps'.

Oscan is the most conservative of all the Italic dialects, and is rivaled only by Greek in the retention of the inherited vowel system with the diphthongs intact.

28. Faliscan, the language of the district of Falerii in southeastern Etruria, is known from a number of short inscriptions. It is closely related to Latin.

Latin, though in name the language of Latium, is in reality, as we know it, the language of the city of Rome. There were other local dialects in Latium, of which we have some indications in the case of Praeneste and Lanuvium.

29. The earliest Latin is that of some inscriptions, but this material is very meager, almost insignificant compared to what we have for Greek. The oldest is that on the gold fibula from Praeneste, of about 600 B.C., reading Manios med jhefaked Numasioi 'Manius made me for Numerius'. The forum inscription of about 500 B.C. is so fragmentary that only a few words are certain. The Duenos inscription of the 4th (?) cent. B.C. is a puzzle. There are many short inscriptions of the 3d cent. B.C. The earliest inscription of considerable length, and the most important one for Early Latin, is the Senatus consultum de Bacchanalibus (SC de Bacch.) of 186 B.C.

The literary remains of Early Latin comprise the fragments of Livius Andronicus, Naevius, and Ennius, the prose of the elder Cato, and the comedies of Plautus and Terence.

30. Expansion of Latin.—The spread of the Latin language followed, at longer or shorter interval, the advance of the Roman power. It first displaced the local dialects of the rest of Latium and those of the neighboring Sabines, Aequians, Marsians, Volscians, etc., later the Umbrian, Etruscan, Venetic, Celtic, etc., later still the Oscan, and last of all the Greek in the south. By 100 B.C. Italy was mainly of Latin speech, except for the Oscan and Greek in the south. But already before this, Latin had been
carried beyond Italy by the Roman conquests—to Spain, southern Gaul, Illyria. In these and the lands later occupied Latin displaced the native languages, except in the East where Greek with its old prestige held its own.

31. Vulgar Latin.—The Latin spoken over this vast Romanized territory was not the formal Latin of the classical writers. It was the more colloquial, popular, or vulgar Latin, which shows itself to some extent in Plautus and Terence, and, after being submerged in the classical period, reappears in Petronius, who exhibits it intentionally, and in various writers of the early Christian centuries, who reveal it unintentionally.

Among the more important of these sources are: some of the early Christian Fathers, as Tertullian; the older Latin versions of the Bible, the so-called Itala, preceding the vulgate; a veterinary treatise, the Mulomedicina Chironis; the Peregrinatio ad loca sancta of the Spanish (?) nun Aetheria, written in the late 4th cent. A.D. (or, some think, the 6th); the Historia Francorum of Gregory of Tours; various chronicles and documents of the Merovingian period in France.

The authors of these works did not deliberately choose to write in colloquial as contrasted with classical Latin. Gregory of Tours apologized for his ignorance of correct Latin. Even the scribes of the Merovingian formulae, some of them a hopeless jumble for the Latinist, were trying to write as good Latin as they could. There is no document before the emergence of French, Italian, etc., which can be trusted as a full and faithful representation of the current vulgar Latin speech. The latter merely shows through, but that it does unmistakably. Confusion of spelling discloses the changes in pronunciation. The main skeleton of Latin structure remains, but cases are often confused, prepositional phrases encroach on the old genitive and dative, and periphrastic expressions for tenses and moods begin to appear. Changes in the meaning of words, anticipating their modern uses, are conspicuous; such as mittō ‘throw, put’ (cf. Fr. mettre, It. mettere) demoror ‘dwell’ (cf. Fr. demeurer), etc.

In the time of Charlemagne the knowledge of literary Latin was
revived, and from this time on the written Latin, though far from classical, is much less instructive for vulgar Latin than that of the preceding period.

32. This Vulgar Latin, from which the Romance languages have sprung, is conveniently so called, to distinguish it from the classical Latin. But it is not to be pictured too precisely, as if it were the Latin of a single social class and the same everywhere. It was, rather, a composite of the speech of all classes, and subject to growing local differences, but always more or less influenced by the literary language.

The fact that the countries were Romanized at widely different periods, so that the Latin first carried to Spain was different from that carried to other regions by the later conquests, or again that the peoples of the different countries were of diverse speech, have been considered by some scholars as the fundamental factors in the differentiation of the Romance languages. In theory they might well be so, but there is little concrete evidence to support this. The assumption of an early development of markedly distinct African Latin, Spanish Latin, etc., has proved largely illusory. It appears rather that, owing to the extensive intercourse between all parts of the empire and the centralizing influence of the Roman organization, the language remained fairly uniform during the first centuries of our era.

It was after the virtual collapse of the Western Empire about A.D. 400, when it was overrun by invaders, when there was no longer any strong centralizing force and knowledge of literary Latin became almost extinct, that the tendencies toward linguistic variation had full sway. Not a few languages at first but a great number of dialects emerged.

33. By new centralizing forces, political and ecclesiastical, larger groups were formed, and within these, from dialects of regions enjoying political or intellectual supremacy, arose the great literary languages—French from the dialect of Paris, Italian from that of Florence, Spanish from that of Castile. In the south of France, Provençal gained the position of a literary language and for centuries resisted the domination of French. In Spain, Cata-
lan resists the domination of (Castilian) Spanish and is reckoned a distinct language. Portugal remained outside the political unification of the rest of Spain, and so developed its own literary and national language. The Rhaeto-Roman dialects in parts of present Switzerland and northeastern Italy are a series of numerous dialects which cannot be reckoned as either French or Italian dialects, and of which some are used locally as written languages, as Romansh, Upper and Lower Engadine, Ladin, Friulian.

Rumanian reflects not so much the short-lived Roman occupation of Dacia as the much longer and more intensive Romanization of Illyria. The Romanized inhabitants were submerged by the invading Slavs and adopted a vast number of Slavic words. Rumanian was not written until the 16th cent. A.D., and then in the Slavic (Cyrillic) alphabet, which was not finally replaced by the Latin alphabet until 1873. In spite of the strong Slavic admixture in the vocabulary, the language is clearly a derivative of Latin, and is of especial interest to the student of vulgar Latin because, in contrast to the western Romance languages, it was completely cut off from influence of the literary Latin until modern times.

Besides the language of present Rumania (called more specifically Daco-Rumanian), a form of Rumanian is spoken by the Vlachs in the northern part of present Greece.

The Latin of the Dalmatian coast also developed into a special dialect, of which a relic survived in the island of Veglio until 1898.

The various forms of Rumanian, the Dalmatian, and the large Latin element in Albanian, together represent the Latin as it developed in the Balkan region.

34. External influence upon Latin.—The earliest influence, in language as in civilization, was that of the neighboring Etruscan. The name of Rome is thought by many scholars to be of Etruscan origin, though the evidence is by no means conclusive. An Etruscan medium is probably an important factor in the transmission of the alphabet (69), and certainly in the distortion of a number of Greek words, especially proper names (cf. G. Ταυρύμηθης, Etr. Catmītē, L. Catamīlūs). L. persōna seems to be a derivative,
through a denom. *personāre, of a *persō, -ōnis, from an Etr. φερεύ which appears written beside a masked figure, this φερεύ being possibly a mutilation of G. πρόσωπον. Etruscan origin is for one or another reason, for example the form of the suffix, probable in the case of a number of Latin words, where with our slight knowledge of the Etruscan vocabulary it is not possible to point to the Etruscan form.

By far the most extensive and persistent influence was the Greek. Many words were borrowed at a very early period by way of commerce or from the Greeks of Magna Graecia, often in a form earlier than that familiar in literary Greek and early enough to take part in certain Latin phonetic changes. Thus G. *ξαλαιφά (ξαλαιφά) became *ξαλαιφά, oliva (80.6), Αχαιοί Αχινί, τάλαντον talentum (110.1), etc. The early loanwords generally reflect the ā of Doric, etc., as màchina from μαχανά not Att.-Ion. μηχανή. In the later period literary Latin is full of words borrowed from literary Greek, and the influence extends to syntax and style.

A few Latin words are shown by their forms to be borrowed from some dialect of the Oscan-Umbrian group, as bōs ‘ox’, popina ‘cookshop’ beside coquina (155.6), rūfus ‘red’ beside ruder (140).

There are several of Celtic origin, notably for various kinds of vehicles, as carrus, raeda, petorritum, carpentum, etc. There are some of Germanic origin in late Latin, as burgus ‘castile’.

**SOME GENERAL FEATURES OF LINGUISTIC HISTORY**

35. The history of language is one of change. Every living language is in process of change, imperceptible at a given moment, but conspicuous when one compares different periods. The change may be in the form of words, in their meaning, or in structure.

Changes in form are due mainly to certain regular phonetic processes affecting the speech sounds, but also in part to the analogical influence of other words. To understand the former, it is necessary to have some knowledge of the mechanism of speech and the classification of speech sounds.
MECHANISM OF SPEECH AND CLASSIFICATION
OF SPEECH SOUNDS

36. Speech sounds (hereafter called simply "sounds") are vibrations of air produced by the organs of speech (their genetic aspect) and perceived by the organs of hearing (their acoustic aspect). The production and perception are co-ordinated through the motor and auditory centers in the brain, and it is this combined mental image which is the element of continuity in the history of a sound. For the sound once uttered vanishes. When we speak of the change of a given sound, as of \( \dot{a} \) to \( \sigma \), as if it had an independent life of its own, we are merely employing a convenient figure of speech.

It is the genetic aspect that is the main basis of the classification of sounds and will be considered in the following.

The number of distinct sounds that can be produced by the organs of speech is infinite, and those actually employed in language would run to many hundreds. But in any one language there is only a limited number, usually between the limits of thirty and sixty. These are the pattern sounds or "phonemes" of the particular language.

37. The lungs, controlled by the chest and abdominal muscles, act like bellows and furnish the stream of air. This passes up through the windpipe to the chamber at the top, the larynx, in which are situated the vocal cords, and hence to the mouth and nose, which act as resonance chambers of variable shape.

The vocal cords are not like violin strings, but are the edges of two folds of membrane, more like the edges of flaps of rubber. They may be drawn together and made tense by muscular action, so that they are set in vibration. In breathing they are left open, and in the production of some sounds they are equally inactive, while in others they vibrate. According as there is or is not vibration of the vocal cords, sounds are classified as "voiced" ("sonant") or "voiceless" ("breathed", "surd"). The vowels are voiced, and so usually the liquids and nasals. The stops and fricatives (cf. below), including the sibilants, occur in pairs, voiceless (also with stronger aspiration) and voiced (also with
weaker aspiration), as English \( p:b, t:d, f:v, s:z \), etc. The vibration can be felt by putting one's finger on the "Adam's apple", or more clearly through the skull when the ears are covered tight by the hands. Contrast the \( s \) of \( sin \) with the \( z \) of \( zero \), each pronounced by itself without following vowel.

The vocal cords are also subject to alterations in length and tensity, with consequent variation in the frequency of vibrations. These constitute differences in pitch (tone, intonation), which in our own current speech (as distinguished from song) are observed mainly in sentence modulation, as in the rising tone of interrogation, but in some languages as ancient Greek and Sanskrit are the dominant elements of word-accent.

Apart from the action of the vocal cords, the distinguishing characteristics of our sounds are the result of overtones produced in the resonance chambers of the mouth or nose. Of these two the less important and the simpler is the nose. This functions only in the nasal sounds produced when the nasal passage is left open. If the stream of air is cut off in the mouth and issues only through the nose we have nasal stops like \( m \) or \( n \). If the air issues through both nose and mouth we have nasal vowels as in French. The nose is a rigid chamber, not subject to alteration in shape, and the difference between the various nasal sounds is caused by different mouth positions.

In distinction from the nasals, all other sounds are "oral". The nasal passage, open in breathing, is cut off by raising the velum or soft palate, and the mouth alone acts as the resonance chamber. Owing to the mobility of the jaws, lips, and especially the tongue, the chamber of the mouth may assume a great variety of shapes, resulting in as many different sounds.

Of the consonants some are formed with complete closure, by which the stream of air is wholly blocked, followed by a sudden release of the breath, as, for example, \( p \) with closure of the lips. These are called "stops" ("explosives", "mutes"). The nasal consonants are stops, so far as concerns the passage of the breath
through the mouth (the closure is the same for \textit{m} as for \textit{p}), but the flow of breath through the nose is continuous.

The release may be followed by an added puff of breath, as in \textit{uphill}. Then we have aspirated stops (aspirates). Our English initial stops in words like \textit{pen} are distinctly aspirated by comparison with the French.

Others are formed with close approximation (not complete closure) and resulting friction, as \textit{f} with friction between the lower lip and upper teeth. These are called "fricatives" ("spirants").

The distinctions so far made, as stop, frictive, nasal, voiceless, or voiced, may be conveniently called "orders", as contrasted with the "series" (or "classes") depending upon the position where the closure or friction takes place.

Between lips and throat there is a continuous range of possible points of contact. A rough division of this into three main areas and the recognition of three series, labial, dental, and guttural (palatal), is the general basis of classification, and sufficient for some languages. But labials include bilabials, as \textit{p, b, m}, and labiodentals, as \textit{f, v}. The dental stops, \textit{t, d}, differ considerably in different languages, as the French, which are pure dentals, from the English in which the tongue touches the gums back of the teeth; and sometimes there are two distinct series in the same language, as in Sanskrit. The area back of the dental is the most extensive, and "guttural", used here as the general term, covers the greatest diversity. There is some difference between the gutturals of English \textit{card} and \textit{kin}, much more between those of German \textit{kann} and \textit{Kind} or \textit{doch} and \textit{ich}, and frequently one must recognize two distinct guttural series, a front ("palatal", "praepalatal") and back ("velar").

The series as represented in English are then:

\textit{Labials.}—The bilabial stops, voiceless \textit{p}, voiced \textit{b}; the labiodental fricatives, voiceless \textit{f}, voiced \textit{v}; the nasal \textit{m}.

\textit{Dentals.}—The stops, voiceless \textit{t}, voiced \textit{d}; the (interdental) fricatives, written \textit{th}, voiceless in \textit{thin}, voiced in \textit{then}; the nasal \textit{n}.

\textit{Gutturals.}—The stops, voiceless \textit{k}, \textit{c} (as in \textit{cat}), voiced \textit{g} (as in
gel); the guttural nasal [ɣ], as in ink [ɪŋk], finger [fɪŋɡə(r)], ring [rɪŋ]. There is no guttural fricative, of which German ch is an example.

The "sibilants" form a special class of fricatives and are so named from their acoustic character, rather than from the manner of production. In the voiceless s of sin and the voiced z of zero (often written s as in rose) the tongue forms a narrow channel through which the breath is projected onto the teeth, with a resulting hissing sound. In the voiceless [ʃ] of shake, sure and the voiced [ʒ] of assure, the channel is broader and the stream of air more spread out.

The "liquids", as the term is now applied (it has no precise descriptive value), are l and r. The l is produced by touching the tip of the tongue to the palate, leaving openings at the sides through which the breath passes. For the r the sides of the tongue form the contact, leaving a channel down the middle through which the breath passes over the tip of the tongue. But in both there are several variable factors, and there is the greatest variety among the l- and r-sounds of different languages.

The vowels are produced without closure or friction. Their differences depend upon the various shapes of the resonance chamber caused by the position of the lips and tongue. The lips may be rounded or unrounded. The tongue may be raised high in the front of the mouth or in the back, or it may lie flat; its position may be intermediate. Hence vowels are distinguished as rounded or unrounded, and by extremes as front or back and as close (high) and open (low). Thus the u of pull is a close (high) back rounded vowel, while the i of pit is a close (high) front unrounded vowel. The French u and the German ü are front rounded vowels. Open and close are relative terms and one speaks of an open or close o or an open or close e.

1 Here and in the following square brackets are sometimes used to enclose phonetic transcriptions (in accordance with a current practice), but the brackets are omitted where there seems to be no danger of ambiguity.

The symbols are mostly those of the International Phonetic Association, now widely employed. But [y], not [j], for the y of yet; [u], not [y], for the Fr. u; [s] and [z] for the sibilants of ship, assure; the macron for length of vowels.
The semivowels, w of wet and y of yet, are produced with virtually the same position as the vowels u and i, but with a rapid glide to the following vowel, so that they have the function of consonants.

The h is merely a strong breathing. There is no independent mouth position, which is that of the coming vowel.

38. A classification of the Greek and Latin sounds is given here for further illustration of the preceding. More detailed
statements regarding Greek and Latin pronunciation will be made in various parts of the phonology, for example, on the qualitative difference between long and short vowels in 96, 97.

VARIETIES OF PHONETIC CHANGE

39. According to the relation between the earlier and later sound, without regard to any special conditions governing the change, the following types of phonetic change may be noted:

VOWELS

1. Change in quantity. Lengthening and shortening of vowels.

2. Changes in quality, as

Rounding, as ā > ā in NE home from OE hām, a to open o [ɔ] in NE all, water, a > u in L. occupō.

Unrounding, as u > [ʌ] in NE but (in contrast to pull).

Fronting, as Fr. u in lune from L. lūna, or Att. v. If fronting is followed by unrounding the result is i, as in the modern pronunciation of G. v.

Raising (low to high, or open to close), as ð > [ʌ] and ð > [i] in NE doom, meet; (raising and fronting) ā > [ɛ] in NE name, G. ā > Att.-Ion. η, L. a > e, i in acceptus, accipīō.

Lowering (high to low, or close to open), as e > [a] (before r) in heart (cf. NHG Herz), parson (from L. persōna), G. dial. παράπα = παρέπα.

3. Change of diphthongs to monophthongs, as in L. oinos > ūnus, deico > dicō, Gmc. *ains (cf. Goth. ains) > OE án ‘one’.

4. Change of monophthongs to diphthongs, as OE i, u > [ai], [au] in NE mine, mouse.

CONSONANTS

5. Change in series, as in NE laugh (cf. NHG lachen), Osc. pod = L. quod, Rum. lapte from L. lacte.

6. Change in order, as b > p in L. scrip̄tus (scribō), p > m in L. somnus (from *swepnos), p > b > v in Fr. rive (from L. ripa). The Germanic shift of stops (“Grimm’s Law”) consists of changes in order within the same series, as p > f, bh > b, b > p, t > [θ], dh > d, d > t, etc. (133).

7. Change in order and series, as inItalic dh > th > [θ] > f (129.3).

s > z > r (“rhotacism”, 166).

8. Among other consonant changes are l > r or r > l (mostly dissimilation, 40.9).

s > h, as in G. ἔπα: L. septem (161).

y > h, as in G. ἓπα: L. iecur (177).

g > h, as in L. vehō: G. δχος (143).
The change of any consonant to $h$ is really its loss (that is, the elimination of its distinctive articulation) with merely its breath impulse remaining. This too may be lost, as the $h$ from original intervocalic $s$ in Greek (165) and eventually the initial $h$ (168).

40. According to various special conditions under which the change takes place the following types are important:

**VOWELS**

1. Vowel quantity affected by following consonants, as in Latin lengthening before $ns$, etc. (99), shortening before $nt$, etc. (100), or in English lengthening before $ld$ (OE ald > ãld > NE old).

2. Vowel quality affected by following or preceding consonants, as L. $e > i$ before $n+$guttural (79.1), $o > u$ before $nc$, $mb$, etc. (82.1), $e > o$ after $sw$ (80.2), NE $a > [ə]$ before $ll$, etc., or after $w$ (call, water).

3. Anaptyxis.—This term (ἀνάπτυξις ‘unfolding’) is commonly applied to the evolution of a vowel out of certain consonant groups, mostly such as contain a liquid or nasal, as in L. *pōclom > pócolom, pōculum (107), Osc. aragetud from *argentōd, NE Henry in three syllables, as often in Shakespeare.

4. Syncope, that is, total loss of a vowel, in unstressed syllables, as in L. dexter, caldus, nec (108). When it is a final vowel that is lost, this is also called “apocope”.

5. Weakening of vowels in unstressed syllables, as in L. adigō, comprimō (109), or in the unstressed syllables of NE human, purpose [ə], added, honest, image [ə].

6. Assimilation of vowels in adjacent syllables, as in L. nihil from *ne-hil (79.2). The German “umlaut” in Mann, pl. Männer; Gott, pl. Götter; Fuchs, pl. Füchse, is partial assimilation, namely fronting before the front vowel of the next syllable. So in NE man, pl. men; goose, pl. geese; mouse, pl. mice (OE mūs, pl. mys), where the vowel of the second syllable, to which that of the first was partially assimilated, was later lost.

   a. The Greek “epenthesis” in βαίνω from *βαριων, χαιρω from *χαριω (188) is somewhat similar, but here it is only the consonantal $t$ that has this effect on the preceding vowel.

**CONSONANTS**

7. Consonant affected by following vowel, as G. $r > ß$ before $t$ (141). So the “palatalization” of a guttural before a front vowel, often with its further development to [ts], [s] or [ts], [s], as in It. cento, Fr. cent, etc., from L. centum, or in NE chin, cheese (cf. NHG Kinn, Kūse).
8. Assimilation of consonants

1) Of contiguous consonants
   a) Assimilation of the first to the second, best described as “anticipatory”, but commonly called “regressive” (because the action is regressive, that of the second upon the first).
      L. *scribōs (scribō) > scripsus (assim. in order only, “partial”) >
      It. scrittó (in series also, “complete”).
      IE *sẉε̣p̣ṇos > L. somnus (“partial”) > It. sonno (“complete”).
   b) Assimilation of the second to the first, commonly called “progressive” (because the action is progressive). G. *ἀλλος > ἀλλος, L. *ferse > ferre, *velse > velle.

2) Of non-contiguous consonants
   a) Regressive: IE *pẹṇọẹ (Skt. pāṇca) > L. *quenque, quīnque.
      IE *pẹq̣ẉō (Skt. pāc-) > L. *quequō, coquō.
      OFr. cercher (whence NE search) > Fr. chercher.

9. Dissimilation of consonants, mostly of non-contiguous consonants, especially liquids.
   a) Regressive, change (or sometimes loss) of former. Dissim. of aspirates
      in G. τίθημι, etc. (132).
      L. quīnque > vulg. L. cinque (Fr. cinq, etc.).
      G. *ἀλγαλός (ἀλγος) > ἀργαλέω.
      L. peregrinus > late pellegrinus (cf. NE pilgrim).
      G. φαράπια > dial. φαρπιά (loss).
   b) Progressive, change (or sometimes loss) of latter. G. κεφαλαλγιά
      (ἀλγος) > later κεφαλαργιά. L. *Florāria (from *Flōsāsia) > Flōrāia.
      ME marbre (Fr. marbre from L. marmor) > NE marble. G. φρήτρα >
      dial. φήτρα (loss).

10. Transposition of consonants

1) Of contiguous consonants
    G. (*τε-τκ-ω redupl. pres. like γί-γν-ομαι) > τκτω. L. *vepsā > vespa,
    like OE waeps > NE wasp. OE āscian and āsian, NE ask and dial.
    ax.
    Cf. the transposition of liquid and vowel. OE pridda > NE third, L.
    formāticum > Fr. fromage, G. πρότι > dial. πόρτι.

2) Of non-contiguous consonants
    G. *σπεκτομαι (cf. L. specid) > σκέπτομαι, late L. parabola > Sp.
    palabra.

11. Development of new consonant out of certain groups. G. *αρόσ > ἀνδρός,
    *α-μμότος > ἀμβατός (201.i). L. *emtus (emū) > ēmtus, *sūṃsi (sūmō) >
    sūṃpsii (195). L. camera (with syncope) > Fr. chambre (NE chamber),
    OE þunor, gen. þunres > NE thunder, vulg. L. esseere (with syncope) >
    OFr. estre (Fr. être).
12. Loss of consonant in group. G. *γεγράφω<νται >γεγράφθαι, *διδάκτω<ν >
διδάσκω, L. quintus >quintus, *torcis (torqueo) >tortus. NE castle, hasten, with l lost in pronunciation.

13. Haplology, loss of one of two successive similar syllables. G. ἀμφορεύς (Hom.) > ἄμφορεύς, L. *sēmi-modius > sēmodius, late L. idōlatria (from G. εἰδωλο-λατεῖα > idolatria (NE idolatry).

14. Changes in external combination ("sentence combination", "sandhi"). Many changes are conditioned by the relation of a word to the rest of the sentence. The same word may show differences of form according as it is emphatic or unemphatic or according to the preceding or following word. Thus OE an 'one' (the numeral), when unemphatic and used for the indefinite article, became an and this again gives the "sentence doublets" NE an and a according as the next word begins with a vowel or consonant. Here belong such matters as elision, crasis, and the change of final consonant in combination with the initial of the following word. There is much of all this in colloquial speech, only a small part of which is commonly represented in the writing. Cf. the pronunciation of this year, don't you with the same consonant changes that are observed in the interior of a word in mission, nature; or the pronunciation of and as [ŋ] in bread and butter; or the French "liaison", as vous [vu] but vous [vuz] avez.

a. There is a great difference in the degree to which such changes are noted in the written language. In classical Sanskrit they were brought to a rigid system which must have been highly artificial. In the Celtic languages certain mutations of consonants are regularly observed, as W. pen 'head' interchanging, according to the preceding word, with hen, phen (pronounced fen) and mhen. But in general such changes are most frequently indicated in the older and cruder writings, and in the gradual standardization of a written language the tendency has been to disregard such variations in the form of a word and establish a single spelling. This process may be observed in detail in comparing Greek inscriptions of different periods (cf. 214.6).

PHONETIC LAWS. SCOPE, REGULARITY, AND CAUSES OF PHONETIC CHANGE

41. Scope.—Phonetic laws are not to be understood as laws of universal validity like certain physical laws. There are no such laws applicable to all languages or even to all periods of the same language, though of course many changes do recur in different languages and periods. The phonetic laws are merely empirical formulae of observed regularity in a given language or dialect at a given period. Even with this limitation they differ in scope, some being generic and others conditioned.
Generic changes are the sweeping changes not subject to more special conditions, like that of OE ā to ē in NE home, bone, stone, etc., or of G. α to Ion. η.

Conditioned changes are those subject to special conditions of surrounding sounds, position (as initial, medial, final), accent, etc., like those surveyed in 40 and many others.

42. Regularity.—The phonetic changes, whether generic or conditioned (but always within the same language or dialect and period), show a remarkable regularity, far greater than can be observed in any other phase of linguistic development or anywhere else in the domain of humanistic studies. This is evident from the mere fact that the great majority of phonetic changes need not be given for a particular word only, but can be stated in formulae that cover whole masses of words. The progression of stops in Germanic ("Grimm’s Law") is only an especially conspicuous and large-scale example of the "laws", named after their discoverers or more often nameless, that are observed in the historical study of all languages.

The famous postulate of the "invariability of the phonetic laws", that is, that the phonetic laws as such under like conditions are without exceptions, is now less fervidly discussed than in the years following its first assertion (by Leskien in 1876). The factors involved in "like conditions" are more complicated than was once realized. Nevertheless, this postulate may still be maintained as essentially true, and in any case has served its purpose as a protest against the assumption of casual, mere chance, exceptions, and as a working hypothesis guiding procedure. Great progress has been made, and continues, in the explanation of apparent irregularities. Many such still remain unexplained, and in this book in many instances it has been thought preferable merely to state the apparently conflicting facts rather than to repeat complicated and doubtful explanations. But this is not to doubt that there should be some explanation.

43. Cause of phonetic change.—Why does a sound change at all and why does it change in one direction rather than in another? As is so often the case in other branches of science, what seems to
the layman the simplest question, one to which a prompt and precise answer is expected, may be the most difficult. There is in fact no generally accepted single cause of phonetic change. There are various theories, various alleged causes, of which one or another may be regarded by certain scholars as the dominant one, but no one of which is an adequate, compelling cause.

The geographical theory, influence of climate.—This is an old and popular view, but without scientific support. The same phonetic changes that have been attributed, with some plausibility in an individual case, to a warm or cold climate or to a mountainous or flat country, respectively, are observed to occur also under the opposite conditions. Furthermore, countless phonetic changes have occurred where there was no change of geographical conditions.

The ethnographic or substratum theory.—Certain changes have been attributed to the retention of native speech habits after a people has adopted a new language, as in the case of the adoption of Latin by the Celtic-speaking Gauls. This is plausible in theory, but there is scarcely a bit of concrete evidence for such direct influence that is generally accepted. Some more indirect effect upon the adopted language, from the inherited temperament of the people adopting it, may be assumed. But the influence of national temperament upon language, while one feels that there must be such influence, is something too vague to be definitely proved. Many of the suggestions along this line are romantic and fantastic, as when certain changes are attributed to a certain people's love of liberty (why not all changes and among all peoples?). Whatever kernel of truth there may be in the substratum theory, its scope is certainly exaggerated by those who make it the primary factor in phonetic change. Countless changes have occurred in periods of a language when no racial mixture could be involved.

There are various theories connected with the acquisition of language by children. But there is no substantial evidence that the permanent phonetic changes originate with children.

The ease theory, economy of effort.—This is the most seductive theory, since it contains an element of truth that is open to every-
one's observation. Many of the conditioned changes, such as the assimilation of consonants, are plainly in the direction of easier co-ordination, a less abrupt shift of articulation. But even here it is no compelling cause. L. octo gives It. otto, but the ct was pronounced without difficulty by the Romans for hundreds of years and has not been assimilated in the other Romance languages (though undergoing various other changes, as in Fr. huit, Sp. ochó, Rum. opt), and in G. browse (now /browse) the guttural has remained unassimilated for thousands of years. For the generic changes, which move in every direction and sometimes through a complete cycle (cf. NHG Water, with change of original $t > b > g > d > l$), there is no tangible ground for assuming easier articulation.

WRITING AND ITS RELATION TO SPEECH

44. Writing has its ultimate origin in art, in the crude pictures which sprang from the impulse to artistic expression in prehistoric man. The use of pictures to convey messages or record events was adventitious, and picture writing arose independently in different parts of the earth. It was extensively employed by the American Indians and was understood by those of different tribes, being quite independent of the spoken language.

For in pure picture writing the picture stands for an object or idea, and not the word for it in any particular language. So long as this relation holds, whether or not the pictorial form remains obvious, it is an ideogram. But the sign may come to be felt as representing the familiar word for the idea, and the ideogram becomes a phonogram. Thus a crude picture of the sun in the heavens will convey the same idea, no matter whether one's own word for it is sun, sol, ἔλαυς, or what not. It may be conventionalized and lose all resemblance to the object, and still remain an ideogram for the sun. When it comes to be felt as representing the group of sounds making up the word for it in a given language, namely, if we take the English word for illustration, [san], it is now a phonogram. But as a pure phonogram for [san] it is ambiguous, as it may represent sun or son. To determine which, one must combine with the phonogram a determinative or classifier,
for example a "heavenly body" determinative for sun or a "human being" determinative for son. Such a combination of phonograms and determinatives is characteristic of Egyptian hieroglyphics, Assyrian cuneiform, and Chinese writing.

The evolution of the phonogram from the ideogram is the most significant step in the history of writing, the one which first brings writing into relation to speech. The syllabary and alphabet are successive simplifications of the phonogram (but the imaginary illustration of a phonogram chosen above, [sAna], would be already adapted to a syllabary system). The simplified syllabaries like the Cyprian with signs for the single consonant plus vowel, and eventually the alphabets, developed mostly according to the acrophonic principle, as if the phonogram for [sAna] became the sign for [sA] and then for [s].

The distinction between ideogram and phonogram, syllabary or alphabet, must not be confused with that of the external form of the writing, namely pictorial or linear (in which the pictorial origin is no longer obvious). The Egyptian hieroglyphics continued pictorial in form, but certain of the pictures constituted an alphabet of 24 letters, which was employed as early as 3000 B.C. Conversely Assyrian and Chinese writing are linear in form, but not alphabetic.

The classification from two points of view may be illustrated by the table.

<table>
<thead>
<tr>
<th></th>
<th>Pictorial</th>
<th>Linear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideogram</td>
<td>Egyptian</td>
<td>Assyrian</td>
</tr>
<tr>
<td>Phonogram</td>
<td>Hieratic</td>
<td>Chinese</td>
</tr>
<tr>
<td>Syllabary</td>
<td>Egyptian</td>
<td>Assyrian</td>
</tr>
<tr>
<td></td>
<td>Old Persian</td>
<td>Cyprian</td>
</tr>
<tr>
<td></td>
<td>Hebrew</td>
<td>Phoenician, Greek, etc.</td>
</tr>
</tbody>
</table>

45. The ideal alphabet for a given language is one in which there are as many letters as there are distinctive sounds (phonemes) in that language—one letter for each sound, one sound
for each letter. But this is far from the actual situation. In the adaptation of an alphabet it usually happens that some letter serves for two or more similar sounds and conversely some letters are used superfluously. Furthermore, when changes in pronunciation take place, the spelling may or may not be changed accordingly. When the spelling remains unchanged, regardless of change in sound, this is known as "historical spelling". If there were only uniform generic changes of sound, this would merely result in new but equally fixed values for the letters. But the actual result is usually different new values for some of the letters.

Greek spelling has remained substantially historical down to the present day. In Latin some of the early changes in sound were reflected in the spelling (as oe to ū, ei to ī), but after this the spelling remained almost fixed. English spelling rests on an early mixture of Old English and French spelling, followed by various orthographical reforms inconsistently applied, with many letters not pronounced, some of these once pronounced in English (as the k in knight, the l in calm), some etymologically correct but never pronounced in English (as the b in debt), some not even etymologically justified (as the s in island), all together resulting in the most unphonetic and irregular spelling conceivable. So far is it from the ideal of alphabetic writing that we have, for example, some ten different spellings, six of them common, for the sound [i] (me, fee, sea, field, conceive, machine; key, quay, people, Caesar), and some five different sounds for the letter a (man, was, name, father, sofa). Among the modern European languages French is only second to English in unphonetic spelling, while German, Italian, and Spanish have a relatively phonetic spelling.

46. Spelling pronunciation.—The normal relation between spelling and pronunciation is of course that spelling is intended to represent the pronunciation and should conform to it. But as the written form of a language becomes standardized and is felt as authoritative, its influence may be such that the spelling reacts on the pronunciation, resulting in what is known as "spelling pronunciation". Thus ME langage came to be spelled language with the etymologically correct ū and is now pronounced
accordingly. ME *parfit* came to be spelled etymologically *perfect* and is now so pronounced. The present pronunciation of *servant, merchant,* etc., and the American pronunciation of *clerk, Derby* in contrast to the British is spelling pronunciation, countering the early change of *er* to *ar* which once prevailed in *servant, merchant,* etc.

There is a great deal of such spelling pronunciation in English and in other modern languages. The influence of the written language, with its wide diffusion since the invention of printing, is of course much greater than in ancient times. Yet even then there may well have been cases of spelling pronunciation, especially in the much school-mastered Latin, and certain facts are perhaps best explained by this assumption (198b, 212.3a).

**ANALOGY**

47. Analogy, the influence exerted by mental associations, is one of the potent factors in language. It affects the form of words, their meaning (semantic analogy), construction (syntactical analogy), and the creation of new words. It is considered here in its effect on the form of words. Forms that are for any reason commonly associated in the mind are subject to analogical influence. The association may be one of function or of meaning, and under the latter head it may be due to identity or similarity of meaning, or to contrasted meaning, since opposites are also naturally associated in the mind, or to the fact that words belong to similar semantic groups. Sometimes a partial agreement in form may lead to a fanciful association, a popular etymology, which may further affect the form. Or the relation of certain dialect or sentence doublets may be imitated in other words. The association is the fundamental factor, and any classification of types, like the following, is merely one of convenience. The term "leveling," since differences are thus leveled out, is often applied, especially to the first two of the following types.

48. 1. Functional analogy, or external grammatical analogy.—Analogy between forms of corresponding function, as like cases, tenses, etc. The child or illiterate, who knows nothing of case or tense by name, feels the same association between forms used in like situations, and is inclined to say *see'd,*
teached, hitted conforming to the familiar type. So known, bowed for knew, blew, while the similar snowed for earlier snew has long since been established, as swelled, slept for older swollen, slept. Or conversely after the analogy of the inherited drive, drove, etc., we have now strive, stove for earlier strived, and frequently dive, dove instead of dived. The old gen. sg. ending of o-stems, as OE dages ‘day’s’, was extended by analogy to all declensions; likewise the nom. pl. ending -s, which did not belong originally to neuters like OE word, nom. pl. word (cf. L. verbum, verba), but is now the general sign of the plural. In Greek and Latin o-stems the pronominal ending -oi was extended to nouns, which originally had -os (240.x). L. gen. pl. -orum is formed after the analogy of -orum (240.a); acc. sg. -im mostly replaced by -em after the analogy of consonant stems (260.4). G. Σωκράτης, acc. Σωκράτας, but also Σωκράτης after the analogy of Θωκιδῆς, Θωκιδῆν, etc., of the first declension. Vulg. L. esseere after the analogy of legere, etc. The history of Greek and Latin inflection is full of such examples of functional analogy.

2. Internal grammatical analogy.—Analogy between different inflectional forms of the same word. This roots, hoofs have their f after the analogy of the singular, in contrast to the inherited relation in wife, wives, shelf, shelves; similarly deaths, births [-θs] in contrast to paths, mouths [-θs]. The past tense swore was once pronounced like sore (cf. sword as pronounced), but the w was restored by the analogy of swear. The past tense of sing was once sg. sang, pl. sung, then one form or the other was generalized; cf. NHG war, weren, with extension of r from plural to singular, in contrast to NE was, were. L. honōs was replaced by honor, with r after honoris, etc. (255). G. κρεαί instead of *κρεαι after κροαι (154.x). Numerous other examples will appear in the discussion of inflection.

A similar association exists between derivatives of the same root, where the relationship is obvious, and especially between compounds and the words of which they are composed, the latter often resulting in what is known as “recomposition.” Cf. the occasional pronunciation of forehead like fore and head instead of the normal [forəd]. For Latin prepositional compounds the normal vowel weakening of the root syllable and the consonant assimilation are both frequently counteracted by the influence of the simple verb or the separate prefix, respectively, as conlocō in place of a normal phonetic *collidō (cf. 111, 189).

3. Congeneric analogy.—The association between words of the same semantic group, such as numerals, words of relationship, of color, etc., may effect analogical change. Skt. pātis ‘lord, master’ (G. πάτοις) when used as ‘husband’ has gen. sg. pātuvr with -w from gen. sg. pitur, mātur, etc., of the inherited group with suffix -er-. Hom. vlāvı has a after πατρας, etc. G. dial. dēkō with * or dēkō with τ, after κατα. Late L. Octember after September, November, December. The pronunciation of NE February with omission of
the first r, though starting as dissimilatory loss (40.9), owes its much greater frequency than the corresponding loss in library to the support of January.

4. Analogy between words of contrasted meaning.—Late L. sinister for sinister, after dexter. Vulg. L. gravis (whence OFr. gref, ME, NE grief) for gravis, after levis. NE female for femell (ME, OFr. femelle), after male. Cf. the analogical creations like G. ἐκπόδων ‘in one’s way’ after ἐκπόδων (ἐκ ποδῶν) ‘out of the way’, ἀνδράποδα ‘captives, slaves’ after τετράποδα ‘quadrupeds’ (the two constituting the booty in men and beasts).

5. Blending, also known as contamination, or as telescoping of words.—Many blends may be observed as unconscious momentary lapses, as remainder-ants (REMAINDer+remnants), and many more are deliberately created for picturesque effect, as whirligane (whirlwind, hurricane), insinuendo (insinuate, innueando), happensance (happening, circumstance), Popocrates (once very familiar for an actual fusion of Populists and Democrats; in France the Jacobins came to be called Jacoquins after coquin ‘rascal’). But any such blend may lose its ephemereral character and become a generally accepted form. Blending occurs also in inflection, as L. iocineris (*iecinis, iecoris, 261), and in syntax.

6. Popular etymology.—Some resemblance in form may suggest a relationship, resulting in a further assimilation in form. OE ulemest (ul-em-est, with double superlative ending; cf. L. -imus, G. -iōtos) gives NE utmost, as if formed from most. OE brīd-guma lit. ‘bridesman’ (guma cognate with L. homō; cf. also NHG Bräutigam) gives NE bridegroom, as if formed from groom. In sovereign from ME, OFr. souverain, late L. superānus, the spelling is from reign. Sparrow grass for asparagus was once in common use.

7. Analogeal extension of sentence or dialect doublets.—In the speech of southern England and New England, where r has been lost before a consonant and when final, unless followed by a word beginning with a vowel, there are natural sentence doublets like fear [fr] but fear [fr] of it. Hence by analogy idea but idea-r of it. Similarly in colloquial French, after the analogy of doublets like vous [vu] but vous [vuz] aussi, also moi but moi-z aussi. So in Greek the v-movable spread from some inherited doublets to certain categories of forms (215).

Those whose vernacular pronunciation of new, duty is [nū], [dûti] but who have learned to substitute the standard [nyū], [dyûti], may on occasion extend the substitution to words like noon, do. In German dialects where ü is pronounced [i], the familiar substitution of [ü] in speaking the standard language is often wrongly extended, e.g. in trieb just as in trüb. Such “over-correction” is the principle of the “hyper-Doric” or “hyper-Aeolic” forms that sometimes occur in late specimens of the Greek dialects. The equivalence of ἄ to Att.-Ion. η was so widespread that ἄ was sometimes substituted where the proper Doric or Aeolic form was also η, as in ἄμους, ἑφάδος for ἡμοῦς, ἑφηδός.
SEMANTICS

49. Change in meaning is known as "semantic change" (G. σημαντικός, from σημαίνω 'signify'), and the study of meanings as "semantics" (analogous to physics, etc.; the more cumbersome semasiology, adj. semasiological are also used).

The meaning of a word may remain stable for thousands of years, as has been the case with the words represented by NE father, mother, son, daughter, sun, night, the numerals, and many others. But much more frequently there is some change, and the change may move in any direction and to any extent, so that without the intermediate stages we should sometimes be at a loss to discover any relation between the earliest-known and latest meaning.

The associations underlying semantic change are too complex to admit of any rigid classification with a pigeonhole for every change. Many a change may be viewed from more than one angle. In a sense every word has its individual semantic history. But understood as selected points of view and by no means exhaustive, there are certain types which it is helpful to observe.

50. The two most general types of semantic change, both from the point of view of scope, are generalization or extension of meaning, and specialization or restriction of meaning.

1. Generalization.—Late L. molina 'machine for grinding, gristmill' (cf. mold 'grind') is the source of OE myln, NE mill now generalized in sawmill, steel mill, etc. OE ber-ern lit. 'barley-place', but actually 'storehouse for any farm produce', hence NE barn, now even car barn. Skt. go-pa- lit. 'cowherd' but actually '-herd, protector'. So G. βοῦ-κόλος 'cowherd', but βουκολέω used also with reference to goats or horses, hence even ἵππο-βουκόλος 'horse-herd'.

Words of such broad general meanings as 'do, make', 'go', 'thing', 'very', etc., show generalization from more specific notions. Thus:

'Do, make': L. faciō, also OE dōn, NE do, from IE *dʰē- 'place, put' in G. τίθημι Skt. dhā-, etc. G. πραττω, πρῆσω, in Homer often 'pass through' (cf. πέρα 'beyond'), hence 'get through, accomplish, do'. G. ποιέω in Homer mostly 'construct, build', denom. of *ποι-fo-, from IE *gwei- in Skt. ci- 'arrange in order, construct', ChSl. cini 'arrangement, order', ciniti 'arrange', whence also 'do' in Boh., Pol., etc. Mod.G. κάνω, replacing the above as the
common word for 'do, make' from G. καμνω 'toil, work' (cf. Hom. καμε 'wrought').

'Go': NE went, orig. past of wend, cf. NHG wenden 'turn'. G. ἔρπω 'creep, move slowly' (cf. L. serpō), is in some dialects simply 'go'. L. ambulō 'walk' is used colloquially for 'go' in Plautus and so commonly in late Latin, whence Fr. aller. Rum. merge, the regular word for 'go', is from L. mergō 'dip, sink', the stages being 'sink, disappear, go away, go'.

'Thing': G. χρήμα orig. 'what is needed' (cf. χρή 'it needs'). L. rēs orig. 'property', like Skt. rās 'goods, riches'. This was displaced in vulgar Latin by causa 'cause, lawsuit, subject of dispute', whence finally any 'matter' or 'thing', as It., Sp. cosa, Fr. chose (or in Rumanian by lucră from L. lucrum 'gain'). Similarly OE þing 'judicial assembly' and 'thing', NE thing.

'Very': L. vālē lit. 'strongly' from validus 'strong'. Fr. très from L. trāns 'across, beyond' (cf. NE through, thoroughly, NHG durchaus). NE very, orig. adj. 'true' from OFr. verai (Fr. vrai), from an extension of L. verus 'true'. NHG sehr, cognate with NE sore (cf. sore afraid).

2. Specialization.—NE deer orig. any 'animal', like NHG Tier. NE hound orig. any 'dog', like NHG Hund, L. canis, etc. G. πῦθαρα in Homer and elsewhere 'domestic quadrupeds', in Attic only 'sheep'. L. pecora 'domestic quadrupeds', It. pecora 'sheep'.

L. emē orig. 'take, obtain' (hence dēmē 'take away', etc.), but specialized to 'obtain in trade, buy'. Similarly It. comprare 'buy', Fr. acheter 'buy', NE purchase, all from 'get, obtain'. Conversely G. ἀποβιώμει in aor. mid. 'sell', and NE sell orig. 'give, offer' (cf. OE sealde his ancessnedan suun 'gave his only begotten son').

L. carō orig. 'a cut (cf. κείρω 'cut, shear'), portion' (cf. Umbr. mēs trū kārū 'maior pars'), specialized to 'portion of flesh', then simply 'flesh, meat'. NE meat orig. 'food' (so Goth. mats, OE, ME mete, and so meat and drink in NT).

NE sermon from L. sermon 'discourse' as specialized in church writings. L. orā, orāre orig. 'speak', then 'plead' and mostly 'beseech, pray'.

L. speciēs 'look, appearance', hence 'form, kind', in late Latin used frequently of the prepared forms of natural products, hence 'goods, wares' especially 'spices, drugs', hence with different further specializations Fr. épice 'spice', NE spice, Fr. épicer 'grocer', It. speseria 'drug store'.

3. Many words show highly specialized uses in certain contexts or situations. A stone is one thing to a builder, another to a jeweler. Play differs according as one is thinking of a child, a game, the stage, or a machine. So L. māteria is naturally in certain situations 'building material, timber', but was not completely specialized like Sp. madera 'wood'. These occasional specializations are not on a par with those in which the specialized use has become the dominant one, but they show how the latter started.
4. The history of a given word may show successively a specialization and generalization from a new center. NE starte orig. ‘die’ (cf. NHG sterben) specialized (already in OE) to ‘die of hunger’, then extended to ‘suffer from hunger’ and figuratively even ‘be in urgent need’, so that in starving for sympathy neither ‘death’ nor ‘hunger’ is involved.

51. There are many other semantic changes which, while they may also involve extension or restriction or both in succession, may be considered from a different point of view than that of scope, as more specific types of shift within certain groups of ideas or in certain directions. They include figurative uses similar to those known by the old stylistic terms “metaphor”, “metonymy”, etc. But the term “faded metaphors” is misleading if it implies that they originated in conscious rhetorical or poetical creation. They are rather the natural result of unconscious association and are common to speech everywhere. The poet’s metaphor is merely a further step along the same line, in being fresh and striking, in contrast to such transfers as are commonplace and belong to normal everyday speech, like “mouth of a river”.

There is no end to the number of groups that one might abstract from the complex relations of ideas, but the following kinds of transfer or interchange may be noted:

1. Extension owing to similarity of form or relation to other parts, as in foot of a mountain, mouth or arms of a river, is common everywhere.

2. Interchange of application to space or time is usual in words for ‘long’, ‘short’, ‘before’, ‘after’, etc. But one or the other application may be preferred or become dominant. L. brevis ‘short’ in space or time, but from it NE brief, as adj. now mostly of time. L. ante ‘before’ of place or time, but more commonly of time, while in prae, pro the local use prevails or others derived from it.

Prepositions originally denoting relations of place or time may develop all sorts of secondary uses, which sometimes prevail over the earlier. L. ante remains ‘before’ of place or time, while pro is mostly, ‘in behalf of’, ‘in place of’, etc. Conversely G. πρὸ remains ‘before’ in place or time, while ἄντι is mostly ‘in place of, instead’ (‘before, in front of’ in some early inscriptions). L. ob orig. local ‘in front of’, etc. (Osc. ὑπ., ὑπ. ‘at’ or like L. apud), but mostly ‘because of, for the sake of’. ‘Concerning’ is expressed by prepositions meaning ‘from’ (the point of view), as L. ἐς; ‘about’ as L. circum, G. ἐπί (so OPers. pariy), also ἀμφί in Hom. and in Cretan, NE about; ‘over’, as G. ὑπέρ, L. super.
3. Interchange of application to size, quantity, or number, mainly between the last two.—Note the varying distribution in the following:

<table>
<thead>
<tr>
<th></th>
<th>Size 'large'</th>
<th>Quantity 'much'</th>
<th>Number 'many'</th>
<th>Size 'small'</th>
<th>Quantity 'little'</th>
<th>Number 'few'</th>
</tr>
</thead>
<tbody>
<tr>
<td>G.......</td>
<td>μέγας</td>
<td>πολύς</td>
<td>πολλάι</td>
<td>μικρός</td>
<td>διάγος</td>
<td>διάγοι</td>
</tr>
<tr>
<td>L.......</td>
<td>magnus</td>
<td>multis</td>
<td>multi</td>
<td>parvus</td>
<td>poco</td>
<td>pauci</td>
</tr>
<tr>
<td>It.......</td>
<td>grande</td>
<td>molto</td>
<td>molli</td>
<td>piccolo</td>
<td>poco</td>
<td>peu</td>
</tr>
<tr>
<td>Fr.......</td>
<td>grand</td>
<td>beaucoup</td>
<td></td>
<td>petit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In these examples quantity and number go together as against size, except in the case of L. parvus 'little' in size or quantity, but pauci 'few'. But in vulgar Latin parvus was displaced by paucus for quantity and by other words for size.

4. Extension or transfer from subjective to objective, or conversely.—L. tristis 'sad' of persons, but also of things that make one 'sad'. NE pitiful orig. only of persons full of pity, now only of things that excite pity ("pitiful sight"). L. sēcūrus orig. only of persons 'without care', then also of things that are 'secure, safe'. G. δύσκολος 'hard to satisfy, difficult' of persons only, but in the NT δυσκολόν κατι 'it is difficult'.

Conversely OE fēr 'danger' (as NHG Gefahr), but now fear. L. poena 'punishment' is the source of NE pain, L. mercēs 'reward' of NE mercy.

5. Interchange owing to similarity of condition or result, or to some natural sequence.—Growing things are green, and 'green' and 'unripe' so commonly coincide that we may say "blackberries are red when they are green". Only a person could be literally dis-mantled, now used of a fortress. L. dilapidō lit. 'scatter stones', but actually 'destroy, waste', whence NE dilapidate (use affected by wrong idea of its history). What 'seems good' or 'is pleasing' is given approval, hence the technical terms for voting approval, G. ἐδοξεῖ (ἐδοξεῖ 'seems good'), in dialects also ἐξή (ἐξή 'please'), L. placuit (placcō 'please'). 'Lack' of anything leads to notions of 'necessity', or 'wish'. NE want orig. a noun 'lack', then verb it wants (lacks), he wants (=lacks) food, he wants (=wishes) food, he wants (=wishes) to do it. G. χρησίω 'lack, need', also 'desire', in some dialects =θέλω 'wish'. Osc. fakia d k a s i t 'faciat oportet', where k a s i t in form =L. caret 'is without, lacks'. L. fallit 'trips, deceives', then 'escapes notice', and in later development 'fails, lacks' (cf. NE fail) and Fr. il faut 'it is necessary, must'.

6. Material and product.—L. penna 'feather' was used (late) for a 'quill pen' in contrast to the calamus 'reed pen', hence NE pen as an instrument of writing of whatever material (similarly NHG Feder 'pen', wholly isolated
in feeling from *Feder ‘feather’). One name of the papyrus plant is the source of G. βιβλος ‘book’, another of the general European word for ‘paper’. NE box is from L. buxum ‘boxwood’. G. ἀργυρός orig. ‘silver cup’, but simply ‘cup’ in πίνειν εἶ ἀργυρίδων χρυσῶν. It. campana ‘bell’ goes back to ‘Campanian bronze’ (cf. aequ C̄am̄pānum, vasa Campana).

In such cases there is a complete shift of meaning from material to a special instrument or product, so that the word persists after the use of the original material has become obsolete, and there is nothing incongruous in speaking of a ‘gold pen’, a ‘tin box’, or ‘paper’ made of pulpwood. Conversely in some cases the name of a material is derived from an early use which later becomes insignificant, as NE rubber from rub (rubber was an eraser), or graphite from G. γράφω ‘write’, but now more important as a lubricant.

7. Extension or transfer from one to another sense perception.—This is the linguistic side of what the psychologists call “synaesthesia”. The IE word represented by NE sweet (Skt. svādus, etc.) was doubtless applied primarily to taste, but also commonly to smell and hearing (‘sweet smell’, ‘sweet voice’), while G. ἡδως, L. suavis were still further extended to ‘pleasant’, and in the literal sense mostly replaced by γλυκός, dulcis, these too being extended in use. L. clārus ‘clear’ orig. of hearing (vōx clāra; cf. clāmō, G. καλέω ‘call’), but as commonly of sight (nox clāra). A shift of application from hearing to sight is seen in OHG hell used only of sound ‘clear, loud’, but NHG hell used nearly always of sight ‘clear, bright’. Note the extensions involved in NE loud colors, warm colors, sharp taste, etc.

A given sense perception and its stimulus, what is perceived, may or may not be expressed by the same or related words. NE I taste, smell, and it tastes, smells, a person’s sense of taste, smell and an apple’s taste, smell. But the second, objective use prevails in L. sapio, sapor ‘taste’ (subjective gustō, gustātus) and G. δýpo, δομή, L. oleō, odor, ‘smell’, though the subjective δόρφαλαυμα, olfaciō are related. A similar relation between ‘hearing’ and ‘what is heard’ appears in G. κλῶ, Skt. gṛu- ‘hear’ and G. κλέω, Skt. gṝnas ‘fame’, Slav. slovo ‘word’, L. cluedō ‘be heard, be spoken of’.

8. Extension or transfer from physical to mental.—G. φόβος ‘flight’ in Hom., latē ‘fear’. G. τρέω ‘flee’ and ‘fear’, L. terrō ‘fear’ from the same root *ters- *tres-, also in Skt. tras- ‘tremble’ and related to *trem- in L. tremō ‘tremble’. L. horror ‘shaking, horror’ from ‘bristle up’, this meaning appearing in the verb horrēō and the cognate Skt. hṛ-, the latter developing otherwise, through ‘be excited’ to ‘be glad’. G. θυμός ‘spirit, anger’, etc., with complete transfer from the physical ebullication of its cognates L. fūmus, Skt. dhīmas ‘smoke’. NE glad, orig. ‘bright’ or ‘smooth’ (cf. NHG glatt, L. glaber ‘smooth’).

‘Understand’ is expressed by G. ἐπισταμαι: lit. ‘stand on’ somewhat like NE understand, NHG verstehen, NG καταλαβαίνω from G. καταλαμβάνω ‘seize
upon', It. capire from L. capiō 'take', Fr. comprendre from L. comprehendo 'lay hold of, grasp', etc., just as NE grasp is also so used, but without loss of its literal sense.

Latin words that are only occasionally used without transferred meaning may retain only the latter in their derivatives, as in NE eager, suggest, abject, dejected, afflicted from L. ācer, suggestus, abiectus, désectus, adfectus. Similar uses, but without loss of the literal sense, in NE keen, put before (or put up to), cast down.

9–10. Degeneration or ennobling of meaning: pejorative or meliorative development.—Use of words in malam partem or in bonam partem, in a bad or good sense. All this has to do with the important matter of the emotional value of words. A word like NE old may be used as an opprobrious epithet or one of affection, according to the tone and circumstances. NE temper may be good or bad, only the latter in "he shows temper". NE deserts, what one deserves, may be rewards or punishments, only the latter in "he gets his deserts".

But often the meaning becomes settled in one direction or the other. So NE retribution now only in an unfavorable sense, though Benjamin Franklin once sold something "for a reasonable retribution". G. τιμή mostly 'reward, honor', sometimes 'penalty', but from the same root πονῆ 'penalty' rarely 'reward', while the formally equivalent Slav. čena is only 'reward'. G. ταπευόμενος lit. 'low-lying' is 'low, mean, base' in the classical period, but acquires a favorable sense 'lowly, humble' in the NT and church writings.

Some examples of a striking shift in one direction or the other are given under the separate heads.

Pejorative.—NE knave orig. 'boy, servant', as NHG Knabe; villain orig. 'belonging to one's country estate' (L. villa); husky from OE hūswif 'housewife'; stink from OE stincan 'have a smell' good or bad; silly from OE sælig 'fortunate, happy' (cf. NHG selig 'happy, blessed'). It. cattivo 'bad', Fr. chétif 'vile', NE caitiff, from L. captivus 'captive'. G. ἱδωρης 'private person' becomes an 'ignorant person', L. idiōta, whence NE idiot.

Meliorative.—NE knight orig. 'servant', as NHG Knecht, then 'king's servant, retainer.' NE nice once 'foolish, stupid' from OFr. nice, L. nescius 'ignorant'. It. veggoso 'charming' from L. vitiosus 'faulty, vicious'. Rum. tvať 'accustom, teach' from vulg. L. invitāre 'accustom to a fault' (vitium). L. caballus 'packhorse, nag' rises in the scale, supplanting equus, and is the source of all the Romance words for 'horse', Fr. cheval, etc., and the derivative words like chivalry.

52. Some special causes or factors in semantic change.—The great majority of semantic changes arise from natural associations inherent in the relation of the ideas, regardless of any out-
ward circumstance. But there are also some special factors to be noted.

1. A certain association may be natural to a particular social or occupational class, and this special class meaning become the generally accepted one.

In church circles G. ἐκκλησία ‘assembly’ was an assembly of the faithful, the ‘church’ as a body (only so in NT), later as the building, Fr. église, etc. G. πρεσβύτερος ‘older’ became the priest. L. sermo ‘discourse’ was a religious discourse, sermon, prædicäre ‘proclaim’ became ‘preach’, and persona ‘person’ became in English the parson.

In military circles L. arma ‘ fittings’ became (defensive) ‘arms’, classis ‘class’ was an ‘army’ or usually a ‘fleet’. G. τάξις ‘arranging’ became ‘battle array’ or ‘body of soldiers’, in late times also a ‘military expedition’, whence NG ταξίδι ‘journey’.

In legal terminology G. δίκη ‘usage, right’ (as in Hom.; orig. ‘direction, way’, from δικαίουμι ‘point out’) became ‘lawsuit, trial’. L. causa ‘cause’ became ‘lawsuit’ and its subject, whence later, emerging from its legal application, any ‘matter, thing’, It. cosa, Fr. chose, etc. (similarly NE thing; cf. 50.1).

In commercial circles ‘take, obtain’ became ‘buy’ in L. emô, etc., and ‘give’ became ‘sell’ in NE sell, etc. (cf. 50.2).

Among hunters the favorite ‘wild animal’ of the chase was the deer, and the ‘dog’ was of course a hunting dog, hound (cf. 51.2).

From L. minor, -āri ‘threaten’ arose vulg. L. mināre a technical farmer’s term for ‘drive cattle’ (so still Rum. māna), and through this Fr. mener ‘lead’.

2. The association may start from the verbal context. So in the familiar cases of ellipsis like (via) strāta ‘street’, (ārāsiō) prō(r)sā ‘prose’, (sūl)oriēns ‘orient’, etc. Words added to a negative for emphasis may absorb the negative force so as to be used alone in the same way, as Fr. pas, point, plus, rien from ne pas, etc., or NG rīxore ‘nothing’, xorē ‘never’.

The radical changes often observed in the meaning of prepositions started in certain phrases where the transition was easy. So that in NE with formerly ‘against’ (cf. NHG wieder) then replacing the older mid (cf. NHG mit), probably started in phrases like fight with.

3. Cultural changes may underlie the semantic changes. The history of words goes hand in hand with the history of things, with the changing conditions of material and intellectual life. This is most apparent in cases like pen or paper, or in the vicissitudes of the Roman dēnārius orig. a silver coin of ten asses (dēni), but fluctuating at different periods between a gold coin and a ‘copper’. Oil (from L. oleum) was originally olive oil, among the Greeks and Romans an important article of food, also used for cleansing the body (predecessor of the modern soap), also used in lamps. This last use became
the most widespread, while at the present time its use as fuel or lubricant dwarfs all others in magnitude.

4. Semantic borrowing: translation words.—Besides the borrowing of words from another language, there is frequently the borrowing of meaning. In such cases one speaks of semantic borrowing in contrast to the borrowing of the actual words, or of translation words in contrast to loanwords. In Latin there are hundreds of loanwords from Greek. But there are also many cases in which not the word itself but a certain meaning was borrowed, transferred to the Latin word which corresponded in its literal sense. That is the Romans expressed certain notions by literal translations of the Greek. Such was their whole grammatical terminology. For 'case' the Greek grammarians used πτῶσις 'fall' (thought of as 'fall, deflection' from the nominative), which the Roman grammarians accordingly rendered by cāsus 'fall'. For the physical 'world' the Greek philosophers introduced the term κόσμος from the 'orderly arrangement' of the heavens. But in later times κόσμος meant 'adornment', and the Romans familiar with this use rendered κόσμος 'world' by mundus 'adornment' (cf. adj.: mundus 'neat, elegant').

As Greek influenced Latin, so Latin, which was for centuries the literary language of western Europe, influenced the other European languages as they came into literary use. In the Romance languages and in English for the most part the Latin words were adopted. (The Romance languages are full of loanwords from Latin, that is words borrowed from the literary languages in contrast to those that were inherited through the spoken language. Such loanwords are distinguishable because they do not show the phonetic and semantic changes which the inherited words have undergone. Contrast the Fr. frêle, NE frail with Fr., NE fragile, from L. fragileis, but the second a late borrowing from literary Latin.) But in German frequently not the word but a meaning was borrowed. As L. nāvis 'ship' was used also for the 'nave' of a church, so NHG Schiff. L. expressūs in its secondary sense 'expression' was rendered by the literally corresponding Ausdruck, similarly conscientia 'conscience' by Gewissen.

Fr. beau-père, orig. a term of polite address, then 'father-in-law' (also 'stepfather'), is the model of Dutch schoonvader 'father-in-law'. Fr. arrière pensée, lit. 'back-thought', but used for 'mental reservation', is imitated in NHG Hintergedanken.

The examples given are of semantic borrowing through literary influence. But the same thing happens in the speech of bilinguals, as among German Americans who say ich gleiche es after English I like it, since gleich and like so generally correspond.

5. The fondness for picturesque expression, for something fresher or more vigorous than the commonplace usages of the language, is an important factor. It shows itself in colloquial speech and runs riot in its extreme form,
the slang of the day. The expressions may be of only ephemeral vogue without permanent effect. But any widespread colloquial use may in time become the accepted one.

L. testa ‘potsherd’, easily applied to the ‘skull’, was the colloquial vulgar Latin word for ‘head’ (cf. bean in current slang), mostly displacing caput in its literal sense, hence It. testa, Fr. tête ‘head’.

L. fabulor was the colloquial equivalent of loquor as early as Plautus, and in vulgar Latin displaced the latter (hence Sp. hablar), itself partly displaced later by a derivative of late L. parabola ‘word’, this from G. παράβολή ‘parable’ and ‘saying’ (hence It. parlare, Fr. parler). G. λαλῶ ‘chatter, prattle’ is simply ‘speak’ in the NT.

L. manducō ‘chew’ was commonly used for ‘eat’ in vulgar Latin, hence It. mangiare, Fr. manger ‘eat’.

G. τρώγω ‘gnaw, nibble, feed on’, used mostly of animals but also of men, had become the regular word for ‘eat’ for the author of John (who puts it in the mouth of Jesus, John 13. 18), as it is in Modern Greek.

STRUCTURE

53. The greatest differences in structure appear when one compares languages of totally different families. One speaks of “isolating” languages like Chinese, in which there is no formal grammar, no formal distinction of parts of speech, of cases or tenses, the relation of words being expressed by the order. Or of “agglutinative” languages like Turkish, in which there is a complex structure, a wealth of formative elements but so loosely put together that the joints are apparent (as if NE un-truth-ful-ly were representative). But the types of structure are so various that no simple classification will cover them.

The IE languages are classed as “inflectional”. The term is not truly descriptive of the difference between them and those called “agglutinative”. For just as there is agglutination in the IE languages (56), so conversely there is plenty of inflection in Turkish (or Finnish, with fifteen case forms). The difference lies rather in the greater fusion of stem and formative elements in the so-called inflectional languages, and the term “fusional”, that has been suggested, would be more appropriate.

54. While the IE family as a whole and historically belongs to a single structural type, yet even here very considerable changes of
structure have taken place in the course of time, and between the structure of Sanskrit, Greek, or Latin and that of present English there is as great a gulf as between languages of unrelated families. There has been a general trend, notably in most of the modern European languages, from the highly inflectional to a more analytic structure. The number of formal categories has been reduced, and their place taken by prepositional phrases, auxiliary verbs, or word order.

Of the three IE genders, the neuter has been lost in the Romance languages (likewise in Lithuanian), the feminine in Danish (except in a pronoun). In English almost the sole relic of formal gender distinction is the singular of the pronoun he, she, it, where it is virtually one of natural gender, and the old grammatical gender of nouns and adjectives has wholly disappeared.

Of the three IE numbers, the dual was lost in Latin (and Italic) in prehistoric times, in Greek before the time of the NT. In the earliest Celtic and Germanic it is confined to a few forms and later disappeared. It survives today only in Lithuanian and two minor Slavic languages.

The eight IE cases were reduced to seven in Balto-Slavic, six in Latin, five in Greek, four in early Germanic, and (for the noun) two in present English, only one in most of the Romance languages. In present English the adjectives have no distinction of gender, number, or case.

Of the voices, the old middle and passive have been largely replaced by periphrastic expressions.

Of the moods, the subjunctive and optative were merged in Latin, the subjunctive was lost in classical Sanskrit, the optative in late Greek. In Germanic the subjunctive and optative were merged, as in Latin, and of this subjunctive there is very little left in present spoken English.

In contrast to the six or seven tenses of Greek and Latin, there are only two simple tenses, present and past, in English and the other Germanic languages, all the others being periphrastic. In the Romance languages there is a greater number, but of these the future and conditional are of periphrastic origin.

In English the loss of inflection has gone so far that there is little left of formal distinctions between the parts of speech. Hence the high degree of convertibility, as noun used as verb or conversely, noun as adjective, adjective as adverb, etc. The sentence "her eyes like angels watch them still" has been quoted as one in which all but two of the words might be used in the function of two or more parts of speech; and of the two apparent exceptions, angels has been actually used in print as a verb (like mothers), and them may be an adjective pronoun in illiterate speech.
55. *Evolution of structure: origin of the formative elements.*—
It was once held that there was a regular sequence of structural development, from isolating to agglutinative, from this to inflectional, and from this, by what was thought of as a process of decay, to the analytical. Language was represented as being built up through thousands of years to the perfected type of Greek and Latin, only to degenerate subsequently from that high mark. But there are various difficulties with this old view, and the matter is certainly not so simple.

The last step, that from inflectional to more analytical, is one of observed fact in European languages (54), only one must reject the implication that this is a retrograde movement. For, while the intrinsic merit of different types of structure is always a delicate question, only with difficulty freed from prejudice in favor of the type of one’s own native language, there is much more to be said for the thesis that the modern development is on the whole one of continued progress. It seems, for example, to be a positive gain to eliminate grammatical gender and the wealth of different case forms after these have been rendered superfluous by the use of prepositions which express the relations more exactly.

The stock example of an isolating language, Chinese, is anything but a primitive language, if viewed as a vehicle of thought; and again there is some evidence that its type of structure is not original, but the result of development from a more formal type, just as is the relatively simple type of present English which in many respects resembles that of Chinese. Conversely many languages of primitive peoples show an astonishing complexity of structure and would far outshine Greek or Latin if this were a measure of merit. This fact and the modern European tendency toward a more analytical type have led some scholars to reverse the old sequence, maintaining that there has been a continuous movement from complex to simple structure and that man’s earliest speech was of complex structure. This is far too strong a generalization in the other direction. Among languages of primitive peoples there are some of the most complex, but others of the simplest structure, so that as a whole they prove nothing. There
is still no good reason to reject the natural hypothesis that primitive speech was of a simple isolating structure, only superficially resembling the modern analytic type, the one reflecting primitive fragmentary thinking, the other the developed analytic thinking.

56. Agglutination, or the union of once independent words, was once regarded as the only possible source of the formative elements. Not only this, but the attempt was made to apply this theory in detail to the IE formative elements, to derive the case-endings, personal endings, tense signs, etc., from actual words. This attempt has long since, for the most part, been given up as futile. For these endings, suffixes, etc., had already become simple formative elements in the IE period, and their generation belongs to a period much more remote, so that whatever connection there might be with independent words had long since ceased to be in evidence. Only for a very few of the suffixes that go back to the parent speech is connection with independent words reasonably clear. All this is nothing against the theory of agglutination, only against the too optimistic and speculative application.

For agglutination is a process that is undeniably attested in the historical period. So characteristic a suffix as the NE adverbial -ly, originally and still in part also adjectival, goes back to a word lic 'body, form', as in OE eorp-lic, a possessive compound meaning 'having the form of the earth', hence earthy. The suffixes of NE wis-dom, child-hood, friend-ship, up-ward go back to the use in compounds of OE döm 'judgment, authority, rank', hād 'rank, condition', -scape from sceppan 'create, fashion', -ward from weorpān, 'become' orig. 'turn'; while in NE truth-ful, three-fold, fear-less, the origin is still obvious. The Romance adverbial suffix, It. -mente, Fr. -ment, goes back to L. abl. sg. mente, as It. veramente, Fr. vraiment from L. vērā mente. The Romance future and conditional rest on vulgar Latin periphrastic combinations of the infinitive with forms of habeō, as fut. It. cantero, Fr. chanterai from cantāre habeō.

57. So agglutination is an actually attested source of formative elements, and there is no good reason to doubt that it was an important source in prehistoric times. But it was an error to regard
it as the only possible source. For it can be shown that formative elements may have become such in quite other and more accidental ways, by what is known as "adaptation". In NE ox, oxen the -en is a sign of the plural, just as much as the usual -s, and one that is very productive in NHG plurals (Knaben, Taten, etc.). But it is in origin nothing but a part of the word stem which was formerly present in the singular also. That is, of the OE nom. sg. oxa, gen. sg. oxan, etc., nom. acc. pl. oxan, gen. pl. oxna, etc., the oxa became ox and the other singular forms disappeared, leaving only oxen in the plural, so that by contrast it has all the value of a plural sign. The NHG -er in Kinder, Bücher, etc. (both types combined in NE children), is of similar origin, being a form of the old es-stems. It is just as if L. genus, genera were to lose their final syllables, leaving gen, gener.

Adaptation is an important factor in the history of suffixes, in the productivity of certain types. From some particular word a suffix may acquire a certain association and become productive with a new force. The inchoative force of L. verbs in -scō (which is not prominent in the corresponding type elsewhere) may have started from crescō 'grow'. Of the numerous G. derivatives in -tā some happened to denote an ailment as ὀφθαλμία 'disease of the eyes', ναυτία 'seasickness'. From these were formed denominatives as ὀφθαλμιάω, ναυτιάω, and the association of -tāω with ailment became so strong that there followed δεντίαω, λαρυγγίαω, λεθιάω 'suffer from toothache, sore throat, or gallstones' and many others.

THE INDIVIDUAL LANGUAGE*

58. Language and dialect.—These are not absolute, but relative, terms as commonly employed. They do not represent rigidly definable degrees of speech variation, as if we could say that if two forms of speech differ by so much they must be distinct languages, but if by only so much they must be only distinct dia-

* The preceding sections, 35–57, deal with questions of language as an institution; the following, 58–63, with matters concerning languages as linguistic units. The French have a neat distinction between le langage 'language' and la langue 'the language'.
lects. Certain German "dialects" are much farther apart than the Danish and Swedish "languages".

We generally use the term "language" of a literary and national language, and "dialect" of a form of speech that is subordinate from a cultural point of view. Dutch is linguistically co-ordinate with the Low German dialects of northern Germany. It is only by reason of certain historical factors that the former gained the status of a literary and national language, while the latter are subordinate to the High German language. We speak of Oscan and Umbrian as Italic dialects, though linguistically they are co-ordinate with Latin, and in fact the Romans themselves spoke of the lingua Osca. We speak of the Greek dialects, but in the older period all Greek speech was divided into dialects. For that time "the Greek language" is only an abstraction, or a composite. (In fields where there are no literary languages, like that of the American Indian languages, the terms "language" and "dialect" are used with more reference to larger or smaller differentiation. But even here no rigid definition is possible.)

The term dialect is also an elastic term in scope. It may refer to the speech of a considerable area, or that of a single town, or even that of a certain social stratum. We speak of the New England dialect or that of Boston; or for ancient Greece of the Ionic dialect, of the (Ionic) Euboean dialect, or the (Euboean) Eretrian dialect.

In any detailed study of dialects one finds that the different peculiarities rarely cover precisely the same territory. The "isoglossal lines" marking their respective areas overlap. But a certain combination of peculiarities is characteristic of a given region and constitutes a well-marked dialect.

59. Differentiation of languages.—Language is in constant process of change, and there is a natural tendency to even individual variation. This centrifugal tendency is held in check by the centripetal force of social contact.

When one language breaks up into two or more, this is due to some disturbance of that social contact which makes for unity. Such disturbance may come about in two ways.
There may be abrupt and complete severance by migration. Migration is not in itself a cause of linguistic change, in fact the language of the migrating people may prove more conservative than that of the people remaining at home, as in the case of Icelandic compared with Norwegian. But after the separation the changes, for changes are bound to occur in language, proceed independently on each side, resulting in gradually increasing divergence. In modern times, with the unifying influence of an established literary language, the printing press, and ease of communication, migration may lead to only minor differentiation without disrupting the general unity of the language. But this does not apply to earlier periods.

Many cases of language differentiation are the result of known migrations in the historical period, as the colonization of Iceland from Norway or that of Britain by the Anglo-Saxons from the Continent. Many more are the result of migrations that must have just as certainly occurred in prehistoric times. Migration explains both the differentiation and the resemblance, and migration in turn is a safe inference from a close relationship between geographically separated languages or dialects. Thus, in the case of the Greek dialects, the peculiar features common to Arcadian and the distant Cyprian are so striking as to leave no doubt that Cyprus was colonized from a part of the Peloponnesus where the dialect at that time was that which survived in the historical Arcadian (19).

Migration has doubtless been the principal factor in language differentiation, and there is no objection in principle to representing language relationships by pedigree schemes analogous to genealogical tables. But the relations are often too complex to be represented adequately in such a way, and many of the once popular schemes have been discarded as too elaborate and arbitrary.

But language differentiation may also come about without the abrupt severance, by gradual disintegration of a language spread over too large a territory to hold together in the absence or loss of a strong centralizing force. Changes start from one point or another, each spreading over adjacent territory, so that there are
countless local varieties of speech with differences that are slight between adjacent points, great between extremes. By geographical, political, and social factors new centers of influence gather about them larger groups, between which there is greater differentiation in speech, and eventually well-defined dialects or languages arise. It is thus that vulgar Latin broke up after the collapse of the Roman Empire and the loss of the centralizing force of Roman and literary Latin (32)—not as if it had been first divided neatly into Italian, French, etc., and then each of these into Italian dialects, French dialects, etc.

60. The evolution of a standard literary language.—This is the culmination of the centralizing process. Just as minor local dialects yield to that of an important center, which becomes the norm for a certain district, so of these larger units some one dialect becomes the basis of a standard literary language for a whole country or people. This is not due to any intrinsic merit of this dialect as such, any superiority over other dialects from the linguistic point of view, but solely to external circumstances, usually the political or intellectual supremacy of its center. The speech of Rome absorbed the minor dialects of the rest of Latium and spread hand in hand with the advance of the Roman power. Among the many dialects of France, the speech of Paris, the political and intellectual center, gained a dominant position at an early period and by the 13th cent. was firmly established as the literary language (and to some extent even an international language), though it was resisted for some centuries in the south. So the English literary language is based on the speech of the upper classes in London of Chaucer’s time, the Italian on that of Florence in Dante’s time, etc. Not that every local peculiarity of these centers was necessarily adopted or maintained, for in a sense they were also centers of compromise. But their regional dialects formed the main basis.

In the case of Greek and of German the evolution of a unified literary language was slow and complex compared to that of Latin or French. For both Greece and Germany remained decentralized linguistically as well as politically until a late period in their re-
pective histories. In Greece the dialect of Athens, owing to its intellectual supremacy, became the standard of literary prose and finally overcame the long-continued linguistic diversity (18-20). In Germany it was not till the early 16th cent. that a literary standard, in the official documents of the Saxon and imperial courts, was popularized by Luther, and even after that it was slow in winning general acceptance.

61. The linguistic results of mixture of population.—When a country is conquered or partly occupied by a people of different speech from that of the native population, the two languages for a time exist side by side. But ultimately, in most cases, there results a single language, which, while it may contain a greater or less degree of mixture, is quite definitely the survival of one or the other. Either the language of the conquerors prevails over the native language or conversely. The two opposite results are determined by complex factors, not by numbers only.

The language of the native population prevails over that of the conquerors. This has happened time after time in the historical period. The Franks who conquered the Romanized Gauls and gave their name to the country of France lost their Germanic speech and adopted the Romance speech of their subjects, which henceforth came to be called French. The Normans of Normandy lost their Norse speech within a few generations and adopted French. This the Norman conquerors of England carried with them and kept for some centuries while in close contact with Normandy, but eventually gave up in favor of the native English. For the language which emerged from the conflict, though showing a heavy admixture of French in vocabulary, was, in its main line of descent, English in fact as in name. The Swedish founders of the Russian state, the Asiatic Bulgars who gave their name to the Slavic Bulgaria, the Manchu conquerors of China, all adopted the language of the native population. In all these cases the conquerors formed only a minority of the population, and moreover either from the outset had lost contact with their kinsmen or eventually became primarily identified in their interest with their new home.
The language of the conquerors prevails over that of the native population. The most notable example is the spread of Latin in the Roman Empire, as in Gaul at the expense of the native Celtic. Here the country was filled with Roman officials, soldiers, and tradesmen, and large colonies of veterans were established. Although the Romans were a minority in actual numbers, they remained a part of the great Roman organization, with all the prestige of the Roman name and the Latin language, which the Gauls themselves were ambitious to share. The case of the Anglo-Saxon invaders of England is very different in circumstance, for they were not backed by a powerful state organization or by an established literary language. But they came in hordes and in successive waves, and, driving back the Celts or enslaving some, they solidified their position over a gradually increasing territory—much as did the English long after in North America in relation to the Indians.

The spread of the IE languages involves a similar imposition of the language of invaders upon the earlier native population of India, Greece, Italy, etc. The circumstances are all veiled in obscurity. But obviously the situation could have had no resemblance to that of the Roman domination in western Europe. For these IE-speaking invaders were not part of an organized state nor did they have a written language. They cannot have been merely small bands of warriors, or, according to all analogies in history, they would have been absorbed linguistically. However much of physical and mental superiority we ascribe to them, we must also assume that they came in considerable numbers with their families, a people on the march, and gradually solidified their position as did the Anglo-Saxons in England.

62. Language and race.—Between language and race, as a distinct physical type, there is no necessary connection. "The Latin races", an absurdity to the anthropologist, is only a popular phrase for the peoples (not races) speaking languages of Latin descent. Linguistic and racial classifications cut right across each other, and much confusion has resulted in the past from the use of a term like Celtic now of a linguistic, now of a racial group. Often
a people adopts the language of another, as in the cases mentioned in the preceding section and many others. Race is usually more persistent than language, but not always. The Magyars of Hungary have kept their non-IE language, but are no longer racially distinct from their neighbors. Most of the linguistic groups are of mixed race. The French are descended from Gauls, Romans, and Germans, and neither of these elements was a distinct race. Of the three major racial types of Europe, known as Nordic, Alpine, and Mediterranean, all three are represented among the French, the first two among the Germans, the last two among the Italians, etc. The Greeks were of mixed race even in ancient times. The IE linguistic family includes people of diverse race, very largely no doubt because of mixture with conquered peoples. But it is by no means certain that even the IE-speaking people before its dispersion was a distinct race. It may have been already racially mixed. For the racial types, as determined by skull measurement and other physical criteria, go back to extremely remote periods. They have little bearing on the grouping of peoples in the earliest historical or the near-historical period.

63. Language and nationality.—A people or nationality is rarely a distinct race in the anthropological sense (62), nor is it necessarily a nation in the political sense. The ancient Greeks were not a united nation, but they were conscious of a common nationality. The evidence of this they found in their common descent, language, religion, and customs (Hdt. 8. 144). Of these criteria the first was only a matter of belief, of legend. Of the others the most tangible and definite was the community of language, despite the persistent diversity of dialects.

The Romans, with all their knowledge and admiration of the Greek language, upheld officially the prestige of Latin. The use of Greek in the Roman senate was frowned upon and on occasion definitely prohibited. Cicero was blamed for addressing the Syracusan assembly in Greek. Aemilius Paulus at the assembly of Amphipolis made his formal proclamation to the Macedonians in Latin, which was then repeated in Greek by the praetor (Livy 45. 29).
And so in subsequent European history language has been the most conspicuous mark of nationality, the one of which a people is most conscious and to which it is most fanatically attached—one to be defended against encroachment and conversely the first object of attack on the part of a power aiming to crush out a distinction of nationality among its subject peoples. Several of the 19th-cent. nationalistic revivals, which have finally led to independent statehood, had their beginnings in the field of language and literature. With a few exceptions (as Belgium, Switzerland) the present European nationalities are essentially language groups, for which language is the accepted criterion of nationality.
PHONOLOGY

THE GREEK AND LATIN ALPHABETS

64. The Greek alphabet is derived from the Phoenician, and the Latin from the Greek, probably through the medium of Etruscan. The origin of the Phoenician alphabet was long disputed, but its ultimate Egyptian source is now pretty well established by the discovery of a connecting link in the early Semitic inscriptions found on the Sinai peninsula. These Sinaitic inscriptions, dating from the early second millennium B.C., show an alphabet based upon selected Egyptian hieroglyphics, to which were given the Semitic names of the objects represented, as daleth for the ‘door’ picture, and then the alphabetic value of their respective initials, as the d of daleth. This alphabet was then the source, in principle at least, if not in all details, of the North Semitic alphabets including the Phoenician.

The pedigree may be outlined as follows:

- Egyptian hieroglyphic
- Early Semitic alphabet
- Phoenician alphabet
  - of 22 letters
- Simplest Greek alphabet
  - 23(22+1)
- Ionic alphabet
  - 24(23−3+4)
- West Greek alphabet of the Etruscan abcdaria
  - 26 (23+3)
- Latin alphabet
  - 23(26−6+3)
- Etruscan alphabet of inscriptions
- English alphabet
  - 26(23+3)
- Oscan Umbrian alphabet
  - 68
<table>
<thead>
<tr>
<th>I. Semitic (Hebrew) Names</th>
<th>II. Phoenician Alphabet</th>
<th>III. Primitive Greek Alphabet</th>
<th>IV. Early Attic Alphabet</th>
<th>V. Ionic Alphabet</th>
<th>VI. Greek Names</th>
<th>VII. West Greek Alphabet of Etruscan, Abc.</th>
<th>VIII. Latin Alphabet</th>
<th>IX. Latin Names</th>
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<td>נ נ</td>
<td>ש ש</td>
<td>Σ Σ</td>
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<td>ξιδα</td>
<td>Ξ Ξ</td>
<td>ξ ξ</td>
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* Phoenician writing was from right to left, likewise the earliest Greek. The letters are given in their old retrograde form in cols. II, III, IV, VII.
* Forms of the Moabite Stone (early 9th cent. B.C.) with some variant forms, put first, of the earliest Byblos inscription (13th cent. B.C.).
* Reconstructed from a composite of the earliest alphabets of Crete and Thera, in which, however, the Ξ is lacking (only Μ = ε) and the Θ rare.
* Given here in its developed form, as it appears in the standard Greek alphabet. The Φ and Ψ occur in very early inscriptions, also a form of the σο.
* From the abecedarium of Marsiliana.
* The six losses are those shown by the five blank spaces and also the Ι replaced by the Τ; the three additions are the G, Y, and Z. The zeta is counted first among the losses and again as an addition.
66. The Phoenician alphabet is now known from as early as the 13th cent. B.C. Through the Phoenician traders it became familiar to the Greeks. Just where and when it was first adopted and adapted to the Greek language cannot be determined, perhaps about 1000 B.C. or even earlier. The earliest records were doubtless on perishable material, such as merchants' accounts on papyrus. The earliest surviving writings, such as the scrawls on the rock in Thera, can be dated only roughly, but are probably of the 8th cent. B.C. or possibly even earlier.

Phoenician writing was by consonants only. The fundamental feature of the adaptation to Greek, the innovation that is common to all the local Greek alphabets from the earliest times, is the use of certain Phoenician letters to express the Greek vowels. The signs for the light breathings, the *aleph* and *he*, were used with the value of the vowels in the names, that is, to express α and ε. The *ayin*, a sign for the glottal fricative which probably caused the following vowel in the name to have an ο-like quality, was used to express ο. The *yod*, not needed for a consonantal γ which did not exist in Greek, was used to express the corresponding vowel, ι. But the *wau* was needed both in its original consonantal value of ω and to express the corresponding vowel υ, and the result was a differentiation. The ι, which must reflect some variant form of the Phoenician letter, was given the original value and alphabetic position of the latter, while Υ agreeing with the usual form of the *wau* in Phoenician inscriptions, served for the vowel υ and was added at the end of the alphabet—thus making up the Greek alphabet of 23 letters in place of the Phoenician of 22 letters.

Phoenician had more signs for sibilants than were needed in Greek, and while they were all kept at first, their uses and their names were confused. Either Μ(σάν) or Ξ was preferred, according to locality, to express σ. The Ι and Ξ were used for a time with various values (e.g. Ther. ΞΕΥΜ = Ζεύς).

Of the two signs for a guttural voiceless stop, Κ and Ψ, the latter was used only before ο (or ρο as in Δορός) or υ, and was eventually given up.
THE GREEK AND LATIN ALPHABETS

Phoenician furnished a sign for only one of the Greek aspirates, namely Θ. The others were expressed by [Θ and ΚΘ or θ].

This primitive Greek alphabet, as given in column III of the table, is the one employed in the archaic inscriptions of Crete, Thera, and Melos, with some omissions (Ϝ only in Crete, Ξ only in Thera and rare, Ξ lacking in all three places, Μ being preferred for σ).

67. All the other local Greek alphabets, from the time of the earliest records, have two or more of the so-called supplementary letters. They all have Φ for the labial aspirate and either Χ or Ψ for the guttural aspirate. Thus with the inherited Θ the series of aspirates was filled out. Later and much less general was the use of a single letter for the κσ and πσ combinations, suggested by the use of the inherited Ι for σδ or τσ. The κσ was more widely expressed by a single letter (Ξ or Χ) than was the πσ (Ψ or some other rare forms), and neither, for example, in the old Attic alphabet (ΔΔεσε, γραφε). The alphabets fall into two main classes according to the value of the supplementary letters.

I. East Greek alphabets: Χ = χ.

1. Ionic (and Corinthian) alphabet: Χ = χ, also Ξ = ξ and Ψ = ψ.

2. Old Attic: Χ = χ, but no Ξ or Ψ.

II. West Greek alphabets: Ψ = χ, also Χ (but sometimes ΧΞ or ΨΞ) = ξ.

The origin of the supplementary letters and the explanation of the divergent local values of the Χ and Ψ has been the subject of endless discussion. One point which is now clear is that the West Greek, guttural, value of the Ψ is the original and that the letter is simply a variant form of the Phoenician καθ, the source of the κάππα. Its early form Ψ agrees in fact precisely with the καθ in the Byblos inscriptions, while that on the Moabite Stone is more like the earliest form of the Greek κ. That is, it did not develop as a Greek variant of κ, but reflects a Phoenician variant, which very likely reached Greece by another route. On the origin of the Φ and Χ there is no agreement, but a plausible view is that they are both derived from the one inherited aspirate sign, the ∂,
the Φ by omission of one of the cross lines, the Χ (or +) by omission of the circle.

Both Υ and Χ had originally guttural value. In the West Greek alphabet Υ was preferred for the simple guttural aspirate, while the Χ was used, perhaps first in ΧΕ and then alone, for the ΚΣ combination. In the East Greek alphabet, where the old Ε was used with the ΚΣ value, the Χ was used for the guttural aspirate, and the left-over Υ was then arbitrarily employed for the ΠΣ combination, as a pendant to the Ε for ΚΣ.

68. The source of what became the standard Greek alphabet was the Ionic alphabet, more specifically the form that developed at Miletus. This was of the East Greek type, as described above, and was further characterized by the addition of Ω, in origin a variant form of Ο (in some other local alphabets other types of variants appear, as Ω = ω), and by the use of Η for the vowel. For the Η (early Θ) had originally the value of the spiritus asper, and so in the other alphabets. But in the East Ionic dialect this sound was lost and the letter was then employed for the vowel η, which in the other alphabets was not differentiated from ε but expressed equally by the Ε. Apparently the Η was at first used only for the η from α, and then also for the general Greek η. For some inscriptions of the Ionic islands show such a difference, as Νυκάνδροι Μανθένων in an archaic Naxian inscription.

After the general adoption of the Ionic alphabet, the spiritus asper was commonly left undesignated (as in Attic inscriptions ΕΓΤΑ in place of the earlier ΗΕΓΤΑ), or else indicated by some differentiated form of the Η. So sometimes the old Θ = ’ in contrast to Η = η. The halved Η, namely †, occurs in the Heraclean Tables and some other inscriptions. It was used in MSS as a diacritical sign placed over the vowel, then also † as a pendant to it, whence later † and †, and the ‘ and ’ of our current texts.

The Ionic alphabet was officially adopted in Athens in 403 B.C., and not much later replaced the old native or “epichoric” alphabets in other parts of Greece. But the Φ (sound and letter had long since disappeared in Ionic) was retained for a time where it still survived as a sound.
The wau, kappa, and san, which disappeared from the alphabet, were maintained as numeral signs, the wau for 6 in a form that later became identified with the στ- ligature, the "stigma", the kappa for 90, and the san for 900 in the form known by the late name of σαμπτί.

69. The Latin alphabet is derived from a West Greek alphabet. Such an alphabet was that employed in the Chalcidian colonies of southern Italy, Cumae, etc., and it was formerly taken for granted that the Romans got their alphabet from this source. But it is also the alphabet of the abcdaria found in Etruscan territory, those long known from Formello and Caere, and the more recently discovered and most perfect specimen, the ivory tablet of Marsiliana. This Greek alphabet introduced by the Etruscans (from what immediate source is not clear) is the basis of, but differs from that of, the later Etruscan abcdaria and the actual Etruscan inscriptions, in which several of the letters are lacking and another characteristic letter (8 = f, agreeing with a Lydian letter of the same value) appears. This Etruscan alphabet of the inscriptions is the source of the Oscan and Umbrian alphabets, with their 8 = f, lack of 0, etc., though they contain some survivals of the older and fuller alphabet. It cannot of course be the source of the Latin alphabet.

But it is a probable view that the fuller alphabet of the early abcdaria became known to the Romans through the Etruscans. This supplies a nearer source than the alphabets of the Chalcidian colonies in the south, and fits in with the well-known intensive Etruscan influence on early Rome. Furthermore, certain features of Etruscan writing help to explain some peculiarities of the Latin, notably the value of C as contrasted with that of its source, the Greek gamma (the form  or C is common in Greek inscriptions of various regions and is that of the Formello and Caere abcdaria).

It is characteristic of Etruscan that it had no voiced stops, or at any rate only a single order of unaspirated stops, perhaps midway between the two orders of Latin (hence the fluctuation in the transcription of Etruscan names). The B and D were not used in Etruscan inscriptions. Of the three letters for guttural stops,
C, K, ableObject all were employed for a time, but all with the value of a voiceless stop, the differentiation being rather according to the following vowel, as CE, KA, ableObject (similarly in an early Faliscan inscription CE, KA, ableObject). The restriction of ableObject to the position before 2 or u was inherited from the Greek and was favored by the name ForObject; the preference for KA was favored by the name ForObject; both names perhaps already reduced to ka, qu. But the C was the preferred form and except in the earliest inscriptions was used almost exclusively.

So in early Latin inscriptions, without regard to the distinction of voiceless or voiced stops in the actual speech, Q, before O or V (vowel or consonant), as QVOI or QOI = quoi, EQO = ego, PEQVNI, etc.; K especially, though not exclusively, before A, as KAPIA, PAKARI, but also SAKPOS and Praenestine FBEPFBAKED; C especially before E, as RECEI, FECED, but with growing tendency to prefer this in general, with value of c or g. Eventually the Q was given up before O and vocalic V and kept only in the group QV where V had the consonantal value, as QVOD, QVIS, etc.; K, continuing to occur for some time before A, was finally restricted to KALENDAE, especially its abbreviations KAL or K., and K. = Kaeso; a differentiated form of C, namely G, was introduced to distinguish the voiced stop, and C = g survived only in the abbreviations C = Gaius and CN. = Gnæus.

The new G took the position in the alphabet of the old I (Z) which, though not actually attested, was according to tradition formerly in use, presumably for the z that must have been intermediate between the original inervocalic s and the historical r, as Osc. azum = L. arum.

In the 1st cent. B.C. Z, and likewise Y (the other form of V, which was already represented by L. V), were borrowed with their current Greek forms and values and placed at the end of the alphabet.

The fricative f was denoted at first by FH (FBEFBAKED on the Praenestine brooch), as in early Etruscan (FH occurs also in early Greek inscriptions, but here with the value of a voiceless w or hw from IE sw, 162), and then by the simple F.
Other differences between the Latin and the standard Greek alphabet in values are the West Greek value of the X in contrast to that of the X in Ionic, and the retention of the original value of the H in contrast to the new vowel value of the Ionic H. Differences in the forms of the letters, as in the case of the Latin D, L, P, R, are without significance. They merely reflect divergent preferences among variant forms, and those that prevailed in Latin can also be found in Greek inscriptions.

Three Greek letters which were not used in the Latin alphabet served as numeral signs:

\( \od = 100 \), whence the usual C, as if the initial of centum.

\( \phi, \infty = 1,000 \), later M as if the initial of mille; halved it gave D = 500.

\( \psi, \perp, L = 50 \).

The Latin alphabet is the source of the English (as of most other European alphabets). The increase from 23 to 26 letters is due to the differentiation of l into l and J, and of V into U, V, and W. Of these the earliest differentiation is that of the W, which is simply VW, W, appearing in Latin inscriptions from the 1st cent. A.D. on, especially in the representation of Germanic or Celtic names, as *VITILDES* = *Witildis* (*CIL* 12. 2005), but also sometimes in Latin words. The J and U reflect cursive forms of the old l and V. In early modern texts a common practice was to use v initially but u medially, as *vnio*, but *fugitive*. It was not until the 16th cent. that the difference in form came to be used to distinguish the vowel and consonant. This modern practice, as regards the u and v, is for convenience often applied to Latin, and so in this book.

70. The Greek names of the letters.—The majority of the Greek names are obviously the Semitic names taken over with some phonetic modification (as the spread of final -a and especially -ra).

But the names of the sibilants were mostly new, as *ζητα* modeled on *ητα*, *θητα* ; *ζο* after *μν*, *νθ*, or *ζει* after *πει*, *φει*, etc.; *σιμ&ama;ma* (relation to Sem. *samekh* doubtful). Only the *σαυ* appears to reflect the Sem. *shin*, and it was originally applied to either form of the *σ*. In most of the statements (*Hdt. 1. 139*, etc.) that it was
the Doric name corresponding to the Ionic name σίγυμα there is no implication that it was applied only to the form M. But there is some evidence that in late times it was applied to this less familiar form (which, like the old ḍ, was used as a brand on horses; cf. σαμφόρας, κοππατίᾶς), and it is convenient to follow this in modern practice.

The early name of the F was Ἀα, though this is attested only in the late spelling βα, and that in a Roman grammarian. The later name, δίγαμμα, was based on the form of the letter.

The πεί reflects Sem. pe, only pronounced with a long vowel, that is, ე written ἐ (96). This convenient monosyllabic name of a stop was the model for the names of the added φεί, χεί, and ψεί and the Ionic ξεί. These are the correct spellings (with ἐ = ე), as attested in Attic inscriptions and elsewhere, while πεί, φεί, etc. (usually followed in modern practice), are late, reflecting the late pronunciation of ἐ. For the vowels, ἄλφα and ἴωτα reflect the Sem. names, and so the ἴωτα, only here with ἴ from the Ionic value of H. The ε, ο, υ, ω were simply named by their sound, with lengthening in the monosyllables, namely ἐι (that is, ე, and in this case virtually inherited from the Sem. name), ωι (that is, ძ), ὑ (with ἴ as regularly for initial υ, 167), and ძ. Later names are Ἠ and ὧ, and still later (Byzantine) ὒ μικρόν, ὦ μέγα (since o and ω had become identical in sound), and ἐ ψιλόν, ὑ ψιλόν, these last meaning ‘simple ἐ’, ‘simple υ’ in contrast to the diphthongs αι and οι which had come to have the same pronunciation as ἐ and υ respectively.

71. The Roman names of the letters.—The Greek names as a whole were not retained in Italy. They were replaced, perhaps first among the Etruscans, by monosyllabic names representing the simple sound of the letters in the case of the vowels, or, for the consonants, the sound supported by a vowel, usually e, following the stops, preceding the others.

For the vowels this was merely an extension of what was also the Greek practice in the names of ε, ο, and υ. The Greek name πεί gave the pe, and this, supported by the first syllable of βῆτα and δέλτα, was followed by be, ce, de, te and the late ge; while ka
accords with the first syllable of ῶὔπα and the prevailing use of £ before a; and qu both with the normal Etruscan and the prevailing Latin use of q before u.

The letters for the continuous sounds, that is the nasals, liquids, and fricatives, were perhaps at first, like the vowels, named by their sounds, that is with syllabic m, n, l, etc., which appear to have been frequent in Etruscan. But the attested Latin names are with a preceding supporting e, as em, en, el, er, ef, es. The name of the e, namely ix, shows inversion of the Greek name in its late form ξῆ, probably due to the fact that no Latin word begins with e. The h was often called "aspirationis nota" (because of the Greek '), but the name ha is attested. Of the late additions to the alphabet, the Z and Y, the Z was known by its Greek name, namely as zeta, and the name of Y, though not clearly attested, was either hy (with the ' of the name ū) or y, in either case the sound of the Greek u.

The Latin names are the source of those current in English and the other West European languages. The vowels alone (a, e, i, etc.) and as finals (be, de, ka, etc.) were pronounced long and took part in the regular changes of long vowels in English since Chaucer's time. The divergence of ar from el, em, en is due to a 14th-cent. regular change of er > ar (which was not counteracted by spelling pronunciation as in servant, etc., 46). The name of the new letter j took the vowel of the name of the following k and was thus distinguished from the name of g; that of v followed the analogy of be, ce, etc.; that of w is from its origin double u. The name of x became ex instead of ix, after es, etc. The name of z remains zed in British usage, but in U.S. usage becomes ze after pe, te, etc. For h the old ha was replaced by ah and this came to be written ach (like nichil, michi in late texts, 152a), hence French ache and the English name now commonly spelled aitch. For y the old name would in late Latin (when the special sound of the y was lost, 76c) not be distinguished from that of i. It was sometimes called y graeca, as now y grec in French. The English name wi (attested ca. 1200 A.D.) goes back to a name VII (pronounced
**VOWELS AND DIPHTHONGS**

72. The normal correspondences of the vowels and diphthongs, exclusive of the long diphthongs (94) and the syllabic liquids and nasals (113–15), may be surveyed in the accompanying table.

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73. Notes to the preceding table.

1. The ò (inverted e) is a conventional symbol for a vowel which has the same representation as IE ø in the European languages, but appears as i in the Indo-Iranian branch, and moreover differs from IE ø in its relation to other vowels in the system of vowel gradation (124). Its precise quality is of course unknown, but for convenience we may give it the sound of the final vowel in NE soa, and call it the IE “obscure vowel”.

2. The Greek vowels and diphthongs reflect most nearly those of the parent speech. They are in fact identical, if we except the merging of IE ø and ò, and bear in mind that the ò from ò and the changed pronunciation of the u-vowels are Attic-Ionic but not general Greek. Furthermore, the Greek vowels were notably stable in quality, showing relatively few changes due to special conditions of position, accent, surrounding consonants, etc.

This applies to Greek of the classical period. Since then there has been a wholesale shift in the pronunciation of vowels and diphthongs, as radical as that which has taken place in English.
3. In Latin the principal change, so far as appears in the table, is the monophthongization of most of the diphthongs, which were still preserved in early Latin (the bracketed forms in the table). But the vowels in Latin have undergone the greatest variety of secondary changes under special conditions, especially in medial and final syllables, so that the representation given in the table is actually maintained only to a limited extent. In general, the original vowel system is as greatly disguised in Latin by secondary changes as it is transparent in Greek.

4. The relative simplicity of the Sanskrit vowel system results from the loss of the difference in quality between the original e-, o-, and a-vowels, whether short, long, or the first element of a diphthong. This is characteristic of the whole Indo-Iranian branch. In the case of the diphthongs, the resulting ai and au remained in Iranian, but in Sanskrit became monophthongs, ə and o. These were long vowels, but, as there were no short e's and o's, they are not marked long in the usual transcription of Sanskrit, which is followed in this book.

5. In the Balto-Slavic branch, and also in the Germanic, the difference in quality between the a- and o-vowels was lost (except that in Lithuanian IE ė and ė are only partly merged). The letter y denotes i in Lithuanian, but in Slavic a peculiarly modified u. Lith. ė is a long close e. Slavic ė is an open e; i and ė are weak vowels of obscure quality.

6. In Gothic ei denotes i; ai and au denote diphthongs, but also under certain conditions open e (the value of Greek ai at the time of Wulfila) and o (these latter cases it is customary now to differentiate by writing ai, au). OE æ had about the value of a in man.

\[i, \text{i}^{\text{r}}\]

74. IE i. Hom. ἵδευε, Skt. vidma, Goth. witum, OE wilton 'we know', NE will; G. ἵδεῖν, L. videō.
G. ῥί, L. quid, Skt. cid G. ἵστημι, L. sistō, Skt. tiṣṭhāmi

a. In Latin, \(i > e\) (as \(u > o\), 76a) before \(r\) arising from \(s\) (164).
serō from *si-sō, with reduplication as in sistō
cinis, gen. sg. cineris from *cinises
Falerīt from *Falīsīt (cf. Faliscus)

This and similar headings refer to the IE sounds. A few examples of the normal representation, which might be multiplied, are given first, followed by an account of the special changes. The Latin vowel changes in medial syllables are treated together under a separate head (110); likewise several of those in final syllables (112), but some are included in the discussion of the several vowels or diphthongs. For phonetic terms and classification of sounds, see 36–40.

The asterisk, which is used to indicate prehistoric, reconstructed word forms (IE, Greek, Italic, Germanic, etc.), is omitted as cumbersome and unnecessary in the case of assumed IE sounds or groups of sounds, likewise case endings, personal endings, suffixes, and the like.
b. In Latin, final i (unless lost, 108) > e.  
ante from *anti (cf. anti-cipó): G. ávri, Skt. anti;  
nom.-acc. sg. n. of i-stems, as mare from *mari  
c. For acer from *ācris, ter from *āris, see 109.

75. IE ī. G. īs, L. vis  L. vivus, Skt. jīvas, Lith. gyvas. 
u, ū

76. IE ú. G. ἕγυβ, L. iugum, Skt. yugama,2 Goth. juk.  
G. ἐρυθρός, L. ruber, Skt. rudhiras.3

a. In Latin, u > o before r arising from s (164), like the parallel change of  
i > e (74a).  
forem from *fusēm, with fu- as in fuit, etc. (but nurus from *snusu-, with u  
kept, perhaps because of following  u)  
b. Dissimilatory change of L. u (through ū) to i between l and a labial.  
lubet, libet: Skt. lūbh- ‘desire’  clupeus, clipeus: G. καλόπτερο

c. G. u (and likewise ū) had originally the plain u-sound and this was re-
tained in many dialects. But in Attic it changed from a back rounded to a  
front rounded vowel like Fr. u from L. ā (39.2) or NHG ü. In late times  
(1st cent. A.D. and later, according to locality) it lost even the rounding and  
became identical with  ĩ, as it is in Modern Greek.

In Latin the early loanwords from Greek had u, but in the first cent. B.C.  
y was introduced to represent the current Greek sound. In vulgar Latin this  
came to be pronounced like i, and the y was merely a variant spelling of the  
same sound, often found in words which did not have  v in Greek, as ydolon  
(from G. εἶδωλον), or were not even of Greek origin.

77. IE ú. G. μūs, L. mūs, Skt. mūs, OE mūs.  
G. θῦμος, L. fūmus, Skt. dhūmas, Lith. dūmai, ChSl. dymū (all  
meaning ‘smoke, vapor’ except G. θῦμος, which is used only of  
mental ebullition, ‘soul, spirit, anger’, and so is semantically  
related to L. fūmus as is conversely L. animus ‘soul, spirit’  
to G. ἀνεμος ‘wind’)

1 The colon is used here as a sign of comparison, to be interpreted as ‘to be com-
pared with’, ‘cognate with’.

2 Sanskrit nouns and adjectives are quoted here in the nominative singular, to  
conform with the practice for Greek and Latin. In Sanskrit grammars and dic-
tionaries they are quoted in the stem form, as yuga, rudhira. When quoted in the  
stem form in this book a hyphen is added to make this plain, as yuga-, rudhira-.  
Sanskrit forms are given without marks of accent except where the accent is perti-
inent to the matter under discussion; also usually without definitions, it being un-
derstood that the meaning is in substantial agreement with that of the Greek and Latin  
forms to which they are compared.
VOWELS AND DIPTHONGS

E

78. IE e. G. φέρω, L. ferō, Skt. bharāmi, OE beran.
G. ērī, L. est, Skt. asti, Lith. esti, Goth. ist
G. ἡνός, L. genus, Skt. janas

79. e > i in Latin.

1. Before a guttural nasal, that is, before n+guttural stop and before gn (1985).
linguō from *tenguō: G. τέγγω
lingua, dingua (146) from *denguā, *dughā (cf. 115): OE tung quinque (vowel length from quinctus, 99.2) from *quenque,
*penque (40.8): G. πέντε
lignum from *legnom:legō dignus from *degnos, *decnos:decet
Cf. NE think from OE pencan, and NE England, English as pronounced.

2. Miscellaneous.—The factors involved include assimilation, and weakening (as in 110.3) due to proclitic or enclitic use, but are too complex to be fully understood.
Preposition in and verbal prefix in-: G. ἐν
Negative prefix in- from *en-, η- (115).
nihil from *ne-hil (ne as in ne-fās)
mīhi, tībi, from *mehei, *tebei (298.3)
similis, simul (early semol), simplex (but semel, semper), all from *sem-
vitulus: G. dial. ἐταλον 'yearling', ēros 'year'

3. In medial syllables (110), and in final syllables before final s or t (112).

80. e > o in Latin. Before w, after w (mostly consonant + w), or before l, but subject to further conditions only partly understood, the vowel of the following syllable being often a factor. The main facts are as follows.

1. ew > ow (cf. eu > ou, 92).
novus from *newos: G. νέος Skt. navas (OE nōwe, Skt. nava,
from *newos)
novem from *newm: G. ἑπτα, Skt. nava (313.9)

1. This is an Italic change. Cf. Osc. Nuvlanam: L. novus, and Umbr. nūvimē: L. novem. In brevis, levīs the ev is not from IE ew but from eghw, egwh (153).
2. *swe > (swo, hence by 170) so.

somnus from *swe <p:nos: Skt. svapnas, OE svf <n ‘sleep, dream’
(G. üvros from *supnos, with weak grade, 119.3)
soror from *swesôr: Skt. svasar-, OE sweoster
socer, socrus from *swesr-, etc.: G. ékupós, ékupa (é- from sê-, 162),
Skt. väçuras, OE sweger ‘mother-in-law’
3. que > (quo, hence by 170) co.

cogû from *quequô, pequô (40.8): G. pièso, Skt. paç- (but quinque, quoror, etc.)
4. dwe > (dwo, hence by 172) bo.

bonus from duonos, duenos (but bene)
5. we > wo, vomo from *wemô: G. êmô, Lith. vmetî.

a. homo, though apparently from early hemô (cf. nêmô from *ne-hemô),
is more probably an inherited form with o-grade (cf. Osc. hùmùns, Umbr.
homonus. No such change in emô, premô, etc.

6. Before a “guttural l”, that is, before l when
   a) Followed by a back vowel, a, o, or u
   b) Followed by another consonant (except l)
   c) Final

volô, volt (later vult) from *welô, *welli, in contrast to velim, velle
colô (through *quolô, 170) from *quelô, in contrast to inquilinus
(with regular weakening of e > i, 110.3)
oliva, an early loanword from G. élaiâra (*elaiâ > *olaiâ > oliva,
   with ai > i as in occidô, etc., 110.5)
simul, early semol, from *semel: Umbr. sumel

Certain exceptions, as celsus, gelu, helvus, admit of various explanations.

81. IE o. G. πôsîs, L. polis, Skt. pâtis.

G. ôktô, L. octô, Skt. astâu G. ômôs, L. domus, Skt. damas
82. o > u in Latin.

1. Before nc, ngu, mb, and l + cons. (except l).
hunc, early honc, from *hom-ce
uncus: G. oôkôs unguis: G. ôvôkô
umbô, umbilicus: G. ômôfûlôs mulla ‘fine’, early moll
But longus, though one would expect the same change before ng as before nc, ngu.

2. In final syllables ending in any consonant.
   dolus, dolum, dönum, from -os, -om   illud from -od (kept in quod)
   legunt from -ont      cōnsul from cōnsol

3. In medial syllables before l (but o kept after a vowel, fīliolus, alveolus) and before two consonants.
   pōculum from pōcolom    cōnsulō from cōnsolō
   leguntur from legontor    eunitis from eontis: G. tōvros

4. The change to u, as in 1, 2, 3, took place in the historical period. The earlier o appears regularly in inscriptions down to about 200 B.C.

So honc, moltā, praefectos, sacrom, dönom, pōcom, cosentōnt

The SC de Bacch. of 186 B.C. has -us, -um, -unt, but o before l in tabolam, consoluerunt, cosolereuter.

5. But after u, vowel or consonant, the change to u did not take place until considerably later. The forms of Plautus and Terence were (dolus, dönum, legunt, etc., but) vōlt, vōlnus, mortuos, servos, relinearunt, sequuntur, quom. This spelling in fact remained, though probably the pronunciation changed sooner, until about the middle of the 1st cent. B.C. The earliest example of u in such cases is suum beside suom in an inscription of 45 B.C., and the spelling o is often found much later, especially in vōlt, vōlnus.

6. When finally servos became servus, the consonantal u of qu was lost before the new u, and equos, relinquunt, sequuntur, quom became ecus, relinquunt, secuntur, cum, which are the proper forms of the Augustan period. Later qu was restored by analogy of the other forms, as equus after equi, etc., similarly relinquunt, sequuntur. But the more isolated conjunction cum remained (quum is only a very late spelling, to be disregarded).

At a time when the conjunction was written quom but already pronounced as com, the preposition com was also frequently written quom in inscriptions.

7. Quite different from the preceding regular changes, and not
well understood as to the precise conditions and period, is the change of $o$ to $u$ before $m$ in some words (in contrast to domus).


Likewise obscure, perhaps dialectal, $o > u$ before $r +$ cons. in some words, as *furnus* (*forus* rare) beside *fornâx* (*furnâx* rare), *formus*, etc.

83. Other changes of $o$ in Latin.
1. $vo > ve$ before $r +$ cons., $s +$ cons., or $t$, about 150 B.C.
   Early *vortō*, *vorsus*, *vorrō*, *voster*, *volō >* later *verō*, *versus*, *verrō*, *vester*, *velō*
2. $ov > av$ in some words, but conditions in contrast to *novus*, *novem*, etc., obscure.
   *cavus* (vulg. Lat. also *covus*, Port. *covo*): G. *κοῦ* ‘hollows’
   (Hesych.)
   *caveō*: G. *κο(φ)εω*  *faveō* beside early *fove *lavō*: G. *λφ(φ)εω*
3. Final $o > e$.
2 sg. imperat. pass. -re: G. -so
4. $o > e$, *i* in medial syllables, 110.2.

a

   G. *ἀγρες*, L. *ager*, Skt. *ajras*, Goth. *akrs*
   G. *ἀρό*, L. *ab*, Skt. *aṇa*, Goth. *af*
   a. $a > e$, *i*(u) in medial syllables, 110.1; $> e$ in final syllables, 112.

ɔ

85. IE ɔ. See 73.1 and 124.
   G. *πατή*, L. *pater*, Goth. *fadar*, Skt. *pitar-
   G. *σαρέσ*, L. *status*, Skt. *sthitas*

e

   G. * Kháرهνς*, L. *plēnus*, Skt. *prātas*
   L. *sēmen*, Lith. *sēli* ‘sow’, OE *sēd* ‘seed’
87. IE ò. G. δῶρον, L. dōnum, Skt. dānam.
   G. γυνώτος, L. nōlus, Skt. jñālas
   G. φέρω, L. ferō, Skt. bharāmi

   a. A change of ò to ú is observed in L. fūr (cf. G. φῶρ) and cūr from early quōr.

88. IE à. Dor. (etc.) ἱσταμι, Att.-Ion. ἵστημι, L. stāre, Skt. sthā-.
   Dor. (etc.) μάτηρ, Att.-Ion. μήτηρ, L. māter, Skt. mātār-
   Dor. (etc.) φάμα, Att.-Ion. φήμη, L. fāma
   Dor. (etc.) and Att. οἰκία, γενεά, χώρα, Ion. οἰκία, γενεῆ, χώρη

   The change of á to ñ is peculiar to Attic-Ionic, complete in Ionic, in Attic except after e, i, and ρ. The à remains in all other dialects, not merely in Doric, but for the sake of brevity one may speak of the “Doric” à or “Dor.” μάτηρ, etc.

   In Greek words in their familiar, that is, their Attic-Ionic form, we have then to distinguish, for example in the two syllables of μήτηρ, between the special Attic-Ionic ñ from á and the general Greek ñ from IE é, which is the same in the other dialects (but written E until the introduction of the Ionic alphabet, 68). The difference may be determined from (1) the forms of other dialects, (2) the cognates in Latin, etc., (3) sometimes even within Attic-Ionic from the weak form of the root (τίθημι, θετῶ, but ἵστημι, στατῶ).

   Some kinds of secondary á were of sufficiently early origin to take part in the change to ñ, while others developed subsequently to the period when the change took place and so were unaffected. Thus ἐφηνα from ἐφάνα from *ἐφανοσα, but πᾶσα from πάνσα from *παντια, or τᾶς from τάνσ. See 204.

   Apparent exceptions to the familiar rule for Attic are due to various causes. κόρη, δέρη, κόρη are from *κορῆ, δερῆ (Arc. κόρη, δερῆ), κόρην. χορήγος follows the analogy of στρατηγὸς etc. λοχαγὸς is a Spartan term, kept by Attic writers.

   The change of á to ñ was a gradual one, and there was once a
period, still reflected in some inscriptions of the Ionic islands (68), when the new vowel was not yet fully identical with the general Greek η, that is, it was even more open. But in general the η in both syllables of Att.-Ion. μητηρ had the same sound. In the best period it was a very open ę (somewhat as in NE there), in Hellenistic times a close ę, and in the early centuries of our era it became identical with i, as it is in Modern Greek.

ei

89. IE ei = G. ei, L. i (early ei).
G. δείκωμι, L. dico, early deico, Osc. deicum, Goth. ga-teihan ‘announce’
G. εἰμι, Skt. emi, L. 2 sg. is     G. πειθω, L. fidō

1. In Greek, as early as the 5th cent. B.C., the diphthong had become a monophthong ę, that is, a long close e in contrast to the open η (88, 96). (The vowel in NE late, etc., is more or less diphthongal, ę or ei, and so offers a convenient approximation to either the earlier or the later value of G. ei.) But the spelling of was unchanged, and came to be used to denote also the ę which had never been a diphthong (96).

a. In Roman times ei became identical with i, but the spelling still remained and was sometimes used for original ę as τειμη = τιμη.

2. In Latin, ei was a real diphthong in the earliest period, but became ę (closer than the inherited ę), later i. In the time of Plautus and Terence it was identical with the sound resulting from ai in medial and final syllables (91) and from oi in final syllables (90), but was still distinct from i. The spelling in all such cases was ei, or occasionally e, e.g., in the SS de Bacch. deicerent, inceideretis, nom. pl. foideratei (never i in such forms, and conversely never ei for i as later). By the middle of the 2d cent. B.C. the sound had become identical with i, the spelling fluctuated between ei and i, and the former, being now merely a sign for i, was also used for i which had never been a diphthong, e.g. audeire. This spelling ei is frequent in inscriptions down to the time of Cicero, and even in the Augustan period was not wholly obsolete.
90 | VOWELS AND DIPHTHONGS 87

a. The intermediate % serves to explain the relation of seu to sive from *sei-ve. Beside the intermediate *ṣiṣu arose *ṣu (cf. nec, neque), whence with the regular vowel shortening (103), seu. Similarly neu from *nei-ve (but can also be from nē-ve), cceu from *cei-ve; also deus from *dēs, beside divus, both from *deiwas (170a).

oi

90. IE oi = G. oa, L. ă (early oi, oe; oe retained in some words), but ĩ (early ei) after v and in final syllables.
G. olvî ‘ace’, L. ánus, early oinos, oenus, Goth. ains
L. communís, early comoinem, Osc. mūnīkam, Goth. gamains
L. cūrō, early coiravēre, Pael. coisatens
G. oîda, oikos, oivos, L. vidī, vicus, vinum
nom. pl. o-stems, G. -oa, L. -i (early -ei)
dat. pl. o-stems, G. -ois, Osc. -ois, L. -is (early -eis)

a. It is probable that the monophthongization in ánus, etc., had already taken place by the time of Plautus (cf. the pun Lyde, lādō, etc.), though the earliest inscriptions examples of the spelling u are somewhat later (utier in a Scipio epitaph, precise date uncertain; usura 146 B.C.). The old spelling oe remains frequent in inscriptions until about the middle of the 1st cent. B.C., and Cicero in the laws for his ideal state purposely wrote oenus, coerari, etc. Since ā also comes from ou (92) the archaising spelling sometimes shows ou instead of oe, as couraverunt.

b. The normal change to ā was not observed in certain words, which persisted only in the archaic form. Thus, in legal terminology foedus ‘treaty’ and poena ‘penalty’ (but pūniō, which was less technical); Poenus the old official title (while the common term Poenicus became Punicus); moenia ‘walls’ which was thus kept distinct from mūnia ‘duties’ (while the more general word for ‘wall’ moerus became mūrus); also foedus ‘foul’ for less obvious reasons (perhaps it was for a time only a literary word, though later adopted in popular speech, as in Petronius and as shown by its survival in Romance).

c. In poena, etc., the diphthongal pronunciation of oe (about as in NE coin) was probably maintained in educated speech until a late period. But eventually it became a close ē, as ae became an open ē (91). Hence the frequent confusion in spelling, in late inscriptions and in manuscripts, between oe, ae, and e.

d. In medial syllables there are no clear examples of change to ei, ī as in final syllables, parallel to that of ai in medial syllables (91), as might be expected. Rather oi was kept by recomposition (as mostly o, 111) and de-
veloped as in initial syllables, e.g. communis, securus, etc. Some regard pōmērium as an example of weakening with retention of the intermediate ę before r. But more probably the form, though the generally accepted one, represents the late pronunciation of pōmocium (above, c).

e. L. coepī is from co-ępī (so sometimes in early Latin) with ĕpī to the rare apiō, like ĕpī to capiō. Change to coepī (in contrast to coęgī) is due to the fact that the word was not felt as a compound and to the influence of the early L. pres. coepiō, this from *co-ipiō, *co-apiō (by 110.1).

L. oboeō beside audiō (in contrast to clūdō, inclūdō, 110.5) is puzzling, with only a complicated and doubtful explanation.

L. nōn is from early noenum, this from ne oinom (cf. NE not, short form of nought, from OE nowiht ‘no-thing’). The peculiar phonetic development is obscure, but doubtless connected in some way with the unaccented use.

ai

91. IE aī = G. ai, L. ae (early aī), but i (early ei) in medial and final syllables.

G. athō, L. aestus, aedēs (orig. ‘hearth’), Skt. edhas ‘fuel’
G. λαιός, L. laevus  G. σκαιός, L. scaevus
L. caedō, but perf. ceclītī, cpds. incidō (early inceidō), etc. (110.5)
L. dat. pl. ā-stems, -īs (early -eīs), from -ais = Osc. -ais, G. -ais.

a. The spelling ae, which replaced aī early in the 2d cent. B.C., merely indicates that the second element of the diphthong had a more open quality than i in other positions, as is true also of the corresponding NE diphthong in ride, etc. The same holds for the oe from oi (90).

L. ae remained a diphthong in educated urban speech down to imperial times, as appears from statements of the grammarians and from loanwords like OHG keisur from L. Caesar. But the monophthongization to an open ē was earlier in colloquial speech, and eventually prevailed, with resulting confusion of spelling between ae and e. In pre-hendō (in contrast to prae- in other compounds) this pronunciation was favored by the assimilating influence of the e in the succeeding syllable.

eu, ou

92. IE eu, ou = G. ev, ov, L. ā (early ou).

G. ēvōvos, L. iūmentum (early ioumenta)
G. λευκός, λουσσου, L. lūx, lūna
G. ēω, L. ērō, from *eusō (164, 167)
L. dūcō, early doucō: Goth. tīhan ‘lead’; IE *deukō
G. σπεύδω beside σπουδή, etc. (119.3)
1. In Greek the two diphthongs are kept distinct at all periods. But ou, as early as the 5th cent. B.C., had become a monophthong, first ō, that is, a long close o (in NE boat, etc., the vowel is close, but more or less diphthongal, ōu or ou), then ā (with the same change as in NE doom). But the spelling remained unchanged, and ou came to be used also to denote the same sound in cases where it had never been a diphthong (96).

a. G. fœu became fœi by dissimilation in elion, ἐφεισον from *eufoun: Skt. avocam, IE *e-we-uq'om (reduplicated aorist with weak grade of *weq'-, Skt. vac-), and ἀείω, *āfeiō, from *ā-fee-vō: Skt. vad-.

2. In prehistoric Italic, eu became ou, just as ew became ow in novus (80.1), and so was merged with original ou. The ou is preserved in early Latin (as in Oscan), but had become ū by about 200 B.C. The spelling ou, however, still appears in the SC de Bacch. of 186 B.C. and often later.

a. L. liber, early leiber, cognate with O. Lūvřės 'Liberi', G. ἱεβῆς, shows a dissimilatory change (ou > oi > ei) between l and b, analogous to that seen in libet from lubet (76b).

b. L. eu never represents IE eu, but is always of secondary origin, as in seu, seu, ceu from *sei-ve, etc. (89.2a), or in neuter, i.e. ne-uter, which remained trisyllabic till a late period.

c. L. ū also comes from ovi, ove, with syncope of the second vowel, as prūdens from *pro-v(i)dēns (videō), nūndīnae (noundeum in SC de Bacch.) from *nov(e)n-dinai (novem), niīntiō from *noventiō (novus) nūdus from *nov(e)dos, this from *nog'edos or the like (: Goth. naqaps, NE naked).

d. But a different development is seen in mōtus, vōtus from *moffelos, *volfels (cf. monitus to monēō), nómus from *novenos (novem), cōntiō from *coventiō, and some others. This is perhaps due to the influence of moveō, volveō, novem, etc., but there is difficulty with this and all other explanations offered.

au

93. IE au = G. au, L. au, but ū in medial syllables.

G. aŭξ, L. augēō, Goth. aukan aŭ, aûre, L. aut, aulem
L. claudō, but inclūdō, etc. (110.5)

a. The pronunciation ō for au, as Clādiius for Claudivs, was common in vulgar Latin, but even the Romance languages point to the long persistence of diphthongal au as the normal pronunciation.
LONG DIPHTHONGS

94. The existence of IE long diphthongs, that is, diphthongs with the first vowel long, as ēi, ēu, etc., is most clearly shown by the Indo-Iranian āi (IE ēi, ɔi, âi) and āu (IE ēu, ɔu, âu) as distinct from ai (IE ei, oi, ai) and au (IE eu, ou, au). The Skt. āi, āu in the transcription followed here had really become simple ai, au (and are now frequently so transcribed), but were still kept distinct from the Indo-Iranian ai, au which became Skt. e, o (73.4).

The final long diphthongs are preserved in Greek, as dat. sg. -āi, -η, -ω (-α, -η, -φ, 95). Otherwise in Greek and Latin (and the other European languages) the long diphthongs are changed in one of two ways, the conditions determining which being obscure. They show either

1) Shortening of the first element, resulting in a diphthong of the ordinary type, or
2) Loss of the second element, resulting in a simple long vowel.

This appears also sometimes in Sanskrit and probably dates in part from IE times.

IE *d(i)yēus, Skt. dyāus, (1) G. Zebs, (2) L. diēs, diem, Skt. acc. sg. dyām, G. Zīva, Zēvōs etc., based upon acc. sg. *Znv
IE *gũōus, Skt. gāus, (1) G. βoōs, (2) Dor. bōs, L. bōs
IE *rēis (stem *rēi-, cf. Skt. gen. sg. rāyas), (2) Skt. rās, L. rēs
IE instr. pl. of o-stems, -ōis, Skt. -āis, (1) G. dat. pl. -ōis, Italic dat.-abl. pl. -ōis (Osc. -oi), whence L. -is (90)
IE dat. sg. of o-stems, -ōi, G. -ω, (1) Osc. -oi, L. -oi in Numasioi (29), (2) L. -ō

95. Except for the final -āi, -η, -ω (94), the Greek long diphthongs are of secondary origin, the result of contraction, as κλης, from κλη(ς)ς, κλα(ς)ς (cf. L. clavis), crisis as Ion., Dor. ωνώς from δ αυρός, or of analogical formation, as the augmented forms like ηιπης (αιτέω), ωικης (οικέω), ηωξης (αυξάνω), or subj. λέγης, λέγη.

In Attic in the 4th cent. B.C. ηι became ει, written ει as κλεις. So too in the augmental forms, in the dative singular, and in the subjunctive, the spelling ει prevailed for a time (in 3d-cent. Attic inscriptions Ει is more than twice as common as Ηι); but in
those categories \( \eta \) was restored by analogy, e.g. \( \tau \mu \nu i \) by the influence of \( \tau \nu \mu \nu \), \( \tau \nu \mu \nu \), etc.

Finally the \( \iota \) of \( \bar{\alpha}i \), \( \omega \), and the restored \( \eta \) ceased to be pronounced, and especially after 100 B.C. the spelling of Attic inscriptions fluctuates between \( \bar{\alpha}i \) and \( \alpha \), \( \bar{\alpha}l \) and \( \alpha \), \( \bar{\alpha}i \) and \( \alpha \).

The spelling with iota subscript, \( \kappa \nu \bar{\gamma}k \), \( \bar{\iota} \tau \nu \sigma \alpha \), \( \lambda \nu \gamma \eta \), which is usual in our literary texts, and which we shall resume from this point, has no authority in antiquity. It is a late Byzantine device for indicating a vowel which had historical but no longer any phonetic value.

The difference between the earlier and later value of the long diphthongs is reflected in Latin in words borrowed at different periods, as \( \text{tragoedus} \) (\( \tau \rho \alpha \gamma \omega \delta \delta \bar{s} \)), but \( \text{rapsoedus} \) (\( \beta \alpha \psi \omega \delta \delta \bar{s} \)).

**GREEK SECONDARY \( \bar{\varepsilon} \) AND \( \bar{o} \): "SPURIOUS DIPHTHONGS"**

96. Greek \( \varepsilon \) and \( \omega \), in many dialects, including Attic-Ionic, differed in quality from \( \eta \) and \( \omega \), being close vowels, while \( \eta \) and \( \omega \) were open. (The difference was at least as marked as that in French between the close \( e \) and \( o \) of \( \text{étér} \), \( \text{beau} \) and the open \( e \) and \( o \) of \( \text{mère} \), \( \text{encore} \); \( \eta \) and \( \omega \) were perhaps as open as \( e \) and \( o \) in NE \( \text{there, forty} \)). Consequently the long vowels which came from \( e \) and \( o \) by contraction or compensative lengthening, since they retained the same quality, were not identical with \( \eta \) and \( \omega \), but were \( \bar{\varepsilon} \) and \( \bar{o} \), the latter becoming \( \ddot{u} \) (just as in NE \( \text{doom} \), etc.), and were designated by \( \varepsilon l \) and \( \omega l \) after these original diphthongs had come to have the same phonetic values (89.1, 92.1).

\( \tau \rho \nu \ddot{e} \nu \) from \( *\tau \rho \nu \ddot{e} \nu \) (178) \( \varepsilon l \mu i \) from \( \varepsilon l \mu \mu \) (203.2)

\( \text{gen. sg. } -o \nu \) from \( -o \ddot{o} \) (179.1) \( \text{acc. pl. } -o \nu s \) from \( -o \nu s \) (204.4)

\( a. \) In Attic and Ionic inscriptions the usual spelling was \( E \) and \( O \) until after 400 B.C., though occasional examples of \( E l \) (especially \( E l \mu i \)) and \( O V \) are much earlier.

\( b. \) In some dialects secondary \( \bar{\varepsilon} \) and \( \bar{o} \) were identical with \( \eta \) and \( \omega \), hence \( \tau \rho \eta \nu s \), \( \eta \mu i \), \( \text{gen. sg. } -\omega \), \( \text{acc. pl. } -\omega s \).

\( c. \) Whether \( \varepsilon l \) or \( \omega l \) in any given case is a genuine diphthong or spurious may be determined from various criteria. Thus in the infinitive \( \lambda \varepsilon l \pi \nu \) the first \( \varepsilon l \) is genuine, the second spurious, as shown by

1) The early spelling \( \lambda \varepsilon l \pi \varepsilon \nu \).

2) Dialectic \( \lambda \varepsilon l \pi \nu \).
3) For the root syllable by λέλοιτα, ξιτον, with the regular interchanges of ei (119.1), in contrast to ἐφορά, ἐφθάρην beside φεῖρω from *φεῖρω.

4) For the infinitive ending by the absence of ι in the contracted forms like τιμᾶω from τιμᾷ, in contrast to 3 sg. τιμᾶ from τιμᾷ with genuine ei.

d. An early change of ει to ι occurs in Att. χίλιοι = Ion. χείλιοι (203.2), ἴματιον beside είμι.

QUALITATIVE DIFFERENCE BETWEEN SHORT AND LONG VOWELS

97. In Greek, as already noted (96), ε, ο were close, η, ω open vowels. For the other vowels there is no evidence as to difference in quality.

In Latin there is no evidence of difference in quality between a and ð. But otherwise the short vowels were open, the long vowels close. This is known from statements of Roman writers and from the development in the Romance languages. For in vulgar Latin the difference in quantity disappeared, while the difference in quality persisted. The Romance languages (with some reservations which need not be explained here) reflect a vulgar Latin vowel system related to the older as shown in the accompanying tabulation, with illustrations from Italian.

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a. The same relation as in Latin obtained in Oscan, Umbrian, and in Oscan the original ε, ð had become so close that they were regularly written i, u, e.g. lícitūd = L. lícētū.

This relation, rather than that in Greek, is the more usual one in general and holds good for the English vowels. Thus the short [i], [u] of did, full are relatively open, the long [i], [û] of deed, fool relatively close, and the latter are from earlier close [ë], [ô] as the spelling still shows.

b. The contrast between It. detto from dictus and scritto from scriptus illustrates the nature of the Latin evidence for Latin hidden quantity. It is an inference from quality to quantity.

Other evidence for hidden quantity, which may conveniently be mentioned here, is as follows:

1) Statements of Roman writers, as one of Cicero covering cases like cōnsul (99.1a).
2) Spelling in inscriptions, the apex over the vowel, and ei or I longa for i. But there is no consistency in the practice and there are many errors.

3) Greek transcriptions.

4) Etymology.

5) Treatment in compounds, long vowels not being subject to the weakening in medial syllables (110), e.g. adac̄tus beside ac̄tus in contrast to adfectus beside factus.

Often there are several kinds of evidence combined. But there are also many doubtful cases where the evidence is meager or conflicting.

LENGTHENING AND SHORTENING OF VOWELS IN GREEK

98. 1. The simplification of various consonant groups containing a nasal or liquid is attended by lengthening of the preceding vowel (see 188.2, 201.3, 203.2, 204.2, 205.2).

2. Long vowels were shortened in prehistoric Greek before a nasal or liquid + consonant. So regularly before ντ, as in pple. γνώντες from *γνω-ντες, or 3 pl. Dor. ἔγνω from *ἔγνω-ντ. But long vowels arising later by contraction or analogy were not affected, e.g. τιμώντες, φέρουνται.

3. Long vowels are shortened before other vowels in various dialects, most commonly η before o or ω in Attic-Ionic. So gen. pl. βασιλέων from βασιλῆων (Hom.), Att. ἔως from ἡ ὡς (Hom., Hdt.). When the second vowel is short it may be lengthened, resulting in what is known as “quantitative metathesis”. This is peculiar to Attic-Ionic and most uniformly observed in Attic, e.g., νεῶς ‘temple’ from νηῶς (Hom.; Dor. νᾶος), λεῶς from ληῶς (Hom. has the non-Ion. λᾶός), gen. sg. βασιλέως from βασιλῆος (Hom.; βασιλέως in later Ionic), and similarly acc. sg. βασιλέα from βασιλῆα.

Homer often shows the older forms (as sometimes Hdt.), but also in many cases the shortening and quantitative metathesis, as gen. sg. -εω from -ηο beside Aeol. -αο, or gen. pl. -ειν from -ηνον beside Aeol. -άων. No brief statement can cover the details.

LENGTHENING OF VOWELS IN LATIN

99. 1. The simplification of certain consonant groups, as sn, sd, etc., and final ns, is attended by lengthening of the preceding vowel (see 202.1, 3).
2. Vowels were regularly lengthened before *ns, *nf, *nx, and *nct, as in cōnsul, īnfrā, īnxe, īnctus.

a. Aside from statements like that of Cicero, Orator 159, that in and con were pronounced with long vowels when compounded with words beginning with *s or *f, or those of various grammarians for amāns, dēns, etc., the long vowel is very frequently indicated in inscriptions by the use of the apex or the. I longa e.g. CÓNVSVES, INFRA, CONIVNXIT, INVCNCTA.

b. There was a tendency in some quarters to lengthen a vowel before *r+consonant, and this seems to have become the accepted pronunciation in a few words, as fīrma, ērdō, ērnsō, and perhaps quārtus.

c. A similar locally or socially restricted tendency to lengthen a vowel before *gn will account for Priscian’s statement that words ending in *gnus, *gna, *gnum had a long vowel in the penult and for the occurrence of I longa in signum, dignus, ignis, privignus. But even in these words the Romance and other evidence points to signum, dignus, etc., and in most words, like magnus, which with all its great frequency in inscriptions never appears with the apex, there is no justification for assuming a long vowel. In rēgnnum the long vowel is original, as in rēx, rēgis. So in a few others.

d. The long vowel in the perf. pass. pple. of most roots ending in *g, as lēctus, rēctus, lēctus, āctus, lāctus, pāctus, from legō, regō, etc., and of some of those ending in *d, as visus, fūsus, ēsus, cásus, from videō, etc., is regarded by many scholars as due to a lengthening which attended the change of the voiced consonant to a voiceless. But vowel lengthening on such a basis seems improbable, and furthermore it is not observed in strictus, fīssus, scissus, sessum. Forms like lēctus may perfectly well contain the inherited g-grade of the root which is seen in lēgi, rēx, rēgis, ēdi, ēst, etc., and visus, fūsus the form of the root that appears in vidē, fūdi; and even those with *d, as āctus and cásus, may be formed from ādg-, càd-, etc., though these forms are not otherwise extant in Latin.

SHORTENING OF VOWELS IN LATIN

100. Long vowels were shortened in prehistoric times before a nasal or liquid + consonant. So regularly before *nt or *nd, as pres. pple. stem amant-., vident- (amāns, vidēns, by 99.2), gerund. amandus, videndus, formed from the verb stems amā-, vidē-.

a. But changes in the historical period led to the existence of long vowels in this position, as cōntiō from coventiō (92e), nūntiō from *noventiō (92e), āndecim from *oino-decem, prīncēps from *primo-caps, etc. There is evidence that in such words also the vowel was eventually shortened (e.g. contio in grammarians, undecim, nuntu to be inferred from Fr. onze, annoncer), but probably not in the classical period.
101. Long vowels were regularly shortened before final m, t, nt (nt under 100), and, except in monosyllables, before final r and l. amābam, -bat, -bant beside -bās, -bāmus, -bātis, and amābar beside -bāris, etc. amat, amant beside amās, etc.

pres. subj. legam, legat, legant, legar beside legās, etc.

And so in all verb forms in which the tense stem ended in a long vowel, as shown by the second singular, etc.

nom. sg. pater, māler: G. πατήρ, μῆτηρ
nom. sg. victor etc.: G. -τωρ

nom.-acc. sg. neut. animal, exemplar beside gen. sg. animālis, exemplāris

acc. sg. of the first and fifth declensions, -am, -em from -ām, -ēm

gen. pl. -um from -om (82.2), this from -ōm: G. -ων

a. The shortening before final l, r, l began in iambic words (102), and in Plautus occurs only in such, and not always then. Forms like vidēt, amōr, etc., are even found in later poetry.

102. "Iambic shortening".—There was a marked tendency in colloquial speech, as reflected in early poetry, to shorten the final syllable, especially a final long vowel, in iambic words, thus changing the word rhythm from - to - . This shortening was permanently effective in certain words.

bene, male, modo, cito beside allē, prīmō, etc. (509.4)

duo from *duō (313.2)   ego: G. ἐγώ

 nisi, quasi from nisī, quasi (earlier nisei, quasei)

likewise mihi, tibi, sibi, ibi, ubi though here the poets continued to use also the older mihi, etc., at will

a. In Plautus we find also many instances like gen. sg. boni, abl. sg. malo, nom. pl. viri, imperat. ama, mone, abi, nom. sg. homo, i sg. volo. But the divergence thus created between forms of the same inflectional category (e.g. gen. sg. boni, but prīmi) was contrary to the tendency to uniformity within the same category, and the long vowel was restored as the normal in all these classes. Only in a few imperatives that were isolated by their interjectional use, as ave, cave, puta, the popular pronunciation with short vowel was generally accepted.

Forms like homo, volo are occasionally employed by poets of the later Republican and Augustan periods, and from Ovid on short o is more and more
frequent, even in non-iacbic words as *esto, ergo, octo. By the 4th cent. A.D. the grammarians recognized final ơ only in the dative and ablative singular and in the monosyllables dō, stō.

In Plautus the tendency to iambic shortening shows itself also in cases like velint volūptātēs, etc. The details belong to the study of Plautine prosody.

103. Long vowels were generally shortened before another vowel. So pius from πiūs, seu from *sēū (89.2a), fuit from fūīt, gen. sg. reī, fideī from -ēī, which was retained after i, as in diēī, faciēī; deesse from dē-, and likewise dehinc, dehiscō, for the weak h (149) did not prevent the shortening (cf. also prā-cunte, prehendō). But the long vowel was retained in some words, notably in the forms of fiō (except fierī, fierem, etc.). For the pronominal genitives the pronunciation únīus, illius, etc., was the one which was regarded by the Romans as correct (perhaps owing to the influence of eius, cuius, etc.), though únīus, illius, etc., were also familiar and often occur in poetry.

a. A final long vowel was sometimes shortened when an enclitic element was added. So si quidem, tu quidem beside si quidem, tū quidem (with si, tū restored by analogy) and always quasi from *quāsī (probably from *quam-sei) and hodie from *hō-dīē.

CONTRACTION OF VOWELS IN GREEK

104. The prehistoric loss of intervocalic γ (178) and ς (164), and the later loss of intervocalic φ (174) produced a great variety of vowel combinations which generally underwent contraction. A table of the regular contractions in Attic may be found in a Greek grammar, and need not be repeated here. Most of them are illustrated in the inflection of the contract verbs. The following points may be noted here:

1. ι and υ unite with a preceding vowel to form diphthongs, as 2 sg. ei from *e(σ)ι.

2. Like vowels contract to the corresponding long, whereby ε+ε and ο+ο give spurious ei, ou, but in some dialects η, ω (96).

3. In the combination of an o-vowel with an a- or e-vowel, the o-quality prevails, as in ω from a+o or o+a, or spurious ou from ε+o or o+ε. a+ε gives ā (but Doric η), while ε+a gives η.

4. The contraction of ε+o to (spurious) ou (φιλονμέν) is Attic.
only. In other dialects eo is uncontracted, or appears as eu, especially in Ionic. Even in Attic eo and ea are uncontracted (1) when from εφο, ετα, as ᾧδεος, ᾧδεα, (2) in dissyllabic words, as θεός, εαρ.

5. The Attic-Ionic change of ᾳ to η (88) preceded the contraction, e.g. ᾳ+ω became first ηω, whence εω, ω, and ᾳ+ε became ηε, whence η. In the other dialects the result of contraction was ᾳ, e.g. gen. pl. 1st decl. -άν = Att. -άν.

6. Certain irregularities of contraction are due to analogy, e.g. acc. pl. ὑστά from ὑστέα, ἄπλα from ἄπλοα, influenced by the a of the regular ending in δῶρα, etc.

7. Homeric forms like ὑπώ, ὑφάσθαι are thought by some to represent an intermediate stage between ὑπώ, ὑφάσθαι and ὑπώ, ὑφάσθαι, one in which the vowels were assimilated but not yet contracted. But no such forms are attested by the inscriptions of any dialect, and the prevailing and more probable view is that they are artificial. After the contracted form had become current, the necessary metrical value was restored by a process of "distraction" (ᾱ to aa, ω to ow, etc.) instead of by a restoration of the original uncontracted forms.

CONTRACTION OF VOWELS IN LATIN

105. Contraction of vowels in Latin is less extensive and also more obscure in its results than in Greek. The principal occasion of contraction was the loss of intervocalic y (178), while in Greek not only y but also s and w were lost between vowels; h and v were sometimes lost between like vowels; some compounds of dē-, pro-, and co- with words beginning with a vowel show contraction.

1. Like vowels contract to the corresponding long vowel. So trēs from *treyes (Skt. trayas), cópia from *co-opia, nēmō from *ne-hemō (80.5), nil beside nihil. The diphthong ae absorbs a following e or i, as in praemium from *praem-ium (emō), praebē beside prae-hibē.

2. Unlike vowels. dēgō from *dē-agō, cōgō from *co-agō, prōmō from *pro-emō, cūrō, etc. (denominatives of first conj.) from -āyō (but -ēō uncontracted). sōl from *sāol, *sāvol, *sāvel (cf. Goth.
sauil, G. dial. ἄφελως), but mālō, Mārs with ā under the influence of the parallel uncontracted forms-māvolō, Māvors.

In the denominatives of the first, second, and fourth conjugations part of the forms are the result of normal contraction (as in Greek), but others probably not (see 371, 373, 376).

PROTHEtic VOWEL IN GREEK

106. A prothetic vowel, usually ε, sometimes α or o, appears regularly before ρ, when this represents an original initial r, and less commonly before initial λ, μ, f.

ερυθρός: L. ruber, Skt. rudhiras, Eng. red
ἔρεβος: Goth. riqis ‘darkness’, Skt. rajas ‘mist, darkness’
ἐλεύθερος: L. liber      ἀληνός: L. linō
ἀμέλγω: L. mulgelō, Skt. mṛj- ‘wipe’, Eng. milk
ἐἰκωσι from *ἐἐκωσι beside Dor. ἕκαρι: L. viginti
Hom. ἐρώς from *ἐἐφρως: Skt. varṣas ‘rain’; similarly Hom. ἐργῳ
(Att. εἰργῳ), ἐδνα, ἐἴλωρ, etc.

a. In ὄνομα (L. nōmen, Skt. nāma), the initial vowel belongs to a fuller form of the stem, perhaps also in ἄνθρο (Skt. nar-, Osc. ner-), and some others.

An i, apparently prothetic, appears in ἱσθι, (cf. Av. ədī), ἱκῆνος (cf. Skt. cyaṇaś), and a few others. The first reminds one of vulg. L. ipsisitus (Fr. espirit), etc., but is an isolated case in Greek.

ANAptyxIS IN LATIN

107. In Latin an anaptyctic vowel (40.3) develops regularly in the case of the groups cl and bl, where it takes on the quality of the following vowel.

pōculum, early pōcolom, from *pōclom
facilis from *fácilis     stabulum, stabulis from *stablom, *stablis

Occasionally a vowel is developed in other groups of consonants, and especially in borrowed words, as mina from μνῆ. In Greek the second vowel of ἰβδομος, dial. ἰβδημος is anaptyctic.

VOwEL SYnCOPE IN LATIN

108. In languages with a stress accent, like English, an unaccented short vowel is often suppressed. So in NE chapter from chapiter, captain from capitain, colloquial and poetic ev’ry beside
more formal every, gen’ral beside general, and countless others. Such syncope of short vowels is unknown in ancient Greek with its pitch accent, but is very common in Latin. As in English, this occurred at various periods in the history of the language; and, apart from the fact that the vowel was unaccented, under diverse conditions too complex to admit of any precise formulation. In most cases the older form was definitely displaced by the syncopated form, but sometimes both forms were in use.

Syncope occurred most extensively in the prehistoric period (and so under the older accentual system when all words were stressed on the initial syllable, 221), and left no trace of the unsyncopated form. Thus dexter from *dêxîteros (cf. δεξιτερός), retulî from *ré-tetulî, quindecim from quinque and decem, princeps from *primo-ceps; in final syllable, in mors, pars, mënś, mönś, etc., from *mortis (Skt. mṛtis), etc.; final vowel, in ab, sub (G. ἄνβ, ὑπό, Skt. apa, upa), personal endings -t, -nt from -ti, -nti (337, 340).

Parallel forms in related words: superus but suprà, suprĕmus, inferus but infrà, validus but valdĕ (validē in Plautus).

Parallel forms of the same word: calidus and calŭdus, solidus and soldus, surrigō and surgō; necque and nec, atque and ac (in Plautus also nemp beside nempe, etc.).

a. Among the probable factors determining the presence or absence of syncope may be mentioned: quality of the vowel, i being the shortest of all vowels and the one which is oftenest lost; position in open or close syllable, cf. dexter from *dêxîteros, but sinister; quantity of following syllable, cf. superus, but suprà, suprĕmus; familiarity of consonant group resulting from syncope, cf. calŭdus, but not frigidus until late. But the complexity of factors and the variety of cross currents make it impossible to lay down any precise rules. The parallelism of calidus and calŭdus was like that of every and ev’ry in English, calŭdus being the colloquial form, frequently appearing in poetry, while calidus was preferred in more formal speech, though Quintilian in his time regarded it as pedantic.

Syncope was further extended in late vulgar Latin, e.g. frigdus (It. freddo, Fr. froid) from frigidus, and still further in the several Romance languages, most of all in French, e.g. chambre from camera, still unchanged in Italian.

109. Syncope is frequent in the case of final -ros and -ris. The resulting -rs becomes -r (200.2, 212.6), as in vir from *viros, puer from *pueros. If a consonant precedes, the r becomes syllabic and
then -er, as in ager from *agros (G. ἀγρός), sacer from sakros (in forum inscr.), Alexander from Ἀλέξανδρος, ãcer from *akris, etc. So also, even in accented syllables, ter from *tiris (G. τρίς, Skt. tris), testis ‘witness’ orig. ‘third party’ from *tristis, cernō, certus from *krinō, *kritis (G. κρίνω from *κρινω, κριτός). The more special conditions for these last (as contrasted with tribus, etc.) are obscure.

VOWEL WEAKENING IN LATIN

110. In languages with a stress accent, an unaccented short vowel, instead of being wholly lost (108), may suffer a change of quality, which under these conditions is known as weakening (40.5). In Latin the weakening took place in the preliterary period, under the old accentual system of initial accent (221). It is mainly in the direction of raising and in part fronting of the vowels, as $a>e$, $o>e$, $e>i$. Long vowels were not affected, but diphthongs were, through the change in quality of their first element. The earliest change was that of $a$, and in part $o$, to $e$, after which this $e$ together with original $e$ was further changed to $i$ under certain conditions. More specifically the changes in medial syllables are as follows:

1. $a$ becomes $e$, and this is further changed to $i$ before a single consonant except $r$, also (by 79.1) to $i$ before $ng$, and (by 80.6, 82.1) to $u$ before $l$-consonant.

$*$perfactos $>$ perfectus $*$perfaciō $>$ *perfectīō $>$ perficiō
*$talantom (ταλαντωρ) $>$ talentum $*$peparai $>$ peperi
*$cecadai $>$ *cecdei $>$ cecidi $*$attangō $>$ *attengō $>$ allingō (79.1)
*$insallō $>$ *insellō $>$ insolīō (80.6) $>$ insultō (82.1)

a. In the history of allingō, constringō, insultō, inculcō, etc., only the first step, resulting in *attengō, *insellō, etc., belongs properly under the head of weakening, which did not affect further the $e$ in these forms any more than in perfectus or elsewhere before two consonants. The subsequent steps are due to the fact that the weakening to $e$ took place early enough to bring these forms under the action of certain other phonetic laws which affected both accented and unaccented vowels, namely those stated in 79.1, 80.6, 82.1.

The retention of $e$ in peperi, contrasted with cecidi, as of orig. $e$ in congerō, contrasted with adsideo (3), is due to the fact that $r$ often tends to lower a vowel (39.2), or, as here, to prevent its raising.
2. o before a single consonant except l becomes e, which remains after i, otherwise is further changed to i.

* socio-tās > societās  * novo-tās (cf. G. vērns) > novilās
* in-(s)locē > ilicē  * hosti-potis > * hospet(i)s > hospes (e kept in final syllable), gen. hospitīs

a. Before l or two consonants o remained well into the historical period, when it became u (82.3).

3. e, unless preceded by i, becomes i before a single consonant except r.

* atteneō > altineō  * conregō > corrīgō
* adsedēō > adsideō  * comprēmō > comprīmō
But congerēō, etc.

4. Instead of the weakening to i before a single consonant, as stated in 1, 2, 3, we sometimes find u, whence in part later i, before p, b, f, or m, especially when the influence of these labials was supported by rounded vowels in the surrounding syllables.

Thus, from the root cap- (capio), occupō beside occipō, anticipō, auctus (auceps) beside principis (princeps), mancipium, later mancipium

Further contubernālis (taberna), surrupuit, later surripuit (rapiō) proxumus, optumus, maxumus, later proximus, etc.
possumus, volumus beside legimus, etc.
aurus ex, pontus ex, later aurifex, pontifex.

a. It is impossible to formulate the conditions more precisely, or to distinguish always between phonetic and analogical change. Analogy tended to the generalization of -imus in the superlatives, and in the first plural ending which was further supported by the second plural -itis (lacking in the case of volumus, possumus, quaesumus). Presumably documentum, monumentum, but legimentum represent the normal phonetic relation, while monimentum, docimentum, legimentum are analogical.

In cases like optumus, optimus the spelling with u prevails in early times, while after some fluctuation the spelling with i became the standard. Quin-tilian and others state that the sound was intermediate between u and i, from which it is inferred that it was like Fr. u or Ger. ü. But if so, it is remarkable that the spelling with y, which was introduced to represent this sound in Greek words (69), was not also employed in words of this class. It is more probable, though not the usual view, that we have to do with an
ordinary u in the early maximus (as obviously in the persistent occupo) and with an ordinary i in the later maximus, the alleged intermediate sound being imaginary, suggested by the fluctuation in spelling.

5. ai becomes ei, ē, whence i; au becomes (probably ou, whence) ū; av and ov become u.

*incaidō > inceidō (SC de Bacch.), incidō
*inquirō > inquirō  *inclaudō > inclūdō  *adcausō > accūsō
*ēlavō > ēluō  dē novō > dēnuō

111. Exceptions to the foregoing rules are mostly due to analogical influence.

1. In compounds the influence of the simplex may cause the retention or the restoration of its vowel, that is recomposition (48.2). This may be actual recomposition in the historical period, as in ēnecō (necō) replacing early enicō, or consacrō in inscriptions of imperial times for usual consecrō, or late composition as in circumbō beside adigō, etc., or the continuous retention of the original vowel, as in adlegō, intellegō beside colligō, dēligō, or adhaecerō, exaudīō contrasted with inquirō, inclūdō. Compounds of verbs containing o in the root syllable never show the weakening, e.g., abrogō, conlocō, admoneō.

2. Besides recomposition, there are other types of analogical influence, e.g. integer (from tag- of tangō), instead of *intiger, under the influence of the oblique cases integrī, etc., where the e before two consonants is regular. The frequent interchange of e and i (from a or e), as in princeps, principis, miles, miliis, and especially artifex, -fīcis, etc., has led to īndex, īdicis, index, indicis, instead of *iūdix, *indix (-dic-s). Compounds of gradior, gressus (121), have -gridior (not -gridior), gressus with generalization of the e.

3. In some cases the assimilative influence of the vowel of the preceding syllable has been a factor in preventing weakening, e.g., in alacer or gen. sg. anatis (anas), segetis (seges), tegetis (teges), etc., contrasted with principis, miliis.

4. A few compounds show syncope instead of weakening, as pergō from *per-regō, surgō beside early surrigō, rarely porgō beside porrigō. So, apparently, with vocalization of a preceding
consonantal *u or *i, -cutio (whence also -cussi, -cussus) in compounds of quatiō, as percutiō, etc., and -iciō in compounds of iaciō, as adiciō, etc. But for the last we have also early adieciō, reieciō (first syllable long as in eius, that is, eiīus, 179.2), and such forms are reflected by adiciō, reiciō with first syllable long in poetry.

112. The vowel changes in final syllables agree only partially with those in medial syllables.

The weakening of a to e is seen in princeps (cap-), artifex (fac-), etc., also in cornicen (can-), oscen, etc. (not -cin, for even a single consonant when final makes a closed syllable).

An e remains before a final nasal, as in nōmen (but nōminis), decem (but decimus, etc.); but it becomes i before final s or t, as gen. sg. rēgis from -es (245.2), 2 sg. legis, 3 sg. legit from -esi, -eti (332, 349). Secondary -es from -ets, as in miles, hospes (*hospitis > *hosteps) was not affected.

Other changes in final syllables have been mentioned elsewhere, as that of o to u (82.2), or ai and oi to i (90, 91), final i to e (74b).

SYLLABIC LIQUIDS AND NASALS

113. Liquids and nasals are sounds of such sonority that, while they usually have the function of consonants and so are normally ranked as such, they may also have the function of the ordinary vowels, that is, they may be pronounced so as to form a distinct syllable without theaid of other vowels. This is the case in many languages, and so in English in the unaccented syllables of words like able, hidden, bottom, in which the vowels which appear in the spelling are no longer pronounced, but only the l, n, m. Such sounds are assumed for the parent speech, and are best termed "syllabic"\textsuperscript{1} liquids and nasals and distinguished from the corresponding consonants by the symbols r, l, η, η. And whatever the precise phonetic character of the sounds in the parent speech,

\textsuperscript{1} If we chose to define vowel and consonant solely by their difference of function in the syllable, we might speak of "vowel" liquids and nasals. There is no very serious objection to this, and in fact the Sanskrit r and l are regularly known as "vowels". But it is preferable to hold to the traditional application of the term vowel, and to use "syllabic" where it is simply a matter of syllable-making function.
which is of small consequence, the symbols r, l, etc., are those which best represent the essential facts of their historical relations.

For the sounds in question were (1) related to r, l, etc., in precisely the same way as i to y or u to w (e.g., acc. sg. ending m after vowels, η after consonants), and (2) were reduced forms of fuller er, el, etc. (or re, etc.), parallel to i beside ei or u beside eu, as will be made clear in the discussion of vowel gradation (117, 118).

In the position before a vowel, and in part before y or w, the development in some of the IE languages is different from that before a consonant. We shall speak of antevocalic r, etc., for which many scholars use a different symbol, as s or the like.

In the accompanying table "+vow." is to be understood as covering in part, and certainly for Greek, the position before y or w.

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<td></td>
</tr>
<tr>
<td>+cons.</td>
<td>(a, μ)</td>
<td>am(?)</td>
<td>am</td>
<td>im</td>
<td>um</td>
<td></td>
</tr>
</tbody>
</table>

114. IE r and l. G. καρδία, κραδίη, L. cor, gen. cordis, Lith. širdis, Skt. hr̥d (though this last does not agree in the initial consonant).

G. θάρσος, θράσος, Skt. dhṛṣ- 'dare', OE dorse 'durst'
L. poscō from *porscō, Skt. pṛcchāmi 'ask', NHG forschen
L. mollis from *moldwis, Skt. mṛdus
G. πλατύς, Skt. pṛthuṣ śataṃ at beside στέλλω, etc. (119.5)

The conditions governing the interchange of a, a, and ρ, a, λa
before consonants are not determined. In some words the difference is one of dialect, but not in most.

G. βαρός, Skt. gurus, Goth. kaúrus 'heavy' (aúr = or)
G. βάλλω from *βάλλω beside βέλος (119.5)
L. carō originally 'a portion, a cut': G. ἐκάρῃν aor. pass. of κείρω

a. It is uncertain whether L. pariō (from a weak grade of *per- in Lith. periu 'brood, hatch') or morior (beside mors:Skt. mṛtis) represents the normal Latin development of r before y, since either may be explained by the analogy of other forms.

b. In a few words IE ṟ, Ṣ seem to be represented by G. ὅρ, ὅλ, L. ur, ul (and similarly Lith. ur, ul, instead of ir, il). G. ἀγυρός, ἀγύρτης beside ἀγείρω (*ἀγερῶ), ἀγορά, etc. L. mulier probably related to mollis (above). The setting up of IE ἄ, ἐ (that is, ṟ, Ṣ with u-timbre) is a convenient device for grouping such cases, though not an explanation.

115. IE ἅ and ῆ. IE negative prefix *η- (the weak form of IE *ne in Skt. na, L. ne-fās), G. ἄ-, before vowels ἄν- (ἀ-πιστος, ἄν-ποπος), Skt. a-, before vowels an- (a-krītas, an-uḍras), L. in- (from en-), Germanic un- (NE un- beside the borrowed L. in-).
IE *dekm, G. δεκά, L. decem, Skt. daça, Goth. ṭathun, Lith. dešimt
IE *kmtom, G. ekarón, L. centum, Skt. ḍalām, Goth. hund, Lith. šimtas

IE -η, acc. sg. ending of consonant stems (beside -m of vowel stems), G. -a, L. -em (Skt. -am after analogy of vowel stems)
IE -ης, acc. pl. ending of consonant stems (beside -ns of vowel stems), G. -as, L. -ēs (from -ens), Skt. -as, Goth. -uns
IE -ntai, -nto, 3 pl. mid. endings after consonants (beside -ntai, -nto after vowels), G. -ara, -aro, Skt. -aṭe, -aṭa

G. βάσις, βάρβος, Skt. gatis, gatas, L. con-ventio, Goth. ga-qumps,
from IE *gwη- weak grade of *gwe-em- in Skt. gam-, Goth. qiman
So also G. βαινω (*βαινω) from *gwηtio, and perhaps L. veniō (or from *gw-emtyō?) for which see also 196.

a. It is a disputed question whether ἅ before vowels is represented in Latin by en (as before consonants) or by an (parallel to ar from r before vowels). The latter view is preferred here. So maneō from *mν- beside *men- in G. μνεω, and the difficult canis:G. κιων, κυνός, apparently a blend of *kwn- and kun-.
116. IE ũ, ĭ, ȗ, ȗ. There is evidence that there existed in the parent speech certain sounds which, whatever their precise phonetic value, are genetically related to ũ, etc., precisely as i to i or ū to u. The symbols ũ, etc., are those best adapted to reflect this situation and, though discarded by many scholars, will be retained here. Like i and ū, the ũ, etc., resulted from contraction of the weak grades of disyllabic stems, that is, γν-, etc., which might also remain uncontracted and appear in Greek as apa, etc., as θάνατος beside Dor. θνάτος (see 126).

Their representation is as follows:

<table>
<thead>
<tr>
<th>Skt.</th>
<th>ur, ur</th>
<th>á (ām)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G.</td>
<td>pā, lā o r ω, lω</td>
<td>vā, μā (Att.-Ion. νη, μη)</td>
</tr>
<tr>
<td>L.</td>
<td>rā, lā</td>
<td>nā, mā</td>
</tr>
</tbody>
</table>

Skt. ārṇā, Dor. lávοs, L. lānā (Goth. wullu, Lith. vilna, etc.)
Dor. rλάτος, L. látus (*lātos beside lollō)
Skt. sthrṇās, L. strālus, G. στρωτός Skt. jālas, L. nālūs
Dor. θνάτος, κμάτος, δμάτος beside θάνατος, κάματος, εύκαμασα

a. The Greek correspondence to Skt. ir, ur has been much disputed. It is assumed here that it is normally pā, lā, parallel to the vā, μā. But forms like στρωτός, βιβλώσαω, βιβρώσκω, βρωτός seem also to belong here (rather than from IE *strō-, etc., for which there is no evidence, as there is for IE γν-, G. γνω-), and are perhaps to be explained by their relation to o-forms like ἐκτόρεσσα, ἐκμολον, though these also are puzzling (127a).

VOWEL GRADATION

117. The term vowel gradation (for which the brief German "ablaut" is also familiar) is applied to certain alternations of vowel which recur in the several IE languages and must have originated in the parent speech—such, for example, as are seen in G. πείθω, πέποθα, ἐπιθού, L. fidō, foedus, fidēs, or in NE drive, drove, driven, all pointing to IE ei—oi—i. They are to be distinguished from those alternations which, however regular, have arisen under the special phonetic laws of a particular language, as in L. faciō, addicio, adfectus (110), where one may at most speak of a secondary vowel gradation.

The inherited vowel gradation arose under the accentual and other conditions of the parent speech, conditions which affected every syllable of the word, whether belonging to the root or to a
formative element. Hence the gradation, while most conspicuous in the root syllables, is by no means confined to these. Thus we find gradation in the root *ter-* and likewise in the suffix *-ter-*. To cover all such cases one may use "stem" ("base" has also been introduced in this connection) as a general term for the syllable (or, in some cases, the group of syllables, 126) involved. It is customary to cite the stems in what is believed to be the "normal" or fundamental grade.

Vowel gradation is a conspicuous and vital feature in the interrelations of Greek forms, as it is also in Sanskrit and in the Germanic languages, where it still pervades the forms of the strong verbs, as in NE drive, drove, driven, or sing, sang, sung. In Latin, on the other hand, vowel gradation has been to a considerable degree eliminated by the generalization of one or the other grade, and while it is still reflected by certain occasional alternations, it has ceased to play any such significant rôle as in Greek.

118. The e-series. By far the most prevalent gradation is that which falls under the e-series, in which the normal grade contains e. This series is then to be further subdivided, according as the normal grade contains simple e between stops, e.g. pet, or ei, eu, er, en, etc. (or ye, we, re, etc.), in which the e is followed (or preceded) by an element which is itself capable of syllabic function. The general scheme is as shown in the accompanying table.

<table>
<thead>
<tr>
<th>STRONG</th>
<th>Weak</th>
<th>Lengthened</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-Grade</td>
<td>o-Grade</td>
<td>Reduced Grade</td>
</tr>
<tr>
<td>1. e............</td>
<td>o.............</td>
<td>e</td>
</tr>
<tr>
<td>2. ei...........</td>
<td>oi............</td>
<td>+vow.</td>
</tr>
<tr>
<td>3. eu...........</td>
<td>ou............</td>
<td>i</td>
</tr>
<tr>
<td>4. er...........</td>
<td>or............</td>
<td>u</td>
</tr>
<tr>
<td>5. el...........</td>
<td>ol............</td>
<td>i</td>
</tr>
<tr>
<td>6. en...........</td>
<td>om............</td>
<td>y</td>
</tr>
<tr>
<td>7. em...........</td>
<td>on............</td>
<td>η</td>
</tr>
</tbody>
</table>

a. It is to be understood that we may have, for example, we (wo, etc.) as well as eu, with the same weak grade u, or re (ro, etc.) as well as er, with the same weak grade r. Before a vowel we have ey (oy, etc.), ew (ow, etc.) instead of ei, eu. Such alternatives are omitted from the table, in order not to make
it still more cumbersome. But they are represented in some of the illustrations to follow.

For much of the material the differences under the weak grade may be ignored. In the first subdivision the reduced grade, as πτ, is somewhat problematical and assumed only for some few forms (121). In 2–7, if the stem ends in a consonant (a stop or s; there are no original roots in -cin-, -cil- or the like), there is only one form of the weak grade, namely that given in the central column. Thus G. λιπ-, φυγ-, weak grade of λειπ-, φευγ-.

If the stem ends in ei, eu, etc., and a consonant follows, the weak grade can likewise be only i, u, etc., as in G. τ-μευ, Skt. i-मस beside el-μ, ε-μι. But if a vowel follows, the weak grade may be either i, u, y, etc., or y, w, r, etc. While this is only a matter of syllabic function, and is in part conditioned by the preceding consonants, and so not strictly a matter of gradation, it is customary and sometimes convenient to call the former the reduced grade and the latter the zero grade. Thus with reduced grade (R) G. κλώ beside e-grade in κλή(ψ)ος (cf. Skt. aor. aṣṭam, 3 sg. perf. mid. aṣṭama), ἔρημος (e-grade in ἔρημος), ἔβαλος (e-grade in ἐβαλος, Arc. ἐβάλλω), ἐκτάνος (e-grade in κτεῖνος from *κτείνω), etc., but with zero grade (Z) G. ἤγερο, ἄγρόμενος (e-grade in ἄγειρω from *ἀγέρω), ἔπελεο, -πλομενος (e-grade in πελομαι), ἔπεφνον (e-grade in θείω from *θεύω), etc.

119. The most commonly occurring grades are the e-grade, the o-grade, and the weak grade, so examples of these will be given first. One must bear in mind the representation of IE ṛ, ṣ, etc. (114, 116), and, for the Sanskrit comparisons, the merging of IE e and o in a (73.4) and the consequent loss of distinction between the e- and o-grades.

<table>
<thead>
<tr>
<th>e-Grade</th>
<th>o-Grade</th>
<th>Weak Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. G. πέτομαι&lt;br&gt;Skt. पदामि</td>
<td>ποτή</td>
<td>ἐπόμην, περόν&lt;br&gt;µαρή</td>
</tr>
<tr>
<td>G. ἵππος (*σεχ-, 162)&lt;br&gt;L. sequor&lt;br&gt;Skt. स्कृत</td>
<td>socius</td>
<td>ἐτόμην</td>
</tr>
</tbody>
</table>
| 2. G. πεἶθω<br>L. fidēs<br>G. δελανωμ | πεῖθα<br>foodus | ἐπίθον<br>µίδας | δίκη |}

Goth. stiega<br>NE drive<br>(o=OE d, Goth. ai, IE o)
### VOWELS AND DIPHTHONGS

<table>
<thead>
<tr>
<th>e-Grade</th>
<th>o-Grade</th>
<th>Weak Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. G. πεθομαυ</td>
<td>cubo</td>
<td>ἐπιθομην</td>
</tr>
<tr>
<td>Skt. bōdhāmi</td>
<td>bauḥ</td>
<td>buddhās</td>
</tr>
<tr>
<td>Goth. bindan</td>
<td>budans</td>
<td></td>
</tr>
<tr>
<td>L. dūcō</td>
<td>ductus, dux</td>
<td></td>
</tr>
<tr>
<td>G. φεγγα</td>
<td>Εφγην</td>
<td></td>
</tr>
<tr>
<td>G. σπεδω</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. χε(ε)ω</td>
<td>kēuxai</td>
<td></td>
</tr>
<tr>
<td>Skt. 'tavnos, L. somnus</td>
<td>G. ἔνως (*sweρños)</td>
<td></td>
</tr>
<tr>
<td>4. G. διρκομαυ</td>
<td>didorka</td>
<td>διδρακον</td>
</tr>
<tr>
<td>Skt. 'dārca</td>
<td>dārca, dīsās</td>
<td></td>
</tr>
<tr>
<td>G. δερω</td>
<td>ἔδερα</td>
<td></td>
</tr>
<tr>
<td>G. ṭρεπε</td>
<td>ἔτρατον</td>
<td></td>
</tr>
<tr>
<td>L. precor</td>
<td>procos</td>
<td>ἐποκος from *porscō</td>
</tr>
<tr>
<td>Skt. pračmaś</td>
<td>praċhami</td>
<td></td>
</tr>
<tr>
<td>G. στελλω</td>
<td>στελλαύ</td>
<td></td>
</tr>
<tr>
<td>G. βελος</td>
<td>βαλλο</td>
<td></td>
</tr>
<tr>
<td>6. G. τελω (*τέκιω)</td>
<td>τέλος</td>
<td>τεταμαι, τατας</td>
</tr>
<tr>
<td>Skt. 'lāntum</td>
<td>lātas</td>
<td></td>
</tr>
<tr>
<td>G. βελω (*θεμου)</td>
<td>φωνο</td>
<td>τεφαμαι, τέφνο</td>
</tr>
<tr>
<td>Skt. 'hāntum</td>
<td>ἡδασ</td>
<td></td>
</tr>
<tr>
<td>G. μένω</td>
<td>μυνο</td>
<td></td>
</tr>
<tr>
<td>G. γενόμην, γενος</td>
<td>γεγονα, γηνο</td>
<td>γιγηνομαι, γεγάμεν</td>
</tr>
<tr>
<td>L. genus</td>
<td>gignō</td>
<td></td>
</tr>
<tr>
<td>NE drink</td>
<td>drank</td>
<td></td>
</tr>
</tbody>
</table>

120. Further examples, with inclusion of the e- and o-grades are:

<table>
<thead>
<tr>
<th>e-Grade</th>
<th>o-Grade</th>
<th>Weak Grade</th>
<th>e-Grade</th>
<th>o-Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. L. pedis</td>
<td>G. ποδος</td>
<td>L. pēs</td>
<td>Dor. πώς</td>
<td></td>
</tr>
<tr>
<td>Skt. padās</td>
<td>Skt. pāt</td>
<td>Goth. fōtus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. G. ἔπος (πέκος)</td>
<td>ὑφ, L. voco</td>
<td>uktōd</td>
<td>L. τῶς</td>
<td>vak</td>
</tr>
<tr>
<td>Skt. ῥας</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. G. πατρα</td>
<td>ἀπατορα</td>
<td>πατράς, πατράς</td>
<td>πατήρ</td>
<td>ἀπάτωρ</td>
</tr>
<tr>
<td>Skt. pitāram</td>
<td>pilē, pilī̂</td>
<td>pilā</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. G. φρένα</td>
<td>ἀφρονα</td>
<td>φρασι (Pind.)</td>
<td>ἀφρον, κυνος</td>
<td>ἀφρην</td>
</tr>
</tbody>
</table>

* Att. πώς (ου = secondary υ) cannot directly represent any inherited grade. It is a new analogical form, for which the special model is uncertain.*
121. The reduced grade of the type ἡ is assumed as the source of certain otherwise anomalous forms, such as L. quattuor, Hom. πίσυπες, beside τεσσερες, Skt. caṭvāras with IE e in the first syllable, L. palē beside G. ἐπέραζα, G. ἵππος beside L. equus, L. magnus beside G. μύγας, L. gradior beside gressus, etc. Further, G. νοβ, νυκτός beside L. nox, noctis, and some other instances of v in connection with liquids and nasals, are brought under this head by some. The problem of these and still other occasional anomalies in the e-series is too uncertain for further discussion here.

122. Conditions and causes.—Since vowel gradation was already an accomplished fact in the parent speech, the result of processes which took place well back in its history, it is natural that the precise conditions and causes of these remote processes should be involved in obscurity.

One phase, however, is reasonably clear, namely the relation of the weak to the strong forms. The normal grade was weakened in the syllable preceding the accent, at a period of the parent speech when the accent had a considerable element of stress. In Sanskrit, where the position of the IE accent is best preserved, this relation between accent and gradation is most apparent. Cf. pres. 1 sg. ēmi but 1 pl. imās (G. εἶμι, ἰμέν with secondary accent), infin. ētam but perf. pass. pple. ētās, pres. bōdhami but tudāmi (cf. G. λεῖπων, φεῦγων but λιπῶν, φυγῶν, the old accent being preserved in the pple. and infin.), perf. 1 sg. vēda but 1 pl. vidmā (G. ῳδά, τιμέν with secondary accent).

a. It is true that the Sanskrit (as the Greek) accent was one of pitch, and one does not readily connect vowel weakening with a pitch accent. But there is no objection to the view that, while Sanskrit preserves the IE position of the accent (as confirmed by other evidence) and probably the character of the accent in the latest IE period, this accent at a remoter period of the parent speech was one of greater stress. At any rate one cannot reasonably deny the very extensive evidence of an original relation between gradation and accent. It does not follow that this relation was kept intact and is to be observed in all categories of forms. Even in the parent speech there were doubtless many subsequent shifts, so that a weak grade might come to be accented or conversely.

b. The qualitative change of e to o, and of Ὕ to δ, is of obscure origin. A relation between vowel quality and accent is observed in certain Greek types, as φην, pl. φένες, but ἄφων, ἄφωνες, παθρ, πατέρες, but ἄπατωρ, ἄπατορες, πομήν but δαίμων, ῥήθρο but ῥήτωρ. But generally no such re-
lation holds, and the accent (in this case one of pitch) can at the most have been only one of a variety of factors.

c. The lengthened grades occur mainly, though not exclusively, in final syllables, especially the nominative singular of consonant stems. The lengthening (of ε to έ, whence also ο) probably started as some kind of compensative lengthening, but the more precise conditions are altogether obscure.

123. The α- and the o-series. An original o-series is a somewhat doubtful assumption, to cover certain groups of cognates in which o appears not alternating with e or a, and so as if representing the normal grade, the only other grade, and that rare, being ħ. So G. ὄφις, ὄσ, L. ovis, Ir. oi, oe, Skt. avis
G. ὄσ, ὄφομαι, L. oculus, Skt. akṣi, etc.
G. ὃς, ὄδωδα L. fodiō, fōdi

The a-series is of more consequence, but rare compared to the e-series, and apart from the normal and weak grades the material is so meager as to leave doubt as to the full constitution of the IE series. Some examples of the actual alternation are as tabulated.

<table>
<thead>
<tr>
<th>G. ἀγω</th>
<th>ἀγομοσ</th>
<th>ἀγομη</th>
<th>pari-j-man</th>
</tr>
</thead>
<tbody>
<tr>
<td>L. agō</td>
<td>ambages</td>
<td>ἀγωγη</td>
<td></td>
</tr>
<tr>
<td>Skt. ajāmi</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G. ἀκρός</th>
<th>ἀκρις</th>
<th>ἀκρος</th>
<th>iddhas</th>
</tr>
</thead>
<tbody>
<tr>
<td>L. acies</td>
<td>ocris</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skt. edhas</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

G. aifos, Lith. sausas
Skt. cūkas (for *saukas)

a. A Greek alternation of α with á (Att.-Ion. η) may be assigned to either this or the a-series (ιστημι, σταρτός, etc., 124). It is usual in verbs like ἀνδάνω (perf. Hom. εἶδε; cf. ἠδυς, Dor. ἠδύς), λαμβάνω (λήψομαι, εἴληφα), λασθάνω (λήω, λέληθα), etc. Since roots of the e-series show the weak grade in corresponding nasal infix presents (354.6), as πνεύμονα beside πνεύματι, it is natural to assume that here too it is the weak grade in the present, that is, λαβ-, etc., beside strong grade λαβ-, and accordingly in the a-series. But it is difficult to reconcile certain Sanskrit forms (as svād-, svad-, not swād-, svīd-). One must take the Greek alternation as it stands, without regard to its relation to the IE series, which from the point of view of internal Greek relations is not important.
124. The ḍ-, ą-, and _rwlock-series. These three series, of which the first is next in importance to the e-series, are typically represented in the gradation of the roots of τίθημι, ἴστημι (ἴσταμι), δίδωμι, namely IE *dhē-, *slā-, *dā-. The weak forms appear either in a zero grade, in which the vowel is wholly lost, or a reduced grade, in which the long vowel is reduced to IE ə. In Greek and Latin it is nearly always the reduced grade which appears, even in forms where Sanskrit has the zero grade. But in Greek, instead of having uniformly ə = Skt. i from IE ə (85), we commonly find e or o where the normal grade has η or ω, probably by qualitative assimilation to the latter.

If the long vowel was preceded by γ or ω, the reduced grades ɣα, ωα were usually contracted to i, u. So the opt. mood-sign, strong -ɣē-, weak -i- (419). But in Greek there are also some forms pointing to uncontracted γα (or iα). So fem. suffix, -ɣā-, nom. sg. -i in Sanskrit, etc., but -ια in Greek, as φέρονσα from *φεροντία: Skt. bharanti (237). Cf. also G. πρία-μαί: Skt. kri-ṇā-mi.

If the normal grade contained a long diphthong, as ēi, ōi, ēu, etc., the reduced grades ɣi, ωu were usually contracted to i, u (but ɣy-, ωw before a vowel). Owing to the loss of the second element in the long diphthongs before a consonant (94), the resulting alternation might be ē:i or ȯ:i, or ȯ:u, etc.

The general scheme is as tabulated, in which ȧ could be found for IE ē, ą, or ə.

<table>
<thead>
<tr>
<th>Strong</th>
<th>Weak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Grade</td>
<td>Reduced Grade</td>
</tr>
<tr>
<td>ȧ</td>
<td>ə</td>
</tr>
<tr>
<td>γə</td>
<td>γ</td>
</tr>
<tr>
<td>Ṽə</td>
<td>Ṽ</td>
</tr>
<tr>
<td>ȧ(i)</td>
<td>ȯi</td>
</tr>
<tr>
<td>ȧ(u)</td>
<td>ȯu</td>
</tr>
</tbody>
</table>

a. The forms that are put here under reduced grade are the more common forms of the weak grade in categories where roots of the e-series show the zero grade (Skt. hitās parallel to crūtās, etc.) and are classed by some as zero grade, in which case the forms put here under zero grade would have to be a sort of "infra-zero" grade. But the above classification seems on the whole preferable, especially in connection with dissyllabic stems (126).
125. Examples of the ḍ-, ḍ-, and ṑ-series.

<table>
<thead>
<tr>
<th>Strong</th>
<th>Weak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Grade</td>
<td>ṑ-Grade</td>
</tr>
<tr>
<td>1. G. ῥίδημι</td>
<td>ἡγούμαι</td>
</tr>
<tr>
<td>L. ἁκτί</td>
<td></td>
</tr>
<tr>
<td>Skt. dadhāmī</td>
<td></td>
</tr>
<tr>
<td>G. ἰημ</td>
<td>Dor. ἱκα</td>
</tr>
<tr>
<td>G. ἐρωγ</td>
<td>ἔρωγα</td>
</tr>
<tr>
<td>2. G. ἴσταμ (ἴσταμι)</td>
<td></td>
</tr>
<tr>
<td>L. ἱστρά</td>
<td></td>
</tr>
<tr>
<td>Skt. tiṣṭhāmī</td>
<td></td>
</tr>
<tr>
<td>G. φάο (φαῖ)</td>
<td>φοη</td>
</tr>
<tr>
<td>L. fā</td>
<td></td>
</tr>
<tr>
<td>3. G. δίδωμ, δῶρον</td>
<td></td>
</tr>
<tr>
<td>L. δῶμ</td>
<td></td>
</tr>
<tr>
<td>Skt. dādāmī</td>
<td></td>
</tr>
<tr>
<td>4. IE *dēh(i-nt-)</td>
<td>*dēhyn</td>
</tr>
<tr>
<td>Skt. dēhāt</td>
<td>dēhāyati</td>
</tr>
<tr>
<td>G. ὀνθαίν, ὀνθαίνε</td>
<td></td>
</tr>
<tr>
<td>L. ἕλο, ἕμινα</td>
<td></td>
</tr>
<tr>
<td>IE ὑῶ(i-nt-)</td>
<td>*pī</td>
</tr>
<tr>
<td>Skt. pūṭum</td>
<td></td>
</tr>
<tr>
<td>G. τῶμα</td>
<td></td>
</tr>
<tr>
<td>L. pūlīs</td>
<td></td>
</tr>
</tbody>
</table>

126. Dissyllabic stems.—It has already been remarked that every syllable of a word was subject to gradation in the parent speech. Generally, however, it is possible to consider the gradation of each syllable separately, that is, to treat the subject on the monosyllabic basis, as has been done in the preceding paragraphs. This is simpler and no less scientific, and therefore preferable. But in certain cases it becomes necessary to hold in view two syllables, since they clearly form a unit in relation to the weak form.

Thus in Sanskrit, if we find grōtum:grulās but bhāv-i-tum:bhā-tās (and similarly in so many other instances that the relation cannot be accidental), it is obvious that as u is the weak grade of o (IE cu), so is ā of avi (IE avō). Again we find cvā-tras:cu-nes, etc., from which it appears that ā is also the weak grade of ṣ (IE ṣā, cf. 124). The two strong forms may be brought under one head by the hypothesis of a Proto-IE stem euvāz, which if accented euvāz became IE euvō, or, if euvāz, became IE wāz, while if both syllables were unaccented the result was ā, or sometimes, by a still further reduction, u.

Similarly in stems containing a liquid or nasal we find in Sanskrit hār-tum:
hṛtās, but cāritum: cīrṇās, and prāti: pūrṇās, pūrdhi, showing that as r is the weak grade of ar, so is tr or urs the weak grade of ari or rā; hāntum: hātās, but jānitās: jātās, dāmitās: dāntās, showing that as a (IE 介质) is the weak grade of an, so is a or an the weak grade of ani, ami (or na, ma). For the European correspondences to Skt. it, ār, ā, ām, see 116.

The dissyllabic stems are probably, in their remote origin, extensions of monosyllabic stems. At any rate we sometimes find parallel series of related forms, some belonging to dissyllabic, some to monosyllabic stems. So Skt. stāritave, stīrṇās, but also stārlave, strītās; Skt. jānitār-, G. γενέρης, γνήσιος, but also γένος, γόνος, γίγνομαι, etc. (119.6); G. ἔβλην, but also βάλλω, βέλος, βολή. To assume that the latter are derived from dissyllabic stems with loss of r before another vowel is unnecessary.

The general scheme of possible gradations is as tabulated (ār = IE ē, ā, or ô; S = strong, R = reduced, Z = zero grade). It serves to bring into relation with one another the forms of a given stem that are scattered through the IE languages. It is not anywhere maintained as a definite system, like that illustrated in 119, and is represented only by disiecta membra. In the individual language a given stem may be represented almost exclusively by one or two grades. So IE *bhū-, *plē-, *gūd- cover nearly all the Greek and Latin forms of these stems.

It is further to be emphasized that the forms given in the first column are Proto-IE reconstructions, both remoter and more hypothetical (not all scholars accept them) than the usual IE reconstructions which are supposed to be reflected in actual forms of the IE languages. Thus the assumed **pelē- or **telē- were changed already in the parent speech, becoming in the strong grades *pelē- or *plē-, *tēla or *telē-, and only the latter, or in these particular cases *plē- and *telē-, are the reconstructions based on actual forms, and therefore parallel to our usual citations of monosyllabic roots, as *ei- 'go'.
<table>
<thead>
<tr>
<th>Proto-IE Stem</th>
<th>¹S+R</th>
<th>²R+S</th>
<th>³Z+S</th>
<th>⁴Z+R</th>
<th>⁵R+R</th>
<th>⁶RR</th>
<th>⁷Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>eyα²</td>
<td>eyα</td>
<td>iα</td>
<td>yα</td>
<td>γο</td>
<td>ιο</td>
<td>i</td>
<td>i, y</td>
</tr>
<tr>
<td>ewα²</td>
<td>ewα</td>
<td>uα</td>
<td>wα</td>
<td>ον</td>
<td>ιν</td>
<td>u</td>
<td>u, w</td>
</tr>
<tr>
<td>erα²</td>
<td>erα</td>
<td>rα</td>
<td>rα</td>
<td>ηο</td>
<td>ηο</td>
<td>η</td>
<td>r, r</td>
</tr>
<tr>
<td>elα²</td>
<td>elα</td>
<td>lα</td>
<td>lα</td>
<td>lο</td>
<td>lο</td>
<td>l</td>
<td>l, l</td>
</tr>
<tr>
<td>enα²</td>
<td>enα</td>
<td>ηα</td>
<td>ηα</td>
<td>ηο</td>
<td>ηο</td>
<td>ηο</td>
<td>η, m</td>
</tr>
<tr>
<td>emα²</td>
<td>emα</td>
<td>mα</td>
<td>mα</td>
<td>mο</td>
<td>mο</td>
<td>mο</td>
<td>mο</td>
</tr>
</tbody>
</table>

**Examples**

<table>
<thead>
<tr>
<th><strong>bhewα-</strong></th>
<th>Skt. bhāvīta</th>
<th>Lith. buvo</th>
<th>L. -bā-</th>
<th>Skt. -bhwa-</th>
<th>Skt. ābhuvam</th>
<th>Skt. ābhūti</th>
<th>G. φως</th>
<th>L. futūrus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>kewα-</strong></td>
<td>Skt. c̣ātrās</td>
<td>G. καμά</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G. κύρος</td>
<td></td>
</tr>
<tr>
<td><strong>pelew-</strong></td>
<td>Skt. pṛūti</td>
<td>G. πυκλησ</td>
<td>L. plēnus</td>
<td></td>
<td></td>
<td></td>
<td>G. πυκλησ</td>
<td>L. futūrus</td>
</tr>
<tr>
<td><strong>telα²-</strong></td>
<td>G. τελαμών</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G. ταλαντων</td>
<td>L. lūs</td>
</tr>
<tr>
<td><strong>genē-</strong></td>
<td>Skt. j̣ānītas</td>
<td>G. γένοσ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skt. jāās</td>
<td>L. nālās</td>
</tr>
<tr>
<td><strong>genō-</strong></td>
<td>Skt. j̣ānītum</td>
<td>G. γεγνώσκο</td>
<td>L. nōsō</td>
<td></td>
<td></td>
<td></td>
<td>L. cognitūs</td>
<td>G. γίγνουμα</td>
</tr>
<tr>
<td><strong>demα²-</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G. έδώμασα</td>
<td>Skt. dōnūds</td>
</tr>
</tbody>
</table>

* Including some forms in which ι is lost before, or replaced by, another vowel.
For Greek and Latin relations, much of the intricate and in part problematical theory of gradation in dissyllabic stems, as briefly sketched in the preceding paragraph, may be disregarded. But the matter cannot be wholly ignored, since certain parts of the system play an important rôle in Greek.

It is sufficient to recognize in Greek, beside forms that may be classified on the monosyllabic basis (118 ff.):

1. Dissyllabic stems.—These may reflect, from the scheme in 126:
   a) \( S+R \), as τελαμὼν
   b) \( R+R \), as τάλαντον
   c) Or, under various analogical influences, may differ from either, as ἐκάλεσα, ἐστόρεσα

2. Monosyllabic stems ending in \( \eta \) (gen. G. \( \eta \), ἀ (Att.-Ion. \( \eta \), but cited here in the ἄ-form), or \( \omega \).
   a) \( Z+S \), as πιμπλημι, πλήτο, ζβλην, γυγγώσκω
   b) \( RR \), as δμάτος, τλάτος; here also probably (116a) στρωτός, βρωτός

Examples of parallel forms of the two types, as thus classified from the point of view of Greek, are:

<table>
<thead>
<tr>
<th>τελαμὼν</th>
<th>ἐτλάν, τλάτος</th>
</tr>
</thead>
<tbody>
<tr>
<td>ἐτάλασα, τάλαντον</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>κέλαδος</th>
<th>κλητός</th>
</tr>
</thead>
<tbody>
<tr>
<td>ἐκάλεσα</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ἐστόρεσα</th>
<th>στρωτός</th>
</tr>
</thead>
<tbody>
<tr>
<td>βάραθρον</td>
<td>βιβρώσκω, ζβρων</td>
</tr>
<tr>
<td>γενέτης</td>
<td>γνήσιος</td>
</tr>
<tr>
<td>θάνατος</td>
<td>θυσία, θνάτος</td>
</tr>
<tr>
<td>κάματος</td>
<td>κμάτος</td>
</tr>
<tr>
<td>ἐδάμασα, πανδαμάτωρ</td>
<td>δμάτος</td>
</tr>
</tbody>
</table>

a. For the function of such forms in Greek it is immaterial just how they are to be aligned in the IE system, whether, for example, the ἵλιος of G. τλάτος and L. lātus is RR of a **telā- (**telē-?) or \( Z+S \) of a **telā-, or whether the στρω- of G. στρωτός and the strā- of L. strātus is RR or \( Z+S \). It is more important to observe that the forms of type 1 (above) are mainly responsible for the futures like τενέω, βαλέω (390) and the aorists like ἐκάλεσα, ἐδάμασα (397.4)—and that those of type 2 (above) are notably productive in various tenses of the verb and in derivatives, as, for example, in ζβλην, βζβληκα, βλητέος, βλήμα.

For the existence of these two types beside forms which show the simple
CONSONANTS

129. Examples of the different orders will be given under their respective series. But certain matters affecting the corresponding orders of all series are discussed here.
1. The voiceless stops are the most persistent. They remain such except in Germanic (133).

2. The voiced stops also remain such in classical Greek and Latin. But G. β, γ, δ eventually became voiced fricatives, as in Modern Greek where β = NE v, δ = NE th in then, γ = NHG g in Tage or (before front vowels) = NE y in yet. This change took place at an early period in some dialects, but in standard Attic and the κοίνη probably not until the 1st cent. A.D. or later.

Latin intervocalic b also became a fricative in the early centuries A.D. (173).

3. The IE voiced aspirates (as assumed above) became voiceless aspirates in prehistoric Greek and Italic, and so were merged with the infrequent IE voiceless aspirates. They remained such in classical Greek, only later becoming fricatives (130). But in Italic a change to fricatives took place, at least initially, in prehistoric times; together with a change of the dental fricative (=NE lh in thin; here represented by θ in its later value) to the labial fricative f; and a weakening of the guttural fricative (=NHG ch; here represented by χ in its later value) to h. That is, where we have f or h in both Latin and Oscan-Umbrian we assume the following prehistoric steps:

\[ bh > ph > f \]
\[ dh > lh > θ > f \]
\[ gh > kh > χ > h \]

a. In the medial position, where we also find f in Oscan-Umbrian, but b or d in Latin (137, 140; also g after n, etc., 148), the steps leading to the latter are disputed. But probably these too have passed through the stage of the fricatives f, θ, χ (as above in third place). G. λιτρα, name of a Sicilian coin, is explained as a Sicilian loanword representing a prehistoric Italic *iīdrā, whence L. libra.

130. The Greek aspirates.—G. θ, φ, χ were true aspirates, that is, voiceless stops followed by a distinct aspiration, as in NE hot-house, up-hill, back-hand, except that in these latter the stop and the h are in different syllables. (So a better parallel would be the Danish t, p, k, which are strongly aspirated; the English
and German initial stops are also somewhat aspirated, as compared with the pure stops of the French.) In archaic Greek inscriptions before the introduction of the signs for $\phi$ or $\chi$, the latter were expressed by $\Gamma \mathrm{H}$, $\mathrm{KH}$ or $\varphi \mathrm{H}$ (66). The Romans transcribed the Greek aspirates, first by $t$, $p$, $c$, then more exactly by $\theta h$, $ph$, $ch$ (131).

Eventually $\theta$, $\phi$, $\chi$ became fricatives, as in Modern Greek, where $\theta$ = NE $th$ in thin, $\phi$ = $f$, and $\chi$ = NHG $ch$ in ach or in ich (the latter if a front vowel follows). There are indications that this change took place at an early period in some dialects, e.g. in Laconian where a fricative $\theta$ is to be inferred from its representation by $s$. But in standard Attic and the koine the pronunciation as fricatives did not prevail until sometime in the early centuries A.D. The significant transcription of $\phi$ by Latin $f$, instead of $ph$, is not found till the 1st cent. A.D., and is not usual till the 4th cent. A.D.

131. Aspirates in Latin.—In Greek proper names and other loanwords from Greek, $\theta$, $\phi$, $\chi$ were represented by $t$, $p$, $c$ in the early inscriptions, and so pronounced in the time of Plautus. But after about 150 B.C. they were represented by $\theta h$, $ph$, $ch$, and the correct pronunciation of the aspirates was so highly esteemed in polite speech that it became the fashion to introduce the aspirates also in a number of native Latin words, in some of which this was no doubt favored by a fancied Greek origin. Cicero (Orator 48. 160) states that he yielded to popular usage, against his own better knowledge, in the case of pulcher, triumphus, etc., while he persisted in sepulcrum, corona, lacrima, etc. Quintilian (1. 5. 20) also speaks of the excessive use of aspirates, as in chorona, praecho, chenturio. Inscriptions and manuscripts show many examples of the aspirates, most frequently in pulcher, which was established as the approved spelling.

a. Similarly in English, after the $th$ was reintroduced in theater, throne, etc., it was extended to some words which were indeed of classical origin but had no $th$ in Latin or $\theta$ in Greek, e.g. anthem from OE antefn this from G. ἀντίφωνα, author from OFr. auteur, L. auctor.
The view held by some that there was a native Latin development of aspirates, independent of Greek influence, is unnecessary.

132. Dissimilation of aspirates in Greek.—Aspirates in successive syllables are avoided, the former regularly losing its aspiration. So in the reduplicated forms of roots beginning with an aspirate, as τι¬θημυ, τε¬θηκα, πε¬φευγα. The first aspirate remains unchanged when the second has lost its aspiration in combination, hence the apparent transfer of aspiration in θριξ, gen. τριχός (Θριχό-); παχός comparative θάττων (Θαξ-); τρέφω, fut. τρεψω (Θρεψ-).

There are many exceptions, where the aspirate is retained under the analogical influence of other forms, as in the aor. pass. εκτόθηνυ, ἐφάνθην, etc., and imperat. φάδι, τέθναθι. In these categories dissimilation is observed only in case of identical aspirates, as aor. pass. ἐτέθηνυ, ἐτίθην (Θω), and aor. pass. imperat. σώθητι, etc., for *σωθήθη-θι, with dissimilation of the second, instead of the first, aspirate.

a. In Sanskrit there is a similar dissimilation of aspirates, but these were voiced, in contrast to the Greek voiceless aspirates. In Latin there is no such dissimilation. Hence, from roots containing two aspirates, we have such an initial correspondence as π = Skt. b = L. f.

πείθομαι, Skt. bodhāmi from IE *bheudh- πείδω, L. fīdō from IE *bheidh-

133. "Grimm's Law".—The notable difference which is observed between the stops of Greek or Latin words and those of their English cognates is the result of a general Germanic shift, often referred to briefly as "Grimm's Law". This was a shift of the order, within each series. It took place in the prehistoric period of Germanic and underlies all the languages of this group. English reflects substantially this early shift, while High German has undergone a second shift. In the following diagram, as in the tables given later, certain divergences, due to special accessional conditions ("Verner's Law") or combinations, are ignored.
THE LABIAL AND DENTAL STOPS

134. The normal representation of the labial and dental stops may be surveyed in the accompanying table.

<table>
<thead>
<tr>
<th>IE</th>
<th>G.</th>
<th>L.</th>
<th>Osc.-Umbr.</th>
<th>Skt.</th>
<th>Lith. and ChSl.</th>
<th>NE</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>π</td>
<td>p</td>
<td>p</td>
<td>p</td>
<td>p</td>
<td>f</td>
</tr>
<tr>
<td>b</td>
<td>θ</td>
<td>b</td>
<td>f initially</td>
<td>f</td>
<td>b</td>
<td>b</td>
</tr>
<tr>
<td>bh</td>
<td>β</td>
<td>bh</td>
<td>b medially</td>
<td>b</td>
<td>b</td>
<td>b(v)</td>
</tr>
<tr>
<td>l</td>
<td>t</td>
<td>l</td>
<td>l</td>
<td>l</td>
<td>l</td>
<td>th</td>
</tr>
<tr>
<td>d</td>
<td>δ</td>
<td>d</td>
<td>d</td>
<td>d</td>
<td>d</td>
<td>i</td>
</tr>
<tr>
<td>dh</td>
<td>θ</td>
<td>f</td>
<td>f initially</td>
<td>ah, h</td>
<td>d</td>
<td>d</td>
</tr>
</tbody>
</table>

b medially (before or after r, before l, or after u)
d medially (except as above)

G. πός, L. pēs: Skt. pāt, NE foot

136. IE b. G. βάρβαρος: Skt. bhararas 'stammering'.
L. dē-bilis: Skt. bālam 'strength'
a. But such cognates pointing to an IE b are not numerous. Both G. β and L. b are mostly from other sources, and seldom correspond.

137. IE bh. G. φερω, L. ferō: Skt. bharāmi, NE bear.
G. φράτρα, L. frater: Skt. bhrātar-, NE brother
G. ἀφοῦ, L. fuit: Skt. bhū-, NE be
G. νέφος, L. nebula: Skt. nabhas
G. ἀλφός, L. albus, Umbr. alfer
L. lubet, libet, Osc. lūfīr: Skt. lūbh-, NE love
138. IE i. G. τρεῖς, L. trēs: Skt. trayas, NE three.
G. ταῦτας, L. tenuis: Skt. tanus, NE thin
139. IE d. G. δέκα, L. decem: Skt. daça, NE ten.
G. ἕδω, L. edō: Skt. admi, NE eat
G. θοῦμος, L. fūmus: Skt. dhūmas (77)
G. θόρα, L. foris: NE door (but Skt. dwār- with d for dh under the influence of dwāu ‘two’; cf. use of L. forēs for the two leaves of a door)
G. ἐρυθρός, L. ruber (rūfus, loanword from an f-dialect): Skt. rudhiras, NE red
L. verbum: Lith. vārda, NE word, from the root *wer- (cf. G. ἔρω, ἡμα) and the suffix -dho-
L. stabulum, stabilis (cf. Umbr. stābilem) from the root of stō with suffix -dhol-, -dhlī-
L. iūbēō: Skt. yudh- ‘fight’, Lith. jūdinu ‘move, shake’ (the semantic development assumed for Latin, ‘stir up’ to ‘order’, is credible; and iussē, iussus show that the b of iūbēō must be from a dental)
G. aǐwō, L. aedēs: Skt. edhas
G. μέσος from *μέθλος (183), medius, Osc. me fīa f: Skt. madhyas, Goth. midjīs
L. vidua: Skt. vidhavā, NE widow
141. τ > σ in Greek.—The assibilation of τ before i is seen in large classes of words. But τ may also remain unaltered before i, and the precise conditions governing this difference of treatment cannot be satisfactorily formulated. The facts may be grouped as follows:
1. τ remains: initially, as in τίς, τιμή, etc.; when preceded by σ, as in ἔστι, πίστις, etc.; also in many other cases, as in ἔτι, ἀντί, feminines like πολίτις, adjectives like πολυτικός, verbs like πλούτιζω etc.
2. τ becomes σ: in most of the nouns formed with the suffix -τι-, as βάσις (Skt. gātis), στάσις (Skt. sthītis), λίσις, θέσις, λέξις, ποίησις, etc. (but πίστις, πῦσις, also μάντις, μῆτις and some
others); in most adjectives in -ως and nouns in -λα derived from stems containing τ, as πλούσιος (πλούτος), ἀμβρόσιος, ἀμβροσία (ἀμβροτος), ἐργασία (ἐργάτης), etc.

3. τ becomes σ in Attic-Ionic, Lesbian, and Arcadian-Cyprian, but remains unchanged in the other dialects (Doric, etc.):

3 sg. Att. τίθησι, δίδωσι, etc.: Dor. τίθηςι, δίδωςι, etc.
3 pl. Att. φέρουσι, τιθέσι, εἰσὶ, etc.: Dor. φέρουσι, τιθέντι, ἐντί, etc.
Att. εἰκοσι, διακόσιοι, τριακόσιοι, etc.: Dor. δικατί, διακάτιοι, etc.

a. A similar dialectic variation is seen in a few other forms, e.g. Ἀρταμίτωσ, Ἀρταμίτος, Ἀφραδίσιος, Ἀφραδίτος, etc. Att.-Ion. ἐπεσον = Dor. ἐπετον, aor. of πιπτω, is not satisfactorily explained.

b. A similar change of τ before ν is also to be recognized, though under still more limited and indefinable conditions than that before ι. Thus δυκαίωσων, δυκαιώσιν, etc., probably from -τυνος, with a suffix related to Skt. -tana-(464.8); with dialectic variation, as in 3, Att. ἡμις, Dor. ἡμιτος (suffix -ιμ- as in τρικτύς, etc.); Att. σύ, Dor. τύ (L. ἴτ).

142. d > l in Latin.—Original d is replaced by l in several words. Possibly these were adopted from some local dialect in which there was a regular change of d to l, although there is no positive evidence of such a change in Sabine or any other known dialect.

lacrima from dacrima: G. δάκρυ, NE tear
lingua from dingua: NE tongue, OE tung (79)
oleo beside odor: G. ὀλό, ὀλωδά
lēvir for *laevir, *daiwēr: G. δαήρ, Skt. devar-

But for Ulixēs the l is attested in Greek variant forms of Ὄλυσείς, as Ὄλυσείς, Ὄλιξης.

a. In early Latin also r for d in arsuis, arvorsu, apur finem, etc. Possibly a regular change of d before f or v, with some extension to other cases, but later elimination in favor of the usual od, etc.

THE GUTTURAL STOPS

143. In considering the relations of the gutturals, using this as a convenient (though far from appropriate) general term for all kinds of k-sounds, it is necessary to distinguish two main series of gutturals, and, as regards their representation, to divide the IE languages into two groups.

One series, known as the “palatals” and denoted here by ᾱ, ̃g, ̃h
(some use $k'$ or simple $k$), is represented by simple gutturals in the western or "centum" group (so called from L. centum), which includes the Greek, Italic, Celtic, and Germanic branches, but by sibilants (see 144b) in the eastern or "satem" group (so called from Av. $s\text{atam} = $L. centum), which includes Indo-Iranian, Balto-Slavic, Armenian, and Albanian. These palatals were presumably forward $k$-sounds in the parent speech, whence arose the sibilants of the satem group by a prehistoric development similar to that which took place even in parts of the centum group in later periods and under special conditions, e.g. the change of L. $c$ before a front vowel in the Romance languages (L. centum, It. cento, Fr. cent).

The other series, known as "labiovelars" and denoted here by $q^w$ (some use $k^w$), $g^w$, $g^w h$, is represented in the centum group by $k^w$ sounds (e.g. L. qu) or sounds resulting therefrom (e.g. Osc. $p$, G. $\pi$, $\tau$), but in the satem group by simple gutturals or in part by palatals derived therefrom. The name labiovelar and the designation by $q^w$, etc., are intended to indicate two distinct characteristics of these sounds, by which they differed from the palatals: (1) the term velar and the use of $q$ that they were back gutturals, (2) the term labio- and the use of $w$ that they were accompanied by rounding of the lips. It is only the first characteristic which is important for the satem group, in which the second characteristic plays no rôle (that is the $w$ disappears), and the different development of the IE palatals and labiovelars depends wholly upon the difference in their guttural positions (front or back). Conversely for the centum group it is only the second characteristic which is important, and the difference between palatals and labiovelars resolves itself into one between simple $k$-sounds and $k^w$-sounds.

144. Still a third series of gutturals, known as "plain velars" and denoted by $q$, $g$, $gh$, is assumed to cover the correspondence in certain groups of cognates which show a plain guttural throughout, thus agreeing with the palatals in the centum languages, but with the labiovelars in the satem languages.

G. $\kappa\rho\ell\alpha\varsigma$, L. $\text{cr}u\text{or}$: Skt. kravis G. $\sigma\tau\varepsilon\gamma\varsigma\nu$, L. $\text{teg}\varepsilon$: Lith. $\text{stogas}$
G. $\sigma\tau\varepsilon\iota\chi\omega$, Goth. $\text{steiga}$: Skt. $\text{stigh}$-
CONSONANTS

a. From a labiovelar one would expect, in the first example, G. πρέας (cf. πραµµατι: Skt. क्रिनामि), while from a palatal one would expect Skt. ग्राविस (cf. ग्राहक: G. ἀκράτος). Hence the dilemma which leads to the assumption of this third series, at least as a convenient formula (see 128a).

There are also cases in which words with plain gutturals in the centum group are without cognates in the satem group, so that they might belong with the palatals or plain velars. In all cases of ambiguity with regard to the particular guttural series one may use the indifferent k, etc., in the reconstructed IE forms. The matter of the plain velars and other complications will be disregarded hereafter.

b. The development of palatals to sibilants was complete for the entire satem group only in the case of the voiceless š. The ǧ and ǧh also became sibilants in Iranian and Balto-Slavic, but in Sanskrit remained on an intermediate stage of development and are represented by j and h.

c. The sounds classed as palatals in Sanskrit grammar must not be confused with the IE palatals. Thus Sanskrit palatal c is not from IE palatal ǵ, which gives the “palatal sibilant” ǧ, but is the result of a secondary palatalization of k (IE qʷ) before a front vowel, e.g. before i in cid (= L. quid) beside kas or before an a which comes from IE e, as in ca (= L. que). That is, in a case like ca the palatalization must have begun when the vowel was still a front vowel, and this constitutes one of the most striking proofs of the priority of the Greek and Latin vowel system with a, e, o compared to Skt. a (73.4). The corresponding secondary palatalization of g and gh (IE gʷ and gʷh) resulted in j and h, respectively, but these, as noted in b, may also represent IE ǧ and ǧh. Hence Skt. j and h are each of double origin, though the difference in origin discloses itself even in Sanskrit in certain combinations.
145. The normal representation of the palatals and the labiovelars may be surveyed in the accompanying table.

<table>
<thead>
<tr>
<th></th>
<th><strong>Centum Languages</strong></th>
<th></th>
<th><strong>Satem Languages</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>G.</strong></td>
<td><strong>L.</strong></td>
<td><strong>Osc.-Umbr.</strong></td>
<td><strong>NE</strong></td>
</tr>
<tr>
<td>(\hat{k})</td>
<td>(\kappa)</td>
<td>(c)</td>
<td>(\hat{k})</td>
<td>(h)</td>
</tr>
<tr>
<td>(\hat{g})</td>
<td>(\gamma)</td>
<td>(\tilde{g})</td>
<td>(\beta)</td>
<td>(k)</td>
</tr>
<tr>
<td>(\hat{\theta})</td>
<td>(\chi)</td>
<td>(\tilde{h})</td>
<td>(\tilde{h})</td>
<td>(\tilde{g})</td>
</tr>
<tr>
<td>(\eta, \eta, \chi)</td>
<td>(\nu)</td>
<td>(\mu)</td>
<td>(\phi)</td>
<td>(\varphi)</td>
</tr>
</tbody>
</table>

**PALATALS**

146. IE \(\hat{k}\). G. ἐκατον, L. centum, Goth. hund: Skt. ṣatam, Av. samt, Lith. šimtas, ChSl. sūto.

G. δέκα, L. decem, Goth. tathun: Skt. daça, Av. dasa, Lith. dešimt, ChSl. desetū

G. ὀκτος, L. vīcus, Goth. weihs: Skt. viṣ-, Av. vis-, Lith. vieš-patis

G. δεικνύμι, L. dico: Skt. diṣ-

147. IE \(\hat{g}\). G. γέως, L. genus, NE kin: Skt. janas, Av. zana-

G. γιγνώσκω, L. (g)nōscō, NE know: Skt. jñā-, Lith. žinoti, ChSl. znati

G. γεώ, L. gustus, Goth. kiusan ‘test’ (NE choose): Skt. juṣ- ‘enjoy’, Av. zaoṣa- ‘pleasure’
CONSONANTS

G. χὴ, L. änser (for hänsær), NE goose: Skt. haṁsa, Lith. ėsas
G. δχός, L. vehō, OE wegan (NE weigh): Skt. vah-, Av. vaz-, Lith. vežu, ChSl. veża
G. λεήσω, L. lingō: Skt. lih-, Lith. liežiu, ChSl. lizq
G. ῥεήσω, Osc. fēhūs 'muros', L. fingō, figmentum (also figūra with g by analogy of ūñgō), Goth. deigan 'mold' (cf. NE dough): Skt. dih- 'smear', Av. pairi-daēza- 'surrounding wall, garden' (whence was borrowed παράδειςος)
G. χέω, L. fundō, Goth. giutan: Skt. hu- 'pour, offer libation', Av. zaotar- 'priest'. Cf. also L. ē from IE ȝhw (150)

149. L. ē was faintly sounded, and probably quite silent in colloquial speech, as is shown by the fact that its presence does not interfere with (1) elision, (2) shortening of vowels before another vowel (103), cf. pre-hendō), (3) change of intervocalic s to r (164, cf. diribeō), or (4) contraction of like vowels (105, cf. nil from nihil). In consequence, there was confusion of spelling in many words, as humerus beside correct umerus, and the grammarians were at great pains to give detailed instructions in this matter. Generally the approved spelling, which we follow, was the etymologically correct one, but not always, e.g. änser (148).

The letter ē was sometimes used as a sign of hiatus, as in AHENVS beside AENVS (aēnus), thus distinguishing aē from the diphthong ae.

a. After classical Latin had become a book language and ē had wholly disappeared from the vulgar tongue, the effort to bring it out in the reading of Latin texts led to an exaggerated guttural pronunciation which is reflected in such MS spellings as michi, nichil for mihi, nihil.

150. Palatals+w. The combinations IE ẑw, etc., show a development in Greek and Latin closely parallel to that of IE qʷ, etc. That is, as is natural, the guttural is similarly affected by the full w which follows it in the case of ēw, as by the w- element which accompanies it in the case of qʷ. The only difference is that in Greek the two distinct sounds ēw give a double consonant, while
the single $q^w$ gives a single consonant. Even this difference of

course disappears in the case of initial $kw$, etc.

$kw$. G. $\piρ\piος$, L. $equus$—Skt. $a\chivas$

($q^w$. G. $\epsilonπομα$, L. $sequor$—Skt. $sacāmi$)

$ghv$. G. $θηρ$ (Lesb. $φηρ$, cf. 154.2), L. $ferus$—Lith. $žvēris$

($g^w$. G. $θερμός$, L. $formus$)

LABIOVELARS

151. IE $q^w$ G. $ποῦ$, $ποθεν$, $τls$, $τε$, L. $qui$, $quod$, $quis$, $quid$, Osc.

$pod$, $pid$, Goth. $hwas$, OE $hwā$, $hwel$ (NE $who$, $what$): Skt. $kas$, $cid$, $ca$, Lith. $kas$, ChSl. $kūto$, $čūo$.

G. $πεντε$, $πεμπάς$, $πεμπτος$, L. $quinque$ (from *penque, 40.8), $quin(c)$-

$itus$, $quin-ci-plex$: Skt. $pañca$, Lith. $penki$

G. $τέσσερες$, $τέτταρες$, L. $quattuor$: Skt. $catvāras$, Lith. $keturi$

G. $λείπω$, L. $relinquo$, $relictus$, Goth. $leihwan$ ‘lend’: Skt. $ric$-, Lith. $lieku$ ‘leave’

G. $\epsilonπομα$, L. $sequor$, $secūtus$, $secundus$ (from *sequondos, 170),

$sočius$ (from dissyllabic *soqʰyoś, 180): Skt. $sac$-, Lith. $seku$

G. $τέσσω$ (from *peqʰyo, 182), $τέψω$, $πεπτός$, L. $coquō$ (from *pequō, 40.8, 80.3), $coactus$: Skt. $pac$- ‘cook’, Lith. $peku$ ‘bake’


cēna ‘reward’ (cf. 51, 9–10)

G. $κύκλος$, OE $hwēol$ (NE $wheel$): Skt. $cakram$ ‘circle’

G. $λύκος$ (L. $lūpus$, 155.6) from IE *luqʰyoś beside *wluqʰyoś in Goth.

$wulfṣ$, Skt. $vrkas$, Lith. $vilkas$

152. IE $g^w$. G. $bainw$, L. $venio$, Osc.-Umbr. $ben$-, Goth. $qiman$,

OE $cuman$ (NE $come$): Skt. $gam$-

G. $ββρωσκω$, L. $vorō$: Skt. $girāmi$ ‘devour’, Lith. $geriu$ ‘drink’

G. $βoîs$ (L. $bōs$, 155.6), OE $cū$ (NE $cow$): Skt. $gāus$

G. $βaîps$, L. $gravis$: Skt. $gurus$

G. $ἀδελφὸς$ from *ā-δελφός (182a): Skt. $sa-garbhyaś ‘full brother’$,

lit. ‘of the same womb’ (garbhā- ‘womb’)

G. $βίως$ (154.4), L. $vīvus$, Osc. b i v u s (nom. pl.), OE $cwic$ ‘living’

(NE $quick$): Skt. $jivas$, Lith. $gyvas$

L. $unguēnt$: Skt. $aṇīs$

G. $γυνή$, Boeot. $bavā$, OE $cwēn$ ‘woman, wife’ (NE $queen$): Skt.

$janī$, ChSl. $žena$
CONSONANTS

In G. βάλλω beside Arc. δέλλω and in G. βούλλομαι beside Locr. δείλλεται, regardless of outside connections, the interchange of β and δ points to IE gʷ.

G. θείω, ἐπέφηνον, πέφαται, φόνος (119.6), L. dé-fendō: Skt. han-
'smite, slay' (3 sg. hanti, 3 pl. ghnanti), Lith. genu 'drive'
G. νίφα L. nix, nivis, ninguit, Goth. snáws, OE snāw (NE snow),
Lith. sniegas
G. ὑφις (154.4): Skt. ahis
G. ἐλαχύς, ἐλαφρός, L. levis: Skt. laghus 'light, swift, small', Lith.
lenvas 'light' (IE *lengʷh, *lęgʷh- and legʷh- without nasal)
L. conīveo (207.4): Goth. hneiwan 'bow'

154. Remarks on the representation in Greek.—The general rule given in the table in 145, with which most of the examples in 161–53 comply, namely labials before α, ο and consonants, dentals before front vowels, gutturals before or after ν, is subject to certain reservations.

1. There is much analogical leveling in favor of the labial. Thus the π of λείπω, ἔπομαι, ἔπος (: Skt. vacas) is generalized, regardless of the following vowel, as λείπει, ἐπεται, ἐπεός. Interchange within an inflectional paradigm (as λείπω, *λείτει) is unknown, and the Greeks were unconscious of the actual relation in groups like ποῦ:τίς, τίμηː póvn, θείωː ἐπέφυμε.

The same leveling sometimes occurs in groups of cognates, as βέλος (the regular δ before ε only in Arc. δέλλω) after the analogy of βάλλω.

2. It is a notable characteristic of the Aeolic dialects that even before a front vowel the labial is usual in most words (not in all, e.g. τίς, τε, etc.), as Lesb., Thess. πέμπε = πέντε, Lesb. πέσυρες, Hom. πίσυρες, Boeot. πέτταρες = τέσσερες, Lesb. πήλαι = τῆλε.

3. There are some dialect forms with κ instead of usual π or τ in the pronouns, as Ion. (Hdt.) κῶς = πῶς, Thess. κῖς = τίς.

4. Even in Attic-Ionic we find β and φ before ε in βίος (but Heracl. ἐνδεδι-
ωκτά = ἐμβεβωκτά) and ὑφις. There is no satisfactory explanation of this divergence from the development of gʷ to τ before ε in τίς, τίμη, etc.

5. For the development in connection with a following y, see 182.

155. Remarks on the representation in Latin.

1. Beside gu from gʷ, we should expect gu (with consonantal u) from gʷ, corresponding to the parallelism in Osc.-Umbr. pːb, or G. πːβ. But this gu remains only after a nasal, as in unguen, otherwise the g is lost, hence veniō, etc. Similarly for intervocalic gʷh, ninguit but nivis.
2. Whereas in Greek we have labials before another consonant, in Latin the w-element was lost. So quin(c)lus, relictus in contrast to G. πέμπτος. The simple guttural arising in this position was sometimes generalized. So from vōx also vocis, vocēm, etc., and the verb vocē, vocāre, with no trace anywhere in Latin of a form with qu, in contrast to G. ἐπόστος, etc.

3. Before r the w-element was lost in the case of IE gʷ, as gravis, grātus (Osc. gen. sg. brateis), but prior to such loss gʷh seems to have become f (as initially before a vowel), the combination gʷhr yielding initial fr, medial br. So probably frendō: OE grindan 'grind'; nebrundines (Lanuvium; nerones Praeneste): G. νεφός; febris from *dhęgʷh-ris: Skt. dah- 'burn'.

4. The w-element was lost not only before u, but also, like the full IE w, before o, though here restored by analogy except in some isolated forms (see 170).

5. Initial qʷ is lost before u, according to the most probable view regarding the pronominal adverbs ubi, ut, etc. (Osc. p u f, p u z; cf. Skt. kutas, kutra, etc.), formed from stem *qʷu- beside *qʷo-, *qʷi-. Others explain as due to an analysis of ne-cubi as nec-ubi, etc. A similar loss of init. qʷ before consonantal u is seen in vapor: Lith. kvapas 'breath, odor' (G. καψώς with κ by dissimilation), although this and some other similar equations are disputed.

6. Some forms are plainly loanwords from the outlying p-dialects (cf. Osc. pod, ben-, etc.). So popina 'cookshop' beside coquō, and bōs and lupus.

**LIQUIDS, NASALS AND S, W, AND Y**

156. Table of correspondences.

<table>
<thead>
<tr>
<th>IE</th>
<th>G.</th>
<th>L.</th>
<th>Skt.</th>
<th>NE</th>
</tr>
</thead>
<tbody>
<tr>
<td>r</td>
<td>ρ</td>
<td>r</td>
<td>r(l)</td>
<td>r</td>
</tr>
<tr>
<td>l</td>
<td>λ</td>
<td>l</td>
<td>r, l</td>
<td>l</td>
</tr>
<tr>
<td>n</td>
<td>ν</td>
<td>n</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>m</td>
<td>μ</td>
<td>m</td>
<td>m</td>
<td>m</td>
</tr>
<tr>
<td>s</td>
<td>σ</td>
<td>s(σ, h)</td>
<td>s between vowels in part</td>
<td>s between vowels</td>
</tr>
<tr>
<td></td>
<td>'init. before vowel lost between vowels</td>
<td>r between vowels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>w</td>
<td>f, later lost</td>
<td>v</td>
<td>v</td>
<td>w</td>
</tr>
<tr>
<td>y</td>
<td>'init. lost between vowels</td>
<td>i-cons. lost between vowels</td>
<td>y</td>
<td>y</td>
</tr>
</tbody>
</table>
LIQUIDS AND NASALS

157. IE r and l.
G. ἑρυθρός, L. ruber: Skt. rudhiras, NE red
G. φέρω, L. ferō: Skt. bharāmi, NE bear
G. κλυτός, L. inclutus: Skt. ċrulas, NE loud
G. πλεῦς, L. pluō: Skt. plu-, NE flow

a. IE r and l are partially merged in Sanskrit, but are kept distinct in all the European languages. They interchange only in special cases of assimilation or dissimilation (40.9).

158. IE n and m.
G. νέ(os), L. novus: Skt. navyas, NE new
G. μήτηρ, L. māter: Skt. mātar-, NE mother
G. οὖμα, L. nōmen: Skt. nāma, NE name

But final m becomes n in Greek (211.2), and in Latin was weak (212).

Nasals other than n and m occur only by assimilation to a stop of a different series (194).

s

159. IE s remains unchanged, in both Greek and Latin, before or after a voiceless stop and when final.
G. έστι, L. est: Skt. asṭī G. ἠ팔ξα, L. dixī: Skt. adikṣi
G. γένος, L. genus: Skt. janas

160. G. κτ, etc. = Skt. ks. While Greek has regularly ξ from IE ks, as in δεξιω, and ψ from IE q’s, as in πέψω (154), there are some words in which Greek has τ or θ answering to the sibilant of cognates in other languages. τέκτων: Skt. takṣan- ‘carpenter’, L. texō τρίξω: Skt. kṣi- ‘dwell’
χθόν: Skt. kṣās ‘earth’ (beside forms pointing to simple ḍh, as G. χαμάι, L. humus 160)
φθινός: Skt. kṣi- ‘destroy’

a. For such correspondences it is customary to assume an IE fricative differing somewhat from s, e.g. IE *kʰi- = G. κτ-, Skt. kṣi-, But there is no certain support for this outside of Greek, and the matter is problematical.

There are also a few forms with κτ, χθ in which the dental answers to a Skt. y.
lκτίνος; Skt. cyenas ‘eagle, hawk’ (beside Av. saena- ‘bird of prey’, pointing to simple k)
χθῆς; Skt. hyas ‘yesterday’ (beside forms pointing to simple ḍh, as L. heri, OE geastra, NE yester-day).
Here may be mentioned also πτόλις, πτόλεμος in Homer and some dialects, for usual πᾶς (Skt. पृ 'stronghold'), πτόλεμος.

In all these cases the explanation of the Greek dental is doubtful.

161. Initial s before vowels remains in Latin, but in Greek becomes h, that is the 'spiritus asper' or 'rough breathing' commonly written ' (but orig. H = h, 68).

G. ἐπτᾶ, L. septem : Skt. sapat G. ἵστημι, L. sìstì
G. ἡμ-, L. sìm- G. ὃ, ἡ ; Skt. sa, sà
G. ἐπομαί, L. sequor : Skt. sac-

  a. The ' may be lost by dissimilation similar to that in τίθημι, etc. (132);
  ἐχω from *ἐχω (*σὲχω, cf. ἐσχων; ἔχω : fut. ἔχω = τριχῶs: θρίς)
  ἀδελφός (155), ἄθροις from copulative â=. Skt. sa-

162. The same change of s to h in Greek took place in the case of initial sw, sr, sl, sm, sn (for their history medially and in Latin, see 203.2, 202.1), which are sometimes represented in very early inscriptions by ḥh, ρh, λh, etc. (as if aspirated f, etc.; cf. NE which in American pronunciation), and finally result in ' , ὃ, but λ, μ, ν. Compounds and augmented or reduplicated forms of words with initial sr, sl, etc., show ῥῆ, and in Homer frequently λλ, μμ, νν, later λ, μ, ν.

ἡδός, Dor. ἀδός (inscr. Ἀδός ; Ἀδῶς is not quotable, but cf. Ἁθές)

L. suūvis, Skt. svādus, NE sweet

ῥέω (inscr. ῥοφαίσι) : Skt. sru-, NE stream (str from sr). Cf. κατα-

ρρέω, ξέρεον, etc.

λαμβάνω (inscr. λαβών), Hom. ἔλαβε, later ἔλαβε

μειδάω Hom. φίλο-μειδής : L. miror, Skt. smi-, NE smile

νίφα Hom. ἀγά-νυφος : L. nix, NE snow

163. In contrast to the development stated in 161 and 162, there are some Greek forms with initial σ, as σῶσ beside ὅς (L. sūs, NE sow), σμῆρος beside μῆρος, etc. The difference probably depended originally on different conditions of external combination (213), but just which is uncertain.

164. Intervocalic s is lost in Greek and becomes r in Latin. Gen. sg. of s-stems, G. γένεος (Att. γενός), L. generis, from *gene-

ses/os (Skt. janasas)
gen. pl. of a-stems, Hom. -άων (Att. -ῶν), L. -ārum, from *-āsōm
(Skt. pron. ending -āsām)
pres. subj. ἔω (Att. ἕ), L. fut. ερῶ, from *esō (cf. ēστι, est)
L. gerō from *gesō (cf. gestus)
L. cura from *koišā (cf. Pael. coisalens 'cura verunt')

165. In Greek the change was first to ħ, as initially (161). But this intervocalic ħ was lost in prehistoric times, leaving only indirect evidence of its existence in certain words in which it was anticipated initially, as ēw (167).

Intervocalic σ was sometimes retained or restored by analogical influence. So in the aorists ἔλυσα, ἐφύλησα, etc., after the analogy of forms like ἔδειξα in which the σ was not subject to loss; in dat. pl. -σι, etc., after the analogy of -σι in consonant stems; in forms like τίδεσα, ἐτίδεσο (in contrast to φέρεα, ἐφέρεο; see 394.2) after the analogy of those like γέγραψαι, ἐγέγραψο.

In most cases intervocalic σ represents an earlier group of consonants, as σσ, ττ, etc.

166. The Latin "rhotacism", as the change of s to r is often called, was doubtless through the medium of a voiced s, that is, z (in Oscan the change did not go beyond this stage, cf. gen. pl. egmazum). But the evidence of early Latin transitional spelling with z is meager. The change to r was complete in the 4th cent. b.c. (cf. Cic. Fam. 9. 21. 2), but the grammarians quote many old forms with s, as lases, arbosem. Rhotacism occurs in many languages, and is seen in NE were beside was.

Final s was not affected in Latin (domus, genus, etc.), except by analogy, as in honor, for honōs, under the influence of honōris, etc.

a. There are a few apparent exceptions to rhotacism, mostly to be explained as loanwords. In general an intervocalic s of the literary period is from earlier ss, as in causa from causā, which was still the spelling in Cicero's time, clausi, causus from clausi, clausus.

167. Remarks on the Greek spiritus asper.—The regular sources of ' are either IE s (161) or IE y (177). But it occurs also in many words which began originally with a vowel, or with f, where it is equally anomalous, since the loss of f in itself left no such result (féros, éros; ἥδειν, ἰδείν, etc., 169). So, for example, in Ἰππος (but Ἀλκ-ιππος, etc., without aspiration): L. equus, Skt. ačvas;
or in ἐσπέρα: L. vespner. The explanation is often doubtful, but the following points may be noted.

Initial ν- is always β-, even when it represents IE initial u-.

ββάρα: Skt. udān- βαθρός: Skt. ultaras

υπό, υπέρ: Skt. ṝpa, ṝpāri, NE up, over (L. sub, super stand apart, with unorig. s, perhaps a relic of a prefixed eks)

Possibly ν- first became μ- (cf. NE unit, etc.), whence β- as in the case of initial y (177).

‘ may result from the anticipation of an intervocalic h from s (165).

ἐβω from *ἐβω, *ενσο: L. ०νो

ἱπός from *ἱπός, *ἰσος probably: Skt. iśiras ‘vigorous, fresh’

 Cf. φρούρα from *προ-οῦρά, φρούδος from *προ-οῦδος

In ίατορ (fih-), ἐσπέρα (L. vespner), ἰστία (L. Vesta), ἵννυμι, ἰσταί, etc. (L. vestis), it has been suggested that the initial f may have become fh, whence ‘ (162), by anticipation of a certain aspirate element in the σ (see 191b and 206.2b). But this is a very doubtful matter.

The ‘ is often due to analogy, as in ἠμεῖς after ὑμεῖς, dial. ἰκτῶ after ἐπτά, late ἐτος, for ἐτός, after ἠμέρα.

168. Psilosis.—The spiritus asper ceased to be pronounced at an early period in East Ionic (thus leaving the letter H free for use as a vowel, 68), Lesbian, and some other dialects. Eventually this happened everywhere. In Modern Greek the distinction of ‘ and ‘ is only a matter of spelling.

w

169. IE w remained in Latin as the consonant u (v); and in Greek as ἄ, which was lost at an early period in Attic-Ionic.

L. videō, G. fideīn, ldeīn; Skt. vid-, NE wil

L. vŏx, G. fŏkos, ἐποῖο: Skt. vacas

L. vicus, G. foīkos, oīkos: Skt. vić-, OE wic (cf. NE War-wick, Green-wich, etc.)

L. novus, G. νέφος, νέος: Skt. navas, navyas, OE neowe, NE new

L. avis, G. ὀῖς, ὀῖς, oīs: Skt. avīs, OE ēōw, NE ewe

Latin v

170. Loss of v (w), including the w-element of the IE qʷ, occurred in prehistoric times before a.

deus from *dėšos (89.2a), *deiwos: Skt. devas, Lith. dievas, OPr. deuws deorsum, seorsum from de-vorsum, se-vorsum

secundus, *secondos, from *sequondos ‘following’ (sequor)
colō from *quolō, *quelō (80.6)
so- from *swo-, swe- in somnus, etc. (80.2)
coquō from *quiquō, *quequō (80.3)
īecur, *īecor from *īequor: G. ἰκαρ, Skt. yakṛ, IE *yekṛ(t)

But this change is observed in relatively few words. In the
great majority the v or qu was restored by the analogy of closely
connected forms in which the v or qu was followed by a different
vowel and so retained. Cf. NE swore, once pronounced like sore
(cf. sword), but now with w restored after the analogy of swear.
Thus servos (not seros) after servi, etc., whence later servus (82.5),
quod (not cod) after qui, etc.; similarly equos, sequomor, whence
later ecus, secuntur, and still later, by another analogical restoration
of qu, equus, sequuntur (82.6).

a. The distinction of deus, dei and dius, divi, both from the same source,
is the result of leveling in opposite directions from *dēos, *dēvi. Cf. NE
staff, pl. staf, and stave, pl. staves, from earlier staf, pl. staves, like shelf,
shelves.

171. Loss of IE w also occurs:
Initially before r, l, or u.
rādix from *宽容: G. ῥίξ, ῥᾶδιξ (from ῥ-,) OE wyrt, NE wort
in figwort, etc. (NE root is a Scandinavian loanword, hence r
from wr, while in write, wring, etc., w is still preserved in the
spelling though no longer pronounced)
lāna from *宽容 (cf. 116), beside vellus: NE wool
urgeō from *宽容-(IE *宽容-, *宽容-, cf. 114b): G. εἴργω (*ε-εργω,
106), Lith. veržiu ‘draw tight’, OE wrecan ‘drive, press, punish’,
NE wreck, wreak
After the labials p or f, whether the latter is from IE bh or dh.
aperiō from *宽容: Lith. al-veriu ‘open’
fiō from *宽容: fuit
forum from *宽容: ChSl. davor ‘court’
In mollis from *宽容: Skt. mṛdus, fem. mṛdī.
Sometimes between like vowels.
aetās from *宽容: aevum
lātrina beside lavātrina  dīs, dīlis beside dīves, dīvīlis
sis in early Latin for sī vis
172. Postconsonantal IE \( \mathbf{w} \) in Latin.

Initial \( dw \) becomes \( b \).

\( \textit{bis} \) (early \( duis \), Festus) from *\( \textit{dwis} \): G. \( \delta \textit{is} \) (from *\( \delta \textit{ris} \), Skt. \( \textit{dvis bonus} \) in early inscriptions \( \textit{duonus} \) (i.e. \( \textit{dwonus} \))

\( \textit{bellum} \), early \( \textit{duellum} \) (i.e. \( \textit{dwellum} \) in early inscriptions and in Plautus; but as an archaic form employed by later poets, who probably associated it with \( \textit{duo} \), it is trisyllabic)

Intervocalic \( dw \) loses the \( d \).

\( \textit{suavis} \) from *\( \textit{suadwis} \): G. \( \eta \textit{bhs} \), Skt. \( \textit{svadus} \), fem. \( \textit{svadvi} \)

Intervocalic \( tw \) becomes \( tu \) with vowel \( u \).

\( \textit{quattuor} \) (for \( \textit{lt} \), see 209): Skt. \( \textit{catvaras} \)

For the loss after \( p \) or \( f \), see 171.

\( a \). The assumption that initial \( tw \) becomes \( p \) (like \( dw > b \)) rests on a few doubtful etymologies. Assimilation of \( tw \) to \( ll \), assumed by some, is also doubtful.

173. Pronunciation of \( v \). Latin \( v \) was simply a consonantal \( u \), not distinguished in spelling from the vowel \( u \), and having substantially the value of English \( w \). But in the early centuries A.D. it came to be pronounced with more friction, first as a bilabial fricative like Spanish \( b \), then as a labiodental fricative like English \( v \). Intervocalic \( b \) also became a fricative. Hence the frequent confusion of spelling between \( v \) and \( b \) in late inscriptions and in manuscripts.

The change did not take place after \( q \) or \( s \). Hence at the time when the differentiation in spelling of \( u \) and \( v \) was introduced (p. 75), the \( v \) was not employed in words like \( \textit{qui, equus, suadeo} \), etc.

Gree k \( f \)

174. The \( f \) is of frequent occurrence in inscriptions of most dialects, except Attic-Ionic and Lesbian. Generally speaking, it disappeared first in the position before or after a consonant, where it is preserved only in the earliest inscriptions of a few dialects, next between vowels, and lastly initially before a vowel, where it survived in some dialects as late as the 2d B.C., and even to the present day in the isolated relic of Laconian known as Tsaconian.

The sound of \( f \) was like that of English \( w \). But probably it had
become a fricative like English v in late times and is to be so understood when it is represented by ß, as often in late inscriptions and glosses, e.g. βουκίαρ = Φουκίας, βεκάτεροι = Φεκάτεροι.

175. In Attic-Ionic ß was lost at a very early date, so that there are but scant traces of it even in the earliest inscriptions. But Homeric prosody furnishes ample evidence of its former existence. Words which originally began with ß frequently (1) make position, (2) prevent elision, (3) prevent shortening of a preceding long vowel or diphthong. On the other hand, such words often fail to have this effect, and, conversely, the absence of elision or of vowel shortening is not confined to cases where a ß followed. It is especially in the prevention of elision where this is otherwise to be expected (as 'Λπρετόης τε ἀναξ, for which ἀναξ is widely attested in dialect inscriptions) that the proportion of effectiveness is overwhelming.

The ß had no doubt disappeared from the spoken Ionic at the time of the final constitution of our text, hence the discrepancies. But the text still reflects in very large measure the habits of prosody which belong to a period when the ß was still pronounced.

176. Examples of initial and intervocalic ß have been given in 169. The treatment of ß in consonant groups is as follows:

1. Intervocalic nß, rß, mß are preserved in the earliest inscriptions of some dialects. Otherwise the ß is lost, (1) with lengthening of the preceding vowel in one group of dialects including Ionic, (2) without such lengthening in another group including Attic.

<table>
<thead>
<tr>
<th>Early Dialect Forms</th>
<th>Ionic (Homeric)</th>
<th>Attic</th>
</tr>
</thead>
<tbody>
<tr>
<td>ξένος</td>
<td>ξείνος</td>
<td>ξίνος</td>
</tr>
<tr>
<td>κόρη</td>
<td>κόρη</td>
<td>κόρη</td>
</tr>
<tr>
<td>δύρος</td>
<td>οὐρος</td>
<td>δύρος</td>
</tr>
<tr>
<td>κάλδος</td>
<td>κάλδος</td>
<td>κάλδος</td>
</tr>
</tbody>
</table>

There are many other cases in which the forms with nß, etc., are not quotable but are to be inferred from the corresponding relation between the Ionic and Attic forms, e.g. Ion. μοῖνος, Att. μόνος from *μύνος; Ion. οὗλος, Att. ἰλος from *οὔλος (cf. Skt. sarvas), etc.
2. A similar relation is seen in Ion. ἴσος, Att. ἴσος, from fίσός, attested in several dialects; Ion. νοῦσος, Att. νόσος from *νόσος. In these σφ is of secondary origin (fίσός probably from *fιδ-σ-φος, related to εἶδος). The history of original intervocalic σφ is parallel to that of original intervocalic σμ (203.2). *ναφός (cf. ναϊω, ἐναφόνα) became in Lesbian first *ναφός (like ἀμε), whence *ναψός, ναῦσος, elsewhere ναβός (like ἀμε), whence νάος, νηός, νεώς. For initial σφ, see 162.

3. δφ is preserved in Corinthis. Δελεία = Δελειαγ, and is indirectly attested by Hom. δείδα from *δεβδα, and δεισε with first syllable long (so written δεδείσε in some MSS), from *δεδείσε.

4. τφ appears initially as σ, medially as σφ or ττ with the same dialectic distribution as for κτ etc. (182).

σός from *τρός, beside τές from *τεφός: L. tuus, Skt. tvas
σείω: Skt. tváś- 'be stirred up'

Ion. τέσσερες, Att. τέτταρες: L. quattuor, Skt. catváras

5. Φφ is preserved in some dialect forms, as El. φράτρα = φήτρα, Arg. ἐφφρεμέα = εἰρημένα (cf. also βρήτωρ in texts of the Lesbian poets), from φρη- beside φερ- in ερέω: L. verbum. The spiritus asper in φήτρα is probably only a graphic convention, due to the more numerous cases of φ from σ, as φέω (162).

In compounds and augmented or reduplicated forms of words with initial φφ, the φ unites with the preceding vowel to form a diphthong in Hom. τάλαφως from *ταλα-φως, Lesb. εἰράγη from* ēφραγ (Att. ἐφράγγη), and some others. But generally the result is ρρ, as in Att. ἐφρήθην (εἰρηκα is formed after the analogy of εἰληφα, 203a), ἐφράγγη, ἀναρήγγυμι, etc.

177. Initial y remains in Latin as consonantal i, and in Greek becomes regularly the spiritus asper, but in some words is represented by ξ, the special cause of this different development being obscure.

G. ἱπαρ, L. iecur: Skt. yakṛt       G. ἰς (rel. pron.): Skt. yas
G. ἅγιος, ἁγνός: Skt. yaj- 'worship'    L. iuvenis: Skt. yuvan-, NE young
G. ἵγυν, L. iugum: Skt. yugam, NE yoke
CONSONANTS

G. ζώννυμ, ζωστός: Av. yāsta-, Lith. juostas 'girded'
G. ζέω, ζεστός: Skt. yas- 'be hot', NE yeast

178. Intervocalic ι was lost in prehistoric Greek and Latin (Italic).
G. τρέίς (dial. τρῆς, τρέεις), L. trēs, from *treyes (Skt. trayas)
denominatives formed from vowel stems by the suffix -yor- (Skt. 
-yor-), as those in -eω, -eō, from -eγο (Skt. -ayāmi), etc. (356)

179. ι. In Greek an exception is that the ι united with a preceding υ to form a diphthong υι, as in Lesb. φιω, Att. υιός and υιός. In 
other cases of an i-diphthong before a vowel, as in words in -αιω, 
αιω, -αιος, -αιος, etc., the ι does not represent an original intervocalic 
ι, but rather a ι which was left from some group as sy, wy, etc.

Thus ἡδεία from *ήδεια, τοιεω from τοιέω (cf. Boeot. ἐποι-
εσε), ναιω from *νασω(cf. ἐνασσα), εἰν from *ἐσιμ (Skt. 
syām), ἀλθεῖα from ἀλθεσα (ἀλθῆς), Hom. τελείω from *τελεσιμω 
(τέλος), Hom. gen. sg. ἐμεῖο from *ἐμεσιμ, gen. sg. -οιω from *-οσιμ 
(Skt. -οσια).

For the last-named forms we have also, with loss of ι in the 
historical period, Hom. τελείω, Att. τελῶ, Hom. ἐμείω, ἐμεῖω, Att. 
ἐμοῖ, and gen. sg. Hom. -οι, -ον, Att. -ον. Cf. also Att. Ἀθηναῖα, 
later Ἀθηνᾶ, Ἀθηνᾶ; υῖός and υός; τοιό and τοῖ (so in inscriptions 
of many dialects); αἰέ (from αἰεί) and ἀεί; καίω (from *καὶω, 
cf. καίσιω), κλαίω (from *κλαϊω), καὶ (here perhaps regularly 
καίει, κλαίει, but καίω, κλαίω, then with confusion). The special 
conditions that govern the loss of ι in some cases and its per-
sistence in others are complex and partly obscure.

2. In Latin in forms like eius, cuius, maior, peior the ι does not 
represent an original intervocalic ι, but stands for two ι's (partly 
from gy, dy, 180) of which the first formed a diphthong with the 
preceding vowel, while the second was consonantal. That is, the 
forms are really eiius (pronounced eiyus), etc., and are in fact 
frequently so written in MSS and inscriptions. The first syllable 
is long because it contains a diphthong (not eius, etc.).

180. Postconsonantal ι in Latin becomes vowel i.
medius from *medhyos: Skt. madhyas, Goth. midjis
alius from *alyos: G. ἄλλος 
veniō from *γυνηγο: G. βαίνω.
peior from *pedyōs (cf. *pessimus from *ped-ismo- or *ped-ismo-) maior from *magyōs (magnus)

a. In words like medius, alius, etc., the i became again consonantal in colloquial speech, e.g. medius, whence It. mezzo.

181. Postconsonantal y in Greek combines with the preceding consonant, yielding various results according to the character of this preceding consonant. There are three large classes of forms in which these changes are most widely observed. 

Presents of the iota or yo-class (360)

Nouns of the first declension with nom. sg. in -ā, orig. -tā (237)

Comparatives in -ων, orig. -ων (293)

182. With a voiceless guttural, whether the plain voiceless stop or the aspirate, and whether of the palatal or labiovelar series, the result is σσ or ττ, according to the dialect. In the three categories named above (181) the same result appears in derivatives of stems ending in τ or θ but this is due to the analogy of the type established by the guttural derivatives, since the normal phonetic treatment of τ and θ, as shown in more isolated words, is different (183).

φυλάσσω, -ττω from *φυλάκειρ: φύλαξ
πέσσω, -ττω from *πεκτηζ: φύλαξ, L. coquo (151)
γλώσσα, -ττα from *γλωςια: γλωσσίς
θάσσω, -ττω from *θαλάσσων (or *θαλασσών, 293a): ταχύς
έρέσσω, -ττω from *ερετής: ερέτης
μέλισσα, -ττα from *μελετια: μέλι, μέλιτος
κρέσσων, κρείττων (293a) from *κρετισσωμ: κρατύς

a. In words like the above, and likewise in the case of σσ, ττ from ττ (176.4), the σσ belongs to Ionic and the majority of dialects, while ττ is the genuine Attic form as shown by Attic inscriptions from the earliest times. The σσ of the tragedians and Thucydides is due to the literary influence of the earlier established Ionic prose. From Aristophanes on, ττ prevails also in literary Attic. There is fluctuation in the κουνή, with the non-Attic σσ generally prevailing.

b. The σσ (in some early Ionic inscriptions denoted by a special sign, beside the usual σσ), ττ represent a dialectic differentiation of some double
fricative which was the immediate result of κι, etc. Just what this was (for example, ξ or fricative θθ?) must remain obscure, but its fricative character is indicated by the fact that before it a nasal was lost with lengthening of the preceding vowel, just as it was before σ from τι, τσ etc. (πάσα from πάνσα, *παντια, 183, 204.2). So ἄσσου from *ἄγχισσον (ἄγχη).

c. Initially the σσ, ττ were simplified to σ, τ.

Ion. σήμερον, Dor. σάμερον, Att. τήμερον, from *κτ-ᾶμερον (from *κτ-:L. cis, citra)

σείω from *η’σελυ (Skt. cyañámi 'move, shake'), a poetical word, always keeping the σ- form

183. τι and θι give Att. σ not ττ, and Ion. σσ, σ (σσ beside σ in Homer, only σ in inscriptions; whereas σσ in φυλάσσω etc., 182, does not become σ).

Att. δοσ, Hom. δόσος, δόσ, from *δτιος (similarly τόσος, πόσος, etc.)

Att. μέσος, Hom. μέσος, μέσος (Boeot. μέττος), from *μεθιος:

Skt. madhyas, L. medius

After a consonant or long vowel or diphthong, τι gives σ in all dialects.

πάσα, πάνσα from *πάντια, φέρονσα from *φέροντια, etc.

αισα from *αιτια: Osc. aileis 'partis'

a. The development was perhaps through τσ, which at any rate gives precisely the same results (193a).

184. A voiced guttural (whether IE palatal or labiovelar) or dental +ι gives ζ in Attic and Ionic alike (δζ in some dialects).

άζομαι from *άγιομαι (άγιος)

νιζω from *νιγωνο (cf. fut. νιπω and χέρνηβα etc.)

πεζό from *πεδίος (ποδός, ποδός)

έλπιζω from *έλπιδω (έλπις, ἐλπίδος)

Zeis from IE *dzēus (Skt. dzāus)

185. Greek ζ has its main origin in these combinations γζ and δζ. Other sources are IE initial γ as in γνών (177), IE zd as in δζος from *οσζος (203.1) or a Greek combination of σ and δ as in 'Αθήναζε from -ασ-δε (203.1).

ζ had the value of zd in the best period of Attic-Ionic, but in late times became simple z. Evidence for the pronunciation zd is as follows:
1) Statements of the ancient grammarians that the three double consonants, ξ, ψ, and ζ, were composed respectively of κ and σ, of π and σ, and of σ and δ.

2) Transcriptions like ᾠδομάζης = OPers. Auramazda

3) Loss of a nasal before ζ precisely as before στ, e.g. σύ-ζυγος like σύ-στασις (204.3).

But the pronunciation dz must have been current in some parts, and it was with this value that the letter I was carried to Italy where it was used to represent ts as in Osc. ἡ ὑ β ι τ ᾶ l *hort(o)s.

186. πι becomes πτ.
πτῶ from *σρυ- (beside *σρυ- in L. σρύδ, *speiw- in OE spīwan ‘spew’)
κόπτω, κλέπτω from *κοπιω, *κλεπιω (359)

187. λι becomes λλ.
ἀλλος from *ἀλιος: L. alius στέλλω from *στελιω

188. νι, ρι give
1. ν, ρ with diphthongization of the preceding vowel, if this is a or o.
φαινω from *φαιων χαίρω from *χαριω μοῖρα from *μορια (cf. μόρος)

2. ν, ρ with lengthening of the preceding vowel, if this is other than a or o (but νν, ρρ, in Lesbian and Thessalian).
κρίνω from *κρινιω γέφυρα from *γεφυρια
τείνω from *τεινω φθειρω from *φθειρω

a. Note that τείνω, etc., have "spurious" ει, that is, a lengthened ε, and are co-ordinate with κρίνω, not with φαινω. So Lesbian has φαινω, but κτείνω (Att. κτείνω) like κρίνω.

Changes in Groups of Consonants

189. The majority of changes in groups of consonants fall under the head of assimilation (40.8). The assimilation may be of the first consonant to the second (anticipatory, also called regressive, cf. 40.8), as in L. accipiō from adcipiō, or conversely (called progressive), as in L. ferre from *ferse. It may be in order

1 The groups containing y and w have already been discussed.
only, as in L. *scriplus from *scriblos, or also in series as in L. accipio. Assimilation in order is far more general than that in series, and, again, anticipatory assimilation is far more general than the opposite. Thus in Greek and Latin groups of two stops the assimilation is always of the first to the second, and it is universal in the matter of order, only partial in series. But in certain combinations one consonant may dominate the other regardless of their relative positions. Thus in Latin both *dl and *ld, likewise both *nl and *ln, give *l.

In groups of consonants which have been brought into conjunction by composition the development does not always conform to that which is observed in the corresponding inherited groups. The phonetic law which affected the latter in prehistoric times may have no force in the later period of composition, hence e.g. L. sessum from *sed-tum (190), but at-tribuo. Or again, and this is the most frequent cause of the disparity, the consciousness of the uncompounded forms may react against the tendency to assimilation or other phonetic change, as in L. adsum, conlocō, G. ἐπάπτω, etc. In some cases the unassimilated form is only a pedantic spelling, as probably in L. addipiō beside usual accipiō. In others it is probably the usual form of careful speech in contrast to the colloquial, as in L. adsum and conlocō, which are uniformly so spelled in inscriptions and MSS until a very late period, though colloquial assum and collocō are attested by puns in Plautus. In the conflict between the purely phonetic tendency and the influence of the uncompounded forms, parallel compounds may differ in the forms preferred, e.g. L. conlocō but colligō.

In a few cases assimilation in compounds is extended to groups of consonants which normally are not assimilated, e.g. L. arripio, surripiō (ad-r, sub-r-).

STOP + STOP

190. A stop is regularly assimilated to the order of the following stop. As regards series, the labials and gutturals remain such before dentals, while dentals are assimilated to gutturals or labials, and labials to gutturals. Dental + dental becomes σ+.
dental in Greek, in Latin also st before r, otherwise ss, which becomes s after a consonant, long vowel, or diphthong (208.2).

The groups in which the second stop is a dental are the most important, since derivative suffixes and endings beginning with a dental are the most common. The other groups are mostly confined to compounds, and in Greek to a few Homeric and dialectic compounds of apocopated prepositions.

<table>
<thead>
<tr>
<th>$\beta$, $\phi + r$</th>
<th>$\pi$</th>
<th>$\tau$</th>
<th>$\pi'\tau\iota\rho\iota\sigma\tau$ ($\tau\iota\beta\omega$)</th>
<th>$b + t$</th>
<th>$pt$</th>
<th><em>scriptus</em> ($scribō$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\pi$, $\beta + \theta$</td>
<td>$\phi$</td>
<td>$\tau'\iota\rho\iota\sigma\theta\nu\gamma$ ($\gamma\rho\alpha\phi\omega$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\pi$, $\phi + \delta$</td>
<td>$\beta\delta$</td>
<td>$\kappa\lambda\beta\delta\nu$ ($\kappa\lambda\delta\tau\omega$)</td>
<td>$\gamma\rho\alpha\beta\delta$ ($\gamma\rho\alpha\phi\omega$)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\gamma$, $\chi + r$</td>
<td>$\kappa\tau$</td>
<td>$\lambda\kappa\lambda\kappa\nu$ ($\lambda\kappa\nu\omega$)</td>
<td>$g$, $h + l$</td>
<td>ct</td>
<td><em>actus</em> ($agd$)</td>
<td></td>
</tr>
<tr>
<td>$\kappa$, $\gamma + \theta$</td>
<td>$\chi\theta$</td>
<td>$\tau\kappa\lambda\lambda\lambda\theta\nu$ ($\tau\kappa\lambda\theta\nu$)</td>
<td>$\kappa\lambda\lambda\lambda\theta\nu$ ($\kappa\lambda\theta\nu$)</td>
<td>ct</td>
<td><em>coactus</em> ($coqud$)</td>
<td></td>
</tr>
<tr>
<td>$\kappa$, $\chi + \delta$</td>
<td>$\gamma\delta$</td>
<td>$\tau\kappa\lambda\lambda\lambda\delta\nu$ ($\tau\kappa\lambda\delta\nu$)</td>
<td></td>
<td>ct</td>
<td><em>uncius</em> ($ungud$)</td>
<td></td>
</tr>
<tr>
<td>$\tau$, $\delta$, $\theta + r$</td>
<td>$\sigma\tau$</td>
<td>$\iota\nu\nu\tau\sigma\tau$ ($\iota\nu\sigma\tau\omega$)</td>
<td>$l$, $d + l$</td>
<td>ss</td>
<td><em>sessum</em> ($sedd$)</td>
<td></td>
</tr>
<tr>
<td>$\tau$, $\delta$, $\theta + \theta$</td>
<td>$\sigma\theta$</td>
<td>$\iota\sigma\nu\sigma\theta\nu$ ($\iota\sigma\theta\nu$)</td>
<td>$l$, $d + c$, $qu$</td>
<td>$cc$, $cu$</td>
<td><em>accipio</em> ($ad-cipio$)</td>
<td></td>
</tr>
<tr>
<td>$\tau + \kappa$</td>
<td>$\kappa\kappa$</td>
<td>Hom. kakkeiontes ($kak-\kappa$)</td>
<td>$i$, $d + g$</td>
<td>gg</td>
<td><em>aggero</em> ($ad-gero$)</td>
<td></td>
</tr>
<tr>
<td>$\tau + \pi$</td>
<td>$\pi\pi$</td>
<td>Hom. kapseos ($kap-\pi$)</td>
<td>$i$, $d + p$</td>
<td>pp</td>
<td><em>quipe</em> ($quid-pe$)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$p$, $b + c$</td>
<td>cc</td>
<td><em>occipio</em> ($ob-cipio$)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$p$, $b + g$</td>
<td>gg</td>
<td><em>suggero</em> ($sub-gero$)</td>
<td></td>
</tr>
</tbody>
</table>

**STOP + S**

191. A labial stop $+ s$ gives G. $\psi$, L. $ps$.

G. γράψω (γράφω), τρίψω (τρίβω), φλέψ (gen. φλεβός)

L. *scripsi* ($scribō$), *nūpsi* ($nūdō$)

a. Words like *urbs*, *abs*, *observā* were pronounced, and in early inscriptions usually written, with *ps*. The spelling with $b$ was introduced to conform to that of the other cases, *urbis*, etc., and the uncombined *ab*, *ob*.

b. Here, and likewise for 192, 193, the general rule holds that before $s$ a voiced stop becomes voiceless and a Greek aspirate becomes unaspirated. But in early Attic inscriptions, before the introduction of the Ionic alphabet, $\psi$ and $\xi$ were denoted, not by $\pi\sigma$, $\kappa\sigma$, but by $\phi\sigma$, $\chi\sigma$, as φαυφωμα, έδοξεν, as if the $\sigma$ had some secondary aspirating effect on the preceding stop. Cf. also τέχνη from *tekovā* (306.2b).
192. A guttural stop+s gives G. ξ, L. x.
G. λέξω (λέγω), βρέξω (βρέχω), θρίξ (gen. τρίχος)
L. ῆξί (ῥῆδο), νέξ (νῆδο), ῆς (gen. ῆγίσ)
a. Under guttural stops are included of course the IE ḡh which gives L. h between vowels (148), and IE gʷh which gives L. v between vowels (156). Hence such relations as L. νεξi to νεξh, νιξ to gen. νιβίς, etc. In Greek, where the labiovelars become labials before a consonant, the result of combination with σ is of course ψ, as in πέψω (πέψω, L. coquô, 151).

193. A dental stop+s is assimilated to ss, which is further simplified to s after a consonant, long vowel, or diphthong, and when final, in both Greek and Latin (see 208). After a short vowel we have ss in Latin, and also in Greek σσ in many dialects, but regularly σ in Attic and later Ionic (Homer having both σσ and σ).
G. dat. pl. φέρονσι from φέρονσι from *φεροντ-σι
G. κυσά, Hom. κυσῆ, from *κυδ-σ-ā (cf. L. nidor)
G. ποῖς (or anomalous), Dor. πός from *πωδ-s
Hom. ποσσi, pɔsi, Att. ποσί, from *ποδ-σι
Hom. ἐκομσσα, -ισα, Att. -ισα, from *ἐκομιδ-σα
L. messui from *mel-suĩ (melô)
L. clausi from *claud-si (claudô)
L. pès from *pêd-s
a. In Latin and in most Greek dialects the result of the assimilation is identical with orig. ss, and its subsequent simplification to s the same. But in proethnic Greek the result of assimilation after a short vowel could not have yet reached the point of identity with orig. σσ. For two dialects, Boeotian and Cretan, which show orig. σσ unchanged, have ττ from τσ, as aor. ἐκόμισσα, and also from ττ, θσ as μέττος (183). The merging of τσ and ττ, θσ is complete, but of these with orig. σσ only partial.

NASAL+STOP (ALSO ms, my)

194. A nasal is assimilated to the series of a following stop. The guttural nasal (as in NE sing), for which there was no special letter, since the sound existed only in combination, was indicated in Latin by n, in Greek by γ. Thus in IE *pęŋqʷe, L. quinque, G. πὲντε, dial. πέμπε, Skt. pañca, the various changes of the qʷ are attended by corresponding changes of the preceding nasal.
G. συμβαίνω, συγγενής, συγχέω from συμ-
L. eundem from *eum-dem L. princeps from *prim(o)-ceps

195. In L. ēmpitus, sūmpitus the m was kept by the analogy of emō, sūmō, and p was inserted. The same analogical retention of m and insertion of p is seen in sūmpsi (cf. 40.11). The normal development of ms would be ns in Latin.

G. μσ becomes vs. els from ἔνσ (204.4), from *ἐμυς (cf. L. semel), and this ἔνσ together with ἔν, in which ν comes from final m (211.2), led to the generalization of the ν (ἔνσ, etc.).

196. A change of my to ny is common to Greek and Latin. IE *ge*yād (Skt. gam-, NE come) becomes G. *βανω, βαινω, L. veniō (with consonantal i, later vocalic, 180). In Latin the n, which was regular in ventum also, was generalized, so that all forms of the verb have n.

STOP + NASAL

197. Labial stop + nasal.—The labial stop becomes a nasal of its own class, that is, m, in Latin, and also in Greek except that πν and φν remain unchanged.
L. summus from *sup-mos (sub, ἱπ)
L. Samnium from *Sabh-niom (Osc. Safinim, cf. L. Sabini)
L. somnus from *swep-nos: Skt. swāpṇas (80.2), G. ὑπνος (119.3)
G. ληλεμμαι, τέτριμμαι, γέγραμμαι from *λλελεσμαι, *τετριβμαι,
*γέγραμαι
G. σεμνός from *σεβνός (σέβομαι) But ὑπνος, καπνός, ἀφνείος, etc.

198. Guttural stop + nasal.—G. κμ, γμ, χμ, κν, etc., normally remain unchanged, as in ἀκμή, δραχμή, τέκνων, τέχνη, etc. But κμ and χμ are regularly replaced by γμ in the perfect middle forms like πέπλεγμι, πεπλεγμένος (πλέκω), βέβρεγμαι (βρέχω), which follow the analogy of λέλεγμαι, λελεγμένος (λέγω).

L. kn, km become gn, gm. Initial gn, whether original or from kn, occurs in early Latin, but becomes n (cf. NE knight, gnat).
dignus from *dec-nos (decet) segmentum from *sec-mentom (secō)
nōscō, early gnōscō (cf. G. γνωσκω)
nātus, early gnātus (cf. gignō)
nīxus, early gnīxus (Festus) from *knīxos (: Goth. hneiwan ‘bow’
a. L. nōmen, though unrelated to (g)nōscō (cf. G. δρωμα, Skt. nāma, NE name), was popularly associated with it. Hence cognōmen formed on the analogy of cognōscō beside nōscō.

b. There are important indications that L. gn was once pronounced ŋn, with a change of g to the guttural nasal, parallel to that of p to m in somnus (197). Such are: (1) the omission of n in ignōscō, cognōscō, etc.; (2) spellings like sinnu = signum, or singifer; (3) the change of e to i before gn, just as before n + guttural (dignus like lingua, 79.1), that is, in both cases before a guttural nasal.

On the other hand, the complete silence of the Latin grammarians and of writers like Cicero and Quintilian regarding any such pronunciation makes it most unlikely that this was usual in their time. The probable explanation is that the retention of g in the spelling reacted on the pronunciation, and that the “spelling pronunciation” (46) wholly prevailed in cultivated speech.

199. Dental stop + nasal.—G. τυ, δυ, θυ, τυ, etc., normally remain unchanged, as in πότυς, ἀρητυς, Εὖνος, etc. So also in early ἵδμεν (Hom.), κεκορυθεμένος (Hom.), πεφραδμένος (Hes.), κεκαθμένος (Pind.). But later such forms have σμ by analogy, as πέπεισμαι, πεπεισμένος (πείθω), after πέπεισται, ἐπείσθην, etc. (190), ἵσμεν after ἵστε; so sometimes in nouns, as ὄσμη from earlier ὀδμή, θεσμός beside dial. τεθμός.

In Latin the stop is assimilated to the nasal, and mm is further simplified to m if preceded by a long vowel or diphthong.

annus from *altos (Goth. apn ‘year’)
rāmus from rādmos (rādix)

GROUPS CONTAINING A LIQUID

LATIN

200. 1. dt, ld, nl, ln, rl, ls become tt.
sella from *sed-lā (sedeō) sallō from *saldō (NE salt)
corōlla from *corōn-lā (corōna) collis from *colnis (Lith. kalnas)
agellus from *ager-los (ager) velle from *vel-se (cf. es-se)

a. So colligō from *con-legō. But in most compounds the unassimilated forms, as con-locō, in-lāstris, etc., prevail until a late period (cf. 189).

2. rs becomes rr, as final simplified to r (212.6).

ferre from *fer-se (cf. es-se)
torreō from *torseō (G. τέρσομαι, Skt. trs-)
far, farris from *fars, *farses (Umbr. farsio ‘farrea’)

a. For actual rs from rss, rtt, cf. 190, 207.3a.
3. Medial ιι became ei, followed by the development of an anaptyctic vowel (107), e.g. pōcum, early pōcolom, from *pōclom, this from *pō-ilom (suffix -ilo-). Initial ιι loses its ι, e.g. lātīs from *lātōs (lōlō).

4. Medial mr becomes br (cf. 201.2), e.g. hibernus from *heibrinos, *heimrinos (cf. hiems and G. χειμερών). Cf. br from sr (202.2). So also (though once disputed) initially, as brevis: G. braxīs (βρ from μρ, 201.1), Av. margeu- ‘short’.

5. nr and dr become rr in many compounds, while in others the unassimilated forms prevail, e.g. cor-rumpō, but in-rumpō; ar-ripīō, but ad-rogō.

GREEK

201. 1. μρ, μλ, νρ become μβρ, μβλ, νβρ (cf. 40.11), whence initially βρ, βλ, δρ.

άμβροτας, βροτός from *μοροτός: Skt. mṛas, L. mortuus
μέμβλωκα, βλωσκό from *μλω- (cf. aor. έμιολον)
άνδρος (also δρ-ώψ in Hesych.) from *άνφρος (άνηρ)

a. But in compounds νρ becomes rr, as συρρέω from *συρρέω, παρρησία from *παρρησία. So έρρυθμος beside ένρυθμος, but most compounds of en remain unassimilated, as ἐνράπτω.

The difference in the treatment of συν- and ἐν- is observed also in other combinations (συν-στάσις, but ἐν-στάσις, 204.3). There was a tendency to keep the ἐν- intact as thus more obviously distinguished from the ἐν-.

b. From inherited νλ we should expect νβλ, parallel to μβλ from μλ or νβρ from νρ, but there are no examples. The assimilation in compounds, as σύλλογος, from *σύν-λογος is parallel to that in συρρέω.

2. δλ, νλ in compounds, and sometimes λν, become λλ.

Lac. δλά from *δι-λά (like L. sella, 200.1) beside δι-ρά
Lac. σύλλογος from *σύν-λογος
Lac. δλλμι from *δλ-νύμι (cf. δεικνύμι)

a. In πναμαι, λν is restored by the analogy of δίναμαι, etc. Even δλλμι represents a secondary assimilation of a restored *δλλμι (cf. Att. ννύμι contrasted with Ion. ενύμι, 203.2c), if the normal treatment of inherited λν is that indicated in 3.

3. The normal result of inherited λν appears to be λλ in Lesbian and Thessalian, elsewhere λ with lengthening of the preceding vowel, that is, with the same distribution as in the case of in-
herited σλ, σν, νσ, etc. (203.2). For a considerable group of words which show this result are most reasonably explained as coming from forms with λν. The only other possibility is λσ (206.2), which some scholars prefer to assume, but from the point of view of word formation this is much less probable.

Lesb. στάλλα, Dor. στάλλα, Att.-Ion. σήλη, from *σταλ-νά
Lesb. βόλλα, Dor. βόλα, βουλά, Att.-Ion. βουλή, from *βολ-νά. So
also Att.-Ion. βούλομαι, Thess. βέλλομαι, Locr. δελλομαι, etc.
(but also simple βόλομαι in some dialects)
Att.-Ion. είλω, ειλέω (aor. εἴσα), Heracl. ἐγ-ἡληθιωντι, Lesb.
άπ-θλω, from *φελ-νω, *φελ-νέω.

GROUPS CONTAINING S

LATIN

202. 1. An s is lost before most voiced consonants (in compounds before all such), and a preceding vowel, if short, is lengthened (see also 207.1).

idem from *is-dem
iūdex from *ious-dex (iūs + dic-, 111)
primus from *prismos (Pael. prismu, cf. L. priscus)
bini from *dwisnoi (bis)
aēnus from *a(y)esnos (aes, cf. Umbr. a h e s n e s)

a. In di-gerō, di-rigō, etc., the di- is due to the analogy of di-dō, di-moveō, etc. For the result of inherited sg (sg) is rg (mergō:Skt. majā- ‘duck’, Lith. masgōti ‘wash’), and that of sr is br (below, 2).

b. The combination sd doubtless became əd in the parent speech, so that strictly one should speak of the loss of s in an inherited word like nidas (NE nest, Skt. nidās) from *nizos, *ni-sdos (sd weak grade of sed- ‘sit’, with the prefix seen in Skt. ni- ‘down’).

c. Initial sn, sm, sl likewise become n, m, l (see 162).
nix:NE snow, G. νιφα

2. Medial sr becomes br.
fūnebris from *fūnes-ris (cf. fūnestus)
cōnsobrinus from *swesr-īnos (cf. soror from *swesōr)

a. Initial sr probably gives fr, though there are no such undisputed examples (the best is frīgus: G. πῦγος) as for the medial br from sr. The development was presumably from sr through θr (fricative θ = NE th in thin) to Italic fr, whence L. initial fr, medial br, as from IE ahr (140).
3. In final ns the n was lost, with lengthening of the preceding vowel, in prehistoric times, as acc. pl. -ās, -ōs, -īs, -ēs, -ūs from -ans, -ons, etc. (G. dial. -ans, -ons etc.; 234.4, etc.).

In the case of medial ns and secondary final ns (from nts, etc.) the n lasted into the period of written records and so remained in the normal spelling. But here too its frequent omission in inscriptions (as the very common cosul, etc.) and lengthening of the preceding vowel (99.2) indicate that it was weakly sounded or probably wholly lost in common speech at an early period, as it certainly was eventually. The spelling without n was particularly common and more or less accepted in certain categories, notably the adverbs totiē(n)s, deciē(n)s, etc., derivatives in -ē(n)sis, etc. (also -ōsus, if from -ōnsus, 480).

The fluctuation of spelling in such cases led to the false introduction of n in some words as thēnsaurus for thēsaurus, from G. θησαυρός.

a. It is often stated that words with ns were pronounced with nasalized vowel, but there is no evidence from the Roman grammarians, or otherwise, to this effect. It is probable that nothing more subtle is involved than a conflict between total omission of the n in common speech and its plain pronunciation (as before any other consonant) in careful refined speech, in which case it would be an example of spelling pronunciation (46).

GREEK

203. 1. σδ (or IE zd, cf. 202.1b) is represented by ζ, pronounced zd, in Attic-Ionic.

'Αθήνας from *Αθνα-δε (cf. οίκον-δε, etc.)

διος from *οξδος: Goth. asts 'branch'

2. Intervocalic σρ, σλ, σμ, σν, and likewise νσ, lose σ, with lengthening of the preceding vowel. But in Aeolic (Lesbian, Thessalian, and often in Homer) there is assimilation to λλ, μμ, νν.

τρῆρων from *τράσρων (cf. τρέω from *τρεως)

Att. χέλων (96d), Ion. χείλων, Lesb. χέλλων, from *χεσλων (Skt. sa-hasra-)

εἰμι, Lesb. έμμι (cf. Hom. ἐμεναι), from *εσμι (Skt. asti)

σελήνη, Dor. σελάνα, Lesb. σελάννα, from *σελασ-να (σέλας)
\[\text{κρίνα}, \text{Lesb. κρύνα, from } *\text{κρύν-σα} \]
\[\text{φηνα, Dor. φάνα, from } *\text{φαν-σα}.\]

a. But compounds and augmented or reduplicated forms of words with initial \( \delta, \lambda, \text{etc.} \), from original \( \text{στ, } \text{σλ, } \text{etc.} \) (162), only rarely show this normal development of intervocalic \( \sigma, \sigma \lambda, \text{etc.} \), namely in Att. \( \text{ειλήφα from } *\text{σίλαμφα (λαμβάνω)} \), \( \text{ελμαρται from } *\text{σεσμαρται (μείρομαι)} \). Usually the development was that stated in 162.

b. In Att. \( \text{εμέν} \) the \( \sigma \) was restored under the influence of \( \text{εστί, εστέ} \) (Hom. \( \text{ειμέν} \) shows the normal development); similarly in \( \text{τετέλεσμαι after τετέλεσται} \) (as \( \text{πένεσμαι after πένεσται} \), 189), etc.

c. An \( \sigma \) which arose by composition in the historical period or by analogical restoration of \( \sigma \) became \( \nu \), as in \( \text{Πελοπόννησος from } \text{Πέλοπος νῆσος} \), or Att. \( \text{ενύμι} \) from \( *\text{κενύμι} \) with \( \sigma \) restored from \( \text{κσα} \), etc. (Ion. \( \text{εινύμι} \) shows the normal development).

204. \( \nuσ \). i. Original intervocalic \( \nuσ \) gives the same result as \( \sigmaν \) (203.2).

2. Secondary intervocalic \( \nuσ \), in which \( \sigma \) comes from \( τι \) (183), dental+\( \sigma \) (193), or \( \tau \) before \( \iota \) (145), remains unchanged in some dialects, but in most the \( \nu \) is lost, with lengthening of the preceding vowel in Attic-Ionic, etc., with diphthongization to \( \text{αι, οι, etc., in Lesbian.} \)

\( *\text{παντ-ια, πάνσα, πάσα, } \text{Lesb. παίσα} \)
\( \text{dat. pl. } *\text{φέρωσι, φέρωσα, φέρωσι, } \text{Lesb. φέρωσι} \)
\( \text{3 pl. } *\text{φέρωντι, φέρωντα, φέρωντα} \text{, Lesb. φέρωντι} \)

a. Att. \( \text{φάνωσ} \text{ (φαίνω), etc., were formed later and retained } \nu \).

3. \( \nuσ+\text{consonant (similarly } \nu+\zeta=\text{zd}) \text{ loses } \nu \text{ without lengthening of the preceding vowel.} \)
\( \text{κεστός from } *\text{κεντός, } *\text{κεντ-τος (κεντέω)} \)
\( \text{σύντασις from } *\text{σουν-στασίς} \)
\( \text{σύνυγος from } *\text{σουν-ύγος (i.e. } *\text{σουν-υγος)} \)
\( \text{Αθηναίζε from } *\text{Αθηνας-δε (203.1), } *\text{Αθηνανς-δε} \)

a. But \( \nu \) is restored by analogy in compounds of \( \iotaν, \text{as } \epsilonντασίς \).

4. Final \( \nuσ \) in close combination with a word beginning with a consonant was subject to the loss of \( \nu \) without vowel lengthening (above, 3). Otherwise it had the same history as the secondary intervocalic \( \nuσ \) (above, 2). In Cretan we find such doublets as
acc. pl. τὸνς ἔλευθέρους but τὸς καθεστάντις. But in most dialects one type or the other was generalized, without regard to the initial of the following word, usually the τὸνς, τὰνς, or the resulting τοῦς or τῶς, τᾶς (Lesb. τοῖς, ταῖς).

5. The different results of νς may be surveyed in the accompanying table.

<table>
<thead>
<tr>
<th>*ἴφανα</th>
<th>*πανία, φέροντι</th>
<th>*κεντός</th>
<th>τόνς</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesb. ἐφάνα</td>
<td>Arc. πάνςα, φέρονσι</td>
<td>κεστός</td>
<td>τόνς τός</td>
</tr>
<tr>
<td>Dor. ἐφάνα</td>
<td>Att. πᾶσα, φέρονσι</td>
<td></td>
<td>τοῦς τῶς τοῖς</td>
</tr>
<tr>
<td>Att. ἐφάνα</td>
<td>Att. πᾶσα, φέρονσι</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

205. λς, ρς show a double treatment, which perhaps depended originally upon the position of the accent, e.g. κόρη, Att. κόρη, but κοιρείς.

1. λς remains. Likewise ρς in most dialects, but this becomes ρρ in Attic and some others.

ἀλσος, τέλσον, ἐκελσα, ἀρσα

ἀρσην, Att. ἀρρην  θάρσος, Att. θάρρος

a. The earliest Attic inscriptions have θάρρος, etc., and θάρσος, etc., of early Attic writers are, like πράσσω, etc. (182a), due to Ionic influence.

In Att. θηροί, κάθαραι, etc., σ is retained by analogy.

2. λς, ρς become λ, ρ with lengthening of the preceding vowel. In Lesbian and Thessalian there is assimilation to λλ, ρρ. The development here is parallel to that of σλ, συν, νς (203.2).

ἐστελα, Lesb., Thess. ἐστέλλα, from ἐστελ-ςα
ἐφθειρα, Lesb. ἐφθερρα (cf. τέρραι = τεῖραι), from ἐφθερ-ςα

GROUPS OF THREE OR MORE CONSONANTS

GREEK

206. Many groups which are simplified in Latin remain unchanged in Greek, as ρκτ, λκτ, ρξ, λξ (L. rct > rt, etc., 207.2). The more important changes are in groups containing σ.

1. Dental +σ becomes σ before or after another consonant.

πάσχω, with transfer of aspiration, from *παθ-σκω (cf. ἐπαθον)
dat. pl. φέρονταi from φέροντα (204.2) from *φέροντ-σι
νύξ, dat. pl. νύξι, from *νυκτ-σ, *νυκτ-σι (gen. sg. νυκτός)

2. σ is lost between two consonants in most groups.

γεγράφθαι from *γεγραφ-σθαι  ἐστάλθαι from *ἐσταλ-σθαι
λελέχθαι from *λελεχ-σθαι  ἐστάρθαι from *ἐσταρ-σθαι

a. So also πεφάνθαι with ν restored by analogy of πέφανται, etc. In the normal development of νσ+-cons. the ν is lost (204.3).

b. In the groups καν, καμ, καλ the σ caused aspiration of the preceding κ (cf. early Att. ἄδοχσε, 191b) and was then lost.

λύχθης from *λυκσνος (cf. L. lūnā from *loucsnā)
τέχνη from *τέκσνᾶ (cf. τέκτων, Skt. lākṣan-, 160)
πλοκμός from *πλοκσσος (cf. πλέκω)

3. But when σ stands between stops of the same class, the first stop is lost by dissimilation.

λάσκω from *λακ-σκω (cf. aor. ἔλακχεν)
διάσκω from *διάκ-σκω (cf. διάκχη, L. doceō, discō from *di-de-scō)
βλάσφημοσ from *βλαπσ-φάμοσ (cf. βλάβος)

a. The preposition ἦκ would normally become ἐκ before most consonants (by 2), and ἑκ before a guttural (by 3). But ἐκ was generalized in Attic-Ionic, and ἑκ in some of the other dialects.

LATIN

207. Out of the great variety of changes the more important may be grouped as follows:

1. Stop+s becomes s before another consonant, and if this is voiced the s (which in this case may also come from ns) is lost (202.1).

inlūstris from *in-loucstris  lūna from *loucsnā
suspendō, suscipiō, sustineō from *subs-pendō, etc.
sūmō from *subs-(e)mō
ēdūcō from *ex-dūcō  trādūcō beside trāns-dūcō
asportō from *abs-portō  ostendō from *obs-lendō
eveniō from *ex-veniō  sævirī from *sex-viroi

a. But in prepositional compounds recomposition is very frequent. So subscribō, abstineō, abscidō, obstō, extendō, exclūdō, expōnō (so regularly ex restored before voiceless stop in contrast to ἑ before voiced stop), etc.

Also xi in dexter (from *dexiter, but even here Osc.-Umbr. dextr-), mixtus
(from *mixitos?) for which mistus also occurs, textus (prob. from *tekitos beside texti, like molitus beside molui, etc.; but could be simply by analogy of textō), sextus (by analogy of sex), Sextius but also Sextius.

2. A stop is lost between r or l and another consonant in most such groups. So in rct, rtc, lct (but rpt, lpt remain), rdn, rcn, rcm, rpm, rbm, km, lgm, lpm, also rcs, lcs (but these remain, when final, rx, lx); apparently also in rts, lts, but here the change belongs under 193.

tortus, lorsi, tormentum from *tortctus, *torcsī, *torcmentom (tor-queō)
ultus from *ultctos (ultīscor) mulsi from *multctsi (mulceō)
fulmen, fulsī from *fulgmen, *fulgctsi (fulgeō)
pulmentum from *pelptmentom (pulpa from *pelpa by 80.6; cf.
Umbr. pelmner ‘pulmenti’)

3. In the group rst, rsc, and rsn from rtsn, the r is lost; in rsd and inherited rsn (really rzd, rzn) the sibilant was lost.

tostus from *torctostos (torreō from *torsecto, 200.2)
poscō from *porscō:Skt. pṛcchāmi (114)
cēna from *cesnā, *cersnā, *certsnā (Osc. k e r s s n u)
hordeum from *horsdeo: NHG Gerste
perna from *persnā:Skt. pārṣnis, NHG Ferse

a. As in rst, rsc, so also in rss (from rtt, 190) the r was lost. In most words the r was restored by analogy, and rss became rs, e.g. versus and compounds. But some forms with the loss of r survived, e.g. dossum beside dorsum, rāsus beside rūrsus, and notably prōsa, in specialized use prōsa orātiō, beside prōrsus.

4. nct, ncn, ngn.—quintus from quinctus. But sāntus, iūntus, etc., with analogical restoration (santus, etc., only late).
quinti from *quincnoi (quinque), with vowel lengthening as before
nct, nx (99.2) Similarly
conveō from *con-cnteveō: Goth. hneiwan ‘bow’
ignescō, cognescō from in-, con-gnescō (see 198b)

SIMPLIFICATION OF DOUBLE CONSONANTS

208. i. Greek σσ, whether original or from dental + σ or from ττ, θθ, was simplified after a consonant, a long vowel or diphthong,
and when final. Between vowels σσ remains in many dialects, but becomes σ in Attic and later Ionic, Homer having both σσ and σ. See 183, 193, and for original σσ, cf. dat. pl. γένεσ-σι, etc., Hom. -εσσι and -εσι, Att. -εσι.

2. Latin ss, whether original or from dental+s or from dental+dental, is simplified after another consonant, a long vowel or diphthong, and when final. See 190, 193 and for original ss cf. hausi from haus-sī (hauriō from *hausiō) in contrast to gessī (gerō from *gesō).

But the simplification after a long vowel or diphthong was relatively late, the ss surviving down into the Augustan period. Quintilian states that caussa, cāssus, etc., were the spellings of Cicero's time, and the Monumentum Ancyranum of Augustus has caussa, claussum beside clausum.

a. The ss persisted in the perf. act. infin. -āsse, etc., under the supporting influence of the fuller forms in -āvisse, etc.

3. A late simplification of L. ū occurs in milia from millia (which is still the spelling of the Mon. Ancy.), and paulum from paullum. But in other words ū remains even after a long vowel, as mille, nullus, etc.

a. The simplification of ū in milia, as contrasted with mille, probably originated in the colloquial pronunciation millya (like medyus, 180a), whence milya.

4. For the simplification of L. mm from dm after a long vowel or diphthong, see 199.

5. Some examples of simplification in Latin are apparently due to the position before the (historical) accent (though this view is also disputed), as mamilla beside mamma, ofella beside offa, curālis beside currus, omitlo from *om-millō, *ob-millō (but sum-millō, etc.).

**DOUBLING OF CONSONANTS**

209. Certain Latin words show doubling of a consonant, with shortening of the preceding vowel if long.

Iuppiter (this the approved spelling) from Iūpiter (272.2)
quattuor from *quatuor:Skt. catuṛas
a. In the case of Iuppiter, and also certain abusive epithets like cuppes (cupio), lippus, gibber, one may compare the expressive doubling which is often observed in the hypocoristic form of proper names (petnames, nicknames), e.g. Boeot. Méné (Ménis), 'Aγαθώ (áγαθός), L. Acca, Appius. Cf. also Dor. µικκός from the µικ- of µικρός.

ASSIMILATION AND DISSIMILATION OF NON-CONTIGUOUS CONSONANTS. METATHESIS. HAPLOLOGY

210. Most changes falling under these heads occur only sporadically, under conditions too complex to admit of precise formulation. They are often observed in current speech as individual and momentary “slips of the tongue” (and corresponding “slips of the pen” are even more frequent). In some cases they recur with sufficient frequency to effect a permanent change. Special circumstances favoring such permanency are now and then apparent, e.g. in τίκτω from *τίκτω (reduplicated present, like πίπτω), with weak grade of the root seen in aor. ἔτεκν, where the transposition resulted in the substitution of a familiar consonant sequence (κτ) for an unfamiliar one (τκ) and in a form which fell within a familiar class (presents in -τω) and was further favored by the resemblance of τικ to the τεκ- of ἔτεκν. For examples, see 40.8, 9, 10, 13.

FINAL CONSONANTS

GREEK

211. 1. A final stop is lost.

voc. sg. παῖ from *παιδ (gen. παιδός), γίναι from *γίναικ (gen. γίναικός), ἄνα from *ἀνακτ (gen. ἀνακτός)

nom. acc. sg. neuter of pronouns, τό (Skt. tād), τί (L. quid, Skt. cid), ἄλλο (L. aliud)

3 sg. and 3 pl. forms like ἐφερε, ἐφερον, from IE *ebheret, *ebheront (337, 340)

a. A final stop occurs only in ἐκ from ἐκ, οὐκ from οὐκί and in dialectic forms like κατ from κατά, ἀπ from ἀπό, etc.

2. Final μ becomes ν. Acc. sg. ending -ν = L. -m, Skt. -m. First singular secondary ending -ν = L. -m, Skt. -m, as ἐφερον (Skt. abharam).
LATIN

212. 1. Final *m* was weakly sounded or in part wholly lost, as shown by its frequent omission in early inscriptions and by the fact that it does not interfere with the elision of the preceding vowel when the next word begins with a vowel. On the other hand, it "makes position", like any other consonant, when the next word begins with a consonant.

   a. Complete loss of *m* with elision of the preceding vowel is clear in cases like *animadvertero* (*animum advertero*), *veneo* (*venum eo*), etc. But for cases like *multum ille* the precise practice is impossible to determine. Some of the grammarians state that the *m* was only obscured, while others speak of it as lost. They never allude to any nasalization of the vowel, such as is assumed by many modern scholars. Probably in common speech, in a closely connected group of words, the treatment was actually the same as in *animadvertero*. But in oratory and poetry there was apparently an attempt, probably more or less artificial, to retain some indication of the *m* (an approximation of the lips, a sort of *w*-glide ?), as well as of the preceding vowel.

2. Final *s* after a short vowel was weakened in early Latin, as shown by its frequent omission in early inscriptions and by the fact that it often fails to make position in early poetry. But it had regained its full value by the time of Cicero, who remarks that the omission of final *s* (when not followed by a vowel) was formerly good usage, but no longer so ("quod iam subrusticum videtur", Orator 48. 161).

3. IE final *t* became *d* in the Italic period, as in the 3 sg. secondary ending, e.g. Praenestine *fhefhaked*, early L. *feced*, *sied*, Osc. d e d e d, k ú m b e n e d. But in Latin except in the earliest inscriptions, the *t* from the primary ending -ti was generalized.

   a. Hence the final *d* of early L. abl. sg. -ōd, etc., and of nom.-acc. sg. neut. id, quod, etc., may represent either IE *t* or *d*, the corresponding Skt. forms being equally ambiguous.

4. Final *d* after a long vowel was lost toward the end of the 3d cent. B.C., as in the ablative singular in -ā, -ō, etc., and the imperative in -tō, which in early inscriptions (and in Oscan) appear as -ād, -ōd, -īd, -ūd, and -tōd. The monosyllabic *med*, *tēd* survived somewhat longer and occur before vowels in Plautus.
a. The SC de Bacch. (29) has sententiād, preivātōd, facilumēd, magistrātūd, etc., consistently in the text of the decree, but this is due to the conservation characteristic of legal style. The subjoined instructions for publishing the decree read in agro Teurano, showing that the d was already lost in current speech.

5. The final consonant of certain groups was lost, as in cor from *cord (gen. cordis), lac from *lact (gen. lactis), etc. Certain other groups were first assimilated and then simplified (see the following).

6. Double consonants were simplified, as in
2 sg. es from ess miles from milēs, *milēts (gen. militis)
ter from terr, *ters, *tris (109, 200.2)
age from *agerr, *agers, *agros (109, 200.2)
far from *farr, *fars (gen. farris from *farsēs, 200.2)
nom.-acc. sg. hoe from hoce, *hod-c(e)

a. In Plautus es regularly, and sometimes ter and the last syllable of miles, have the value of long syllables, which means the survival of ess, milēs, terr, before vowels. In the case of hoc, which is regularly a long syllable even in the later period, it is expressly stated by the grammarians that the pronunciation was hoce before a vowel, e.g. hoce erat. By analogy there arose also in the nominative singular masculine, beside hic, a hic with long syllable, that is hicc.

b. L. sāl is probably for *sall from *sals = G. ἄλς, though there are other possibilities; so perhaps pār for *parr from *pars.

CHANGES IN EXTERNAL COMBINATION

213. Changes in external combination, that is, those depending upon the relation of a word to the rest of the sentence, are common in actual speech, but generally only a small part of such changes is reflected in the written form of a literary language. Cf. 40.14.

In Greek certain changes belonging under this head, as the familiar elision, etc., are observed in our literary texts, but many others common in inscriptions are disregarded. In the Latin literary texts there is still less of such matters.

But in both languages there are some recognized sentence doublets, parallel to NE a and an, as G. ἐξ, ἐκ, L. ex, ē, ab, abs, ā, etc.
Several matters that involve the subject of external combination have been mentioned in connection with particular initial or final sounds, as, for example, the history of final rs (204.4), and other finals (211, 212). But there remain others.

GREEK

214. 1. Elision of a final short vowel (also $\alpha$ of verbal endings, sometimes $\alpha$) before a word beginning with a vowel, subject to certain well-known exceptions, is more consistently noted in our current texts than in MSS and inscriptions, where there is great fluctuation in the writing even in metrical texts.

a. The absence of elision (hiatus) in Homer is partly due to the earlier presence of initial $\phi$ in the following word, but is by no means confined to such cases.

b. In the case of $\alpha$ or $\omega$, the way for elision was prepared by the change of $i$ to $\iota$ and its loss between vowels (178).

2. Shortening of a final long vowel or diphthong before a word beginning with a vowel, like that in the interior of a word (98.3), is observed in Homer, and there are occasional inscrptional examples in which this is indicated in the spelling.

3. Aphaeresis, or inverse elision, mostly after $\mu\nu$ or $\eta$, as $\eta \ '\mu\epsilon$, occurs in poetry and occasionally in inscriptions. Though called by a different name, this is probably the same as crasis, in reality simple contraction.

4. Crasis, in a closely connected group of words, most frequently forms of the article or $\kappa\alpha i$ with the following, occurs in poetry and prose, and examples occur in early inscriptions of all dialects.

Crasis is simply a special name for vowel contraction, and generally follows the rules of internal contraction. But in Attic the vowel of the second or principal word determines the quality of the contracted vowel, as $\alpha \nu\nu = \delta \alpha \nu\nu$, in contrast to Ion. $\omega \nu\nu$ with the normal contraction of $o + a$ to $\omega$ as in Att.-Ion. $\tau i\mu\omega$ from $\tau i\mu\alpha \omega$.

5. Apocope, the loss of the final short vowel of prepositions before a consonant, is common in Homer and in many dialects. In
some dialects it is more extensive than in Homer, so in Thessalian
even ἀν, ἑπ, ὑπ. But in Attic-Ionic it is almost unknown.

6. Assimilation of the final consonant to the initial consonant of the
following word is seen in Homer and in many dialects in the case of apocopated prepositions, as ἀμ πεδίον, καπ πεδίον, καρ ῥόν, etc. A vast deal more of such assimilation, especially in forms of the article, that does not appear in our current texts, is very common in inscriptions, including Attic, more in the earlier than in the later. Cases like τὸμ τὸλεμον, τῆμ βουλῆν, τὸγ κῆρυκα are common even in late Attic inscriptions and in papyri, and have persisted in actual speech down to the present day. The more radical assimilations, as in τὸλ λόγον, τοῦν νόμουs, etc., are found only in the earlier inscriptions.

215. The ν movable in forms like λέγουσιν(ν), εἰπε(ν), etc., is an added element which, except for a few examples of dat. pl. -σιν in other dialects, is peculiar to Attic-Ionic. Here it appears from the earliest inscriptions on with increasing frequency and before both vowels and consonants. In Attic it came ultimately to be used more commonly before a vowel or before a pause, though never with any absolute consistency. It cannot be a purely phonetic addition, but must have come in by analogical extension from certain forms in which the ν was inherited. Thus from pronominal datives like Att. ἕμι(ν) (cf. Lesb. ἀμμων and ἀμμο) it passed to dat. pl. -σι, as φύλαξ(ν), thence to 3 pl. λέγουσιν(ν), thence to 3 ps. τίθησιν(ν); and again from 3 sg. ἔσε, ἔσ (orig. 3 pl., 340.2) to οἶδε(ν), ἔθηκε(ν), etc.

LATIN

216. Latin literary texts show still less of such matters, since even the elision was not noted in writing, and aphaeresis (e.g. copiast = copia est) only occasionally. It is only in the more carelessly written inscriptions that one finds frequent examples of assimilation, e.g., im (in) balneum, cum (cum) suis, cum coniugi, quan (quam) nunc.

Elision was doubtless common in actual speech in the case of groups of closely attached words. So clearly in magnopere, anim-
advert (animum advert), etc. But the Roman poets extended the
use of elision far beyond its probable practice in ordinary speech. Certain statements of some writers imply that they read Latin poetry with slurring of the vowel rather than with elision. If this was usual in poetry and oratory, it was probably only an artificial compromise between the elided and the full form, an attempt to retain something of the vowel without giving it the value of a syllable. For words ending in \( m \), see also 212.1a.

**ACCENT**

217. Under accent one understands variations of either intensity or intonation, and speaks of a stress accent or a pitch accent according as one or the other element is the more conspicuous. In English the word accent is one of stress, while variation in pitch is mainly a matter of sentence accent, as in the rising tone of interrogation. The accent of Sanskrit and Greek, the two earliest-known IE languages, was a pitch accent, and it is a fair inference that this was the character of the IE accent in the last period of the parent speech. But no doubt the element of stress was also present, and at an earlier period of the parent speech, when the reduction of unaccented vowels took place, stress seems to have been the effective factor (122).

A distinction of simple and compound accent, or of acute and circumflex, to adopt the familiar terms applied to Greek accent, existed in the parent speech, at least in final syllables. Compare G. τιμῆ, τιμῆs with Lith. nom. mergā, gen. mergōs, or kaloi, kalōn, kalōs with Lith. gerī, gerū, geraĩs. The IE circumflex appears to have arisen in connection with certain Proto-IE processes of contraction and compensative lengthening, much as the Greek circumflex in part is connected with contraction in Greek (τρεῖs from τρεῖς).

The circumflexed long vowels and diphthongs were longer than those with acute accent, say as three morae to two, if we adopt the quantity of a short vowel as a convenient unit or "mora". This quantitative difference shows itself, for example, in the treatment of final vowels in Lithuanian, and also in Greek in the different values of final -\( α \) or -\( αι \) in determining the word accent. These
final diphthongs were shortened—from three to two morae, so that they still count as long, in categories in which when accented they show the circumflex—from two morae to one, so that they count as short, in categories in which if accented they have the acute. Thus nom. pl. οἶκοι (cf. θεοί), but loc. sing. οἶκοι (cf. Ἰσθμοῖ), and 3 sg. opt. λείποι where related Lithuanian forms show the circumflex on the ending.

As regards position, the IE accent was a "free accent", as opposed to a "fixed accent", either absolutely fixed, as, for example, in languages with constant initial accent, or relatively fixed, as in Greek and Latin, where it is restricted to the last three syllables. Thus in Sanskrit the accent may stand on the first, last, or any intermediate syllable, regardless of the number of syllables or quantity of the vowels (e.g. ṣpratita-, tigmámürdhan-, parivatsarā-, bubódha, bubudhē, bubudhimāhe). And the Sanskrit accent, which agrees with that to be inferred from certain consonant changes in Germanic (Verner's Law), is in the main the inherited IE accent. Several of the Slavic languages, as Russian and Serbo-Croatian, still have a free accent in this sense.

**GREEK**

218. The Greek accent was one of pitch, as is clear from its description by Greek writers and from the terminology employed, e.g. τόνος, προσωπία, δέεια, βαρεία. The term βαρεία (τάνις) was appropriately used for the 'low' pitch of the unaccented syllable, whereas, had the accent been one of stress, it could only have been employed for the 'heavy' stress of the accented syllable. The absence of vowel syncope and other phenomena which commonly result from a stress accent, and the independence of word accent and verse ictus, all point in the same direction. In Modern Greek, on the other hand, the accent, while retaining its old position, is one of stress. The change, which was no doubt a gradual one, was established by the 4th cent. A.D., when accentual verse begins. There are much earlier indications of stress in colloquial and dialectal speech.

The acute accent was one of high pitch, the grave one of low pitch, and the circumflex a combination of the two (´`, whence
That is, the circumflex, occurring only with diphthongs or long vowels, consisted of high pitch on the first mora of the diphthong or long vowel, followed by low pitch on the second mora, e.g. πᾶς = πᾶς or ψ = ψ.

a. All syllables not having the acute or the circumflex, that is, what we call the unaccented syllables, were regarded as having the grave, and were sometimes so marked, e.g. Μένελαος. Sometimes all the syllables preceding the one with the acute were marked as grave, e.g. ἐπέσευσαντο, or again the one immediately preceding, e.g. κρατέρος.

The only use of the grave accent sign in our current texts, namely in place of the acute on the final before another word, reflects (as do some other peculiarities in the use of the accent signs) a Byzantine convention, at variance with the practice of the Alexandrian period as observed in the papyri. In certain cases the sign may be understood as a survival of its original use in the so-called unaccented syllables. Thus in τὸν πόλεμον the τὸν was really proclitic just as much as the δ of δ πόλεμος; and so in ἀνα λόγον, ἀπὸ δείτων the prepositions were proclitic like ἐν, ἐς, ἐκ, ἐξ (sometimes ἐν, ἐκ in papyri, but in the practice finally established the ἐ was not written in these prepositions which had also a breathing sign; similarly in the case of ἐ, ἐ). Except in such cases of close combination, the use of the grave on final syllables in place of the acute is a convention which had no basis in actual speech.

After the pitch accent had become one of stress, all distinction between the acute (including the grave on final syllables) and the circumflex disappeared. The use of the three signs in Modern Greek is only a historical convention.

219. In the matter of position the IE system of free accent was replaced by one in which the accent must fall within the last three syllables, and if the ultima was long within the last two. Or expressed in terms of morae, the accent could stand on the fourth mora from the end in a case like ἄνθρωπος, otherwise not farther back than the third mora from the end. Hence the circumflex (= ` `) was excluded from the antepenult, and from the penult when the ultima was long.
If the IE accent had been farther back it was brought forward sufficiently to fall within the required limits. Thus Skt. bhāramāṇas, bhāramāṇasya, but G. φερόμενος, φερομένου. In such cases the accent was as far back as was allowable in the Greek system, that is, it was what from the Greek point of view is known as the recessive accent.

If on the other hand the IE accent stood anywhere within the limits which came to be prescribed in Greek, it might and generally did remain unchanged. Thus G. ποῦς, ποδός, ποδί, πόδα like Skt. pāṭ, pādās, pādi, pādam; πατήρ, πατέρας, πατράσι like Skt. pītā, pītāras, pīṭṣu; ὅστερος like Skt. ǔttaras.

But within the last three syllables there have also been changes of accent, due to various and often obscure causes, in particular words and in certain classes of words. One that is of wide scope, though there are also many exceptions, is the shift of the accent from ultima to penult in forms of dactylic ending, e.g. πουκίλος, ἱδύλος, στωμύλος in contrast to τυφλός, παχυλός, ῥηνός, etc.

The accentual treatment of enclitics and of the word preceding an enclitic, the details of which need not be repeated here, is in general accord with the Greek avoidance of more than two unaccented syllables.

The accent of the Greek verb is regularly recessive, that is, in the finite forms, with the exception of some imperatives like ἔδε, ἔθε, etc. (Only apparent exceptions are forms of the contract verbs, like τιμᾶ from τιμάει.) This is in notable contrast to the accent of the noun, which may stand on any one of the last three syllables. Thus we have εἰμι, ἦμεν although the original accentuation was that of Skt. ēmi, imās; or δέδοκα, δεδόκαμεν in contrast to Skt. dadārca, dadṛcimā. The explanation is as follows:

In the parent speech the verb was sometimes accented and sometimes unaccented, that is enclitic, as in Sanskrit where it was regularly unaccented in independent clauses unless standing at the beginning. In Greek, where no more than two syllables could be left unaccented at the end of a word and enclitics of more than two syllables were impossible, the enclitic forms of the verb (except the few which would fall within the limits possible for enclitics) would have to receive an accent; and this accent would be in the earliest possible position, just as in the case of all
words whose accent was originally farther back and was moved forward to come within the required limits. Just as *φέρομενος became φερόμενος, so *δέδορκα became δέδορκα, which then answers to the Sanskrit unaccented *dadarça and not to the accented *dadárça.

Furthermore, all the accented forms whose accent either preceded or fell just within the limits of the Greek system would also have the recessive accent. Thus πειθεῖαι, πεθόμεθα may answer to the Sanskrit bódhate, bódhāmahe as well as to the unaccented forms. This would be the case throughout the present system in the commonest present classes.

Since nearly all the unaccented forms and the majority of the accented forms came regularly to have the recessive accent in Greek, this was generalized and extended to those forms which might have retained an accent nearer the end of the word, e.g. ἵμεν (Skt. imás), ἵμεν, ἵσιν (Skt. vidmá), augmentless forms of aorists like ὑπον, ὑφνον, as λίπον, λιπε, λίπομι, λιπος, where the accent was originally on the thematic vowel and was so preserved in the infinitive and participle, λιπεῖν, λιπῶν.

LATIN

221. Between the IE system of free accent and the historical Latin accent there intervened, it is believed, a period of initial stress accent, in which all words were stressed on the first syllable. It was under this older accentual system that most of the syncope and weakening of vowels, described in 108, 110, took place. For in the numerous cases like dexter from *dexteros or perfectus from *perfectos the vowels affected stood in what under the historical system were the accented syllables. The older system must have prevailed when such Greek words were borrowed as τάλαντον and ἐλαία which became talentum and oília, or when the name Ἀκράγασ, Ἀκράγαντος yielded Agrigentum. Even in Plautus and Terence there seems to be a last survival of it in words of the facilius type (˘˘˘) which are generally so placed that the verse ictus falls on the first syllable.

222. The historical Latin accent resembled the Greek in that it could not stand farther back than the third syllable from the
end of the word. Hence one speaks of the "three-syllable law" governing both. But beyond this general restriction the resemblance ceases. In Latin it was the quantity of the penult which determined the position within these limits. The Latin accent was regularly recessive, while in Greek it was recessive in the verb but not necessarily so in other forms. This would naturally result from a preceding system of initial accent replacing an IE accent on the ultima, which might otherwise have survived within the three-syllable law and did survive in Greek (ποδός, παρῆπ, etc.)

Exceptions are only apparent, due to the loss of a final syllable by syncope or contraction, as illisc from illisc, auditt from audtvit, Vergili from Vergilii.

a. If the late Roman grammarians were right in their statement that words ending with the enclitics -que, -ve, -ne, -ce were always accented on the syllable preceding the enclitic, even when this was short, e.g. bonāque, limināque, this might readily be explained as a generalization, since the majority of forms in -que, etc., would necessarily be so accented, as bonūm-que, bonōque, bonique, etc. But the relation to the ictus observed in poetry and the metrical clausulae make it probable that down through the Augustan period the accent was in accordance with the general system, bōnaque, etc.

223. Whether the Latin accent of the classical period was one of stress or of pitch is a question upon which the evidence is apparently conflicting and modern scholars disagree. It was unquestionably a stress accent in late Latin, as shown by the treatment of unaccented vowels in the Romance languages.

The Roman grammarians, down to the 4th cent. A.D., describe accent in terms that are appropriate only to a pitch accent. This is far from conclusive, for in general not only was their whole terminology a literal translation of the Greek, but their statements are often mere reflections of their Greek models, in some cases forced or even absurd as applied to Latin. Even in the passage of Cicero (Or. 56–58) where he identifies accent and melody and speaks of its use in oratory, his reference to the technique of Greek oratory suggests the inspiration of his ideas.

Still, it may be said, he would hardly have so identified Greek and Latin accent had there not been an appreciable element of pitch in the latter. In favor of a pitch accent is further urged the
Roman adoption of the Greek quantitative meter, it being held that under a system of stress accent the strict observance of quantity in the unaccented syllables would have been remarkable if not impossible, and the frequent conflict between accent and verse ictus intolerable.

On the other hand, it has been proved that the correspondence between accent and ictus in Plautus and Terence, and also, for the last two feet, in the writers of hexameter, is greater than could be accidental and implies a conscious attention of the poets to the matter. Furthermore, certain phonetic processes point to an accent of stress, such as the iambic shortening (102), which was operative in the time of Plautus, and the persistent tendency to syncope (108). To be sure, the most extensive syncope occurred under the older system of initial accent and so proves nothing for the historical accent. But there are also cases in which the syncopated forms either first arose or became more generally current within the historical period, indicating that the tendency persisted in all periods of the language. Several other changes, as that of *oo* to *av* (83.2) or the simplification of double consonants in *ofella* beside *offa* (208.5), have been attributed to the influence of the following accent, but may depend upon other factors and are inconclusive.

We may conclude that the historical Latin accent comprised both pitch and stress and that the dominance of one element was not nearly so marked as was that of pitch in ancient Greek or that of stress in present English.

But the probability is still, as we see the situation, that stress was the more effective element in the phonetic development of the language, was in reality the more important characteristic of the accent in ordinary speech—while, on the other hand, the element of pitch was made more of stylistically, owing to Greek influence. The familiarity of educated Romans with Greek accent and technique, while it certainly could not have caused them to adopt an element of accent wholly foreign to their natural speech, might well have made them more conscious of an existing element of pitch and even led them to a studied enhancement of it in actual practice, for example in oratory.
INFLECTION

THE PARTS OF SPEECH

224. The familiar classification of the parts of speech is, with some modifications, that which was gradually evolved by the Greek philosophers and grammarians, from whom it was borrowed by the Roman grammarians. But when it is said that the Greeks "discovered the parts of speech", it is not to be thought that they discovered some great fundamental truth. They simply worked out a particular classification, among many that are possible, which we follow in the main. It was not based upon any single logical principle, but upon a variety of criteria, a word's inner content, its form (e.g. presence of case forms as part of the definition of a noun), relation to other words, position (preposition, though we may ignore this now and speak of a postpositive preposition). It involves difficulties of precise definition, especially if applied to a language of different structure from that for which it was devised. But with all its defects it remains a fairly workable system, and attempts to substitute other classifications have never succeeded.

225. The Greek and Roman classification and the later modification are shown in the accompanying table

<table>
<thead>
<tr>
<th>Greek</th>
<th>Roman</th>
<th>Modern</th>
</tr>
</thead>
<tbody>
<tr>
<td>δνομα</td>
<td>nomen</td>
<td>(noun)</td>
</tr>
<tr>
<td>βημα</td>
<td>verbum</td>
<td>(adjective)</td>
</tr>
<tr>
<td>μετοχη</td>
<td>participium</td>
<td>verb</td>
</tr>
<tr>
<td>δθρον</td>
<td>pronomens</td>
<td>article</td>
</tr>
<tr>
<td>αντωνυμα</td>
<td>praecpositio</td>
<td>pronoun</td>
</tr>
<tr>
<td>προθεςις</td>
<td>adverbium</td>
<td>preposition</td>
</tr>
<tr>
<td>επιρημα</td>
<td>coniunctio</td>
<td>adverb</td>
</tr>
<tr>
<td>συνδεσμος</td>
<td>interiectio</td>
<td>conjunction</td>
</tr>
</tbody>
</table>

a. The Roman grammarians made up for the lack of an article in Latin by adding the interjection. Both the Greeks and Romans included under δνομα, nomen what we now distinguish as noun (or substantive) and adjective. They

168
made numerous subdivisions of their noun, and among other terms Priscian uses adjectiva of words added to other appellatives. The participle has been rightfully demoted.

Under pronouns the Greeks included only the personal pronouns and possessives. So some of the Romans, while others included forms like unus, illus, alius, etc., or were in doubt about them. The difficulty of a precise delimitation still persists. We observe that words meaning any, all, other, etc., have in a measure the feeling of pronouns and may or may not show pronominal inflection (so L. totus, but not omnis).

DECLENSION

GENDER

226. The distinction of three genders, masculine, feminine, and neuter, is characteristic of Greek and Latin, together with most of the other IE languages. This grammatical gender, except as it agrees with natural gender (male, female, sexless), is a purely formal distinction, observed in part in the forms of the nouns but more fully in the forms of the adjectives and pronouns.

The neuter has a distinctive form only for the nominative-accusative. Otherwise it agrees with the masculine.

Masculine and feminine have the same form in many classes of nouns, some adjectives, and the interrogative-indefinite pronoun. The o-stem nouns with nom. sg. -os are mostly masculine, but some are feminine in both Greek and Latin. The a-stem nouns are mostly feminine, but a few are masculine in Latin, and in Greek a new and productive type of masculine a-stems, with distinctive forms for the nominative and genitive singular, grew up.

This distinction of masculine o-stems and feminine a-stems, which among nouns was prevailing but not universal, was an absolute one in the case of certain pronouns and in the commonest type of adjectives, namely that represented by G. -os, -n, -ov, L. -us, -a, -um. It is such adjective and pronominal forms that most consistently carry the marks of gender. They determine for us the gender of a noun where this is not shown by the form of the noun itself.

Besides the a-stem, there was another distinctively feminine type, the yā-stem with gradation, nom. sg. -i in Sanskrit, etc.,
but -تا or -تا in Greek (237). This furnished the feminine of adjective उ-stems and consonant stems, e.g. Skt. svādvī, G. ἡδεῖα, Skt. bharanti, G. φερουσα from *φερουτα. This type has disappeared in Latin, where adjectives of the third declension have the same form for masculine and feminine, except in a few i-stems like ācer, ācris (and here the distinction is secondary, 283).

a. The neuter has disappeared as a distinct category, that is, it is merged with the masculine, in the Romance languages; likewise in Lithuanian. In present English the only relics of formal gender distinction are a few pronominal forms, as he, she, it (also masc.-fem. who, neut. which, what), and here it is virtually always one of natural gender.

b. The origin of grammatical gender, and its relation to natural gender, has been much disputed. It was once thought to rest on a widespread personification of material objects, with metaphorical extension of natural gender. This has no doubt been a factor in some cases, but on such a wholesale scale seems unlikely. There is some reason to believe that formal gender distinction had its beginning in certain pronouns, such as IE *sō, *sā, *lōd (Skt. sa, sā, lād, G. ὅ, ἥ, ῥό), and that *sā (the ancestor of NE she) was a prime factor in establishing the relation between forms in ὅ and feminine gender. After certain sets of forms became associated with male or female creatures respectively, the same forms when they happened to be used in connection with inanimate objects are called by analogy masculine or feminine, without any real feeling of sex being involved.

However, there are difficulties in pursuing this view in detail. Gender is a phenomenon that was already fully developed in the parent speech, its evolution wrapped in the obscurity of a remote past. Apart from certain general probabilities, we must simply take it as we find it.

**NUMBER**

227. Besides the singular and plural, the parent speech possessed a dual, denoting 'two' or 'a pair'. The dual occurs in the earliest stages of most of the IE languages, but in the historical period its use has been constantly on the wane, until it has disappeared from nearly all (it is still in use in Lithuanian, Slovenian, and Wendish).

In Greek it occurs in the literature from Homer down through the classical period, and in the inscriptions of many dialects. It does not occur in Hellenistic Greek, for example, in the New Testament.
In the case of Latin and the Italic dialects it had disappeared as a distinct category in prehistoric times, though certain Latin forms are of dual origin, as duo, and ambô = G. ᾰμφώ.

a. Some scholars have thought to recognize a survival of the dual in the form of the gentile following two praenomina in a few early inscriptions, as M. C. Pompio. But this is merely the nom. sg. (with final s omitted as often, 212.2), in formal agreement with the second praenomen, though belonging to both.

CASE

228. The parent speech had eight cases, the six that are known in Latin, together with the locative and instrumental, whose names and uses are also familiar to students of Latin syntax.

The dative and ablative plural had the same form, likewise the genitive and ablative singular except in o-stems. The vocative plural had the same form as the nominative except that the accent was sometimes different.

In Latin the old ablative, locative, and instrumental are merged in the ablative. The locative survives as a regular case in Oscan-Umbrian (e.g. e ᾶ s e ᾶ t e r e ᾶ f 'in eo territorio'), but in Latin only in isolated forms like humi, etc.

In Greek the old genitive and ablative are merged in the genitive; the dative, locative, and instrumental in the dative.

a. Eight cases are preserved in Indo-Iranian; seven in Balto-Slavic (where genitive and ablative are merged); seven in Oscan-Umbrian; six in Latin; five in Greek (four in Modern Greek, where the dative is obsolete in the spoken language); four in Celtic and Germanic (as still in German); two (for the noun) in present English; one (for the noun) in French, Italian, Spanish.

The merging of two or more cases in one, which has already taken place to some extent in Greek and Latin, but has gone much farther in most of the modern European languages, is known as case syncretism. It is due to a variety of factors, such as:

*The overlapping of areas of usage.*—Thus one may drink from, in, or by means of a cup. One may carry something in the hand or with the hand.

*Phonetic changes resulting in loss of formal difference.*—In vulgar Latin the loss of final m and of difference in vowel quantity led to formal identity of accusative and ablative in the singular (not in the plural; the formal identity in the singular was only a contributory factor).

*Increasing use of prepositional phrases which expressed all that the case forms expressed and more precisely, making the latter indispensable.*—Even in Latin
and Greek the prepositional phrases had encroached largely on the pure case uses, and in later times this went much farther.

*Fixed word order.*—This goes hand in hand with loss of formal case distinctions.

**DECLENSION OF NOUNS**

**229. Table of IE case endings.**

<table>
<thead>
<tr>
<th></th>
<th>Cons. Stems</th>
<th>å-Stems</th>
<th>o-Stems</th>
<th>i-Stems</th>
<th>u-Stems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Singular</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nom.</td>
<td>s, ō</td>
<td>å</td>
<td>oś</td>
<td>is</td>
<td>us</td>
</tr>
<tr>
<td>Voc.</td>
<td>ō</td>
<td>a, āi</td>
<td>ē</td>
<td>i, ī</td>
<td>u, eu</td>
</tr>
<tr>
<td>Acc.</td>
<td>m</td>
<td>ám</td>
<td>om</td>
<td>īm</td>
<td>um</td>
</tr>
<tr>
<td>Nom.-acc. n.</td>
<td>es, os, s</td>
<td>ås</td>
<td>osyo, os, i (?)</td>
<td>eis, ois, yes, yos</td>
<td>ēs, oūs, wēs, wōs</td>
</tr>
<tr>
<td>Gen.</td>
<td></td>
<td></td>
<td></td>
<td>ī</td>
<td>ēu</td>
</tr>
<tr>
<td>Dat.</td>
<td>ei, āi</td>
<td>āi</td>
<td>ēi</td>
<td>eyi, ēi(i)</td>
<td>uēi, ēu</td>
</tr>
<tr>
<td>Abl.</td>
<td>= Gen.</td>
<td>åblhi, etc.</td>
<td>òd, òd</td>
<td>= Gen.</td>
<td></td>
</tr>
<tr>
<td>Instr.</td>
<td>bhī, mi</td>
<td>åi</td>
<td>obhi, etc.</td>
<td>ibhi, etc.</td>
<td></td>
</tr>
<tr>
<td>Loc.</td>
<td>ī, ō</td>
<td></td>
<td>āi</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nom.-voc. pron.</td>
<td>es</td>
<td>ås</td>
<td>ås, åns(?)</td>
<td>eyes</td>
<td>ewes</td>
</tr>
<tr>
<td>Acc.</td>
<td>ōs</td>
<td>ås</td>
<td>ois</td>
<td>ins</td>
<td>uns</td>
</tr>
<tr>
<td>Nom.-acc. n. Gen. pron.</td>
<td>?</td>
<td>ås</td>
<td>ons</td>
<td>iōm, yōm</td>
<td>ū</td>
</tr>
<tr>
<td>Dat.-abl.</td>
<td>bhōs, mōs</td>
<td>åsōm</td>
<td>òbhi, etc.</td>
<td>ēbhōs, etc.</td>
<td>uōm, wōm</td>
</tr>
<tr>
<td>Instr.</td>
<td>bhīs, mīs</td>
<td>åbhōs, etc.</td>
<td>åbhīs, etc.</td>
<td>ēbhīs, etc.</td>
<td>ubhīs, etc.</td>
</tr>
<tr>
<td>Loc.</td>
<td>su</td>
<td>åsu</td>
<td>åsōm, èsōm, oisōm, eisōm obhōs, etc.</td>
<td>ēsōm, oisōm, èsōm obhīs, etc.</td>
<td>isū</td>
</tr>
</tbody>
</table>

**230. Notes on the preceding table.**

1. The table gives a survey of the case endings that are indicated for the parent speech by the combined evidence. The dual is omitted, since the IE forms can be only partially determined, and only one (the nom.-acc. of o-stems) is certainly reflected in Greek. Some pronominal endings that bear on Greek and Latin noun inflection are included.

2. Under vowel stems the stem vowel is included, while under cons. stems only the endings proper are given, or if there is no ending added to the stem this is indicated by ō = zero. In some cases it would be feasible to follow the latter system for vowel stems also, giving, for example, -m as the acc. sg. ending, or -s as the nom. sg. ending of o-, i-, and u-stems, with ō for å-stems.
But often the stem vowel and case ending were united by contraction or otherwise, so that we cannot separate them except by resort to speculation on their Proto-IE form. Thus the nom. pl. of -stems was probably formed from the stem vowel o+ the ending -es, Proto-IE -o-es, but the historical evidence takes us back only to an IE -es.

3. The o-stems are more exactly stems in e/o, parallel to the verbal "thematic vowel" e/o. For the stem vowel, while o in the majority of cases, has the e-grade in the voc. sg. and in alternative forms of several other cases.

Similarly the i- and u-stems are stems in i/ei and u/eu, with gradation, but with a totally different distribution of the grades from that in cons. stems (243). Strong grades appear in the gen. sg. and voc. sg., and in the antevo-calic form ey or ew in the dat. sg., loc. sg., and nom. pl., and a lengthened grade in the loc. sg. -ei (whence -e, 94), -eu.

Pedantic consistency with the practice of quoting verbal roots in the e-grade would require us to speak of e-, ei-, and eu-stems.

4. Besides the i- and u-stems there were also i-stems and i-stems, not included in the table. In these there is an interchange of i and u with i(y) and u(w) followed by the cons. stem endings. Thus Skt. dhis, gen. sg. dhiyas, nom. pl. dhyas, bhrus, gen. sg. bhrvás, nom. pl. bhrvás, G. ὑφρός, gen. sg. ὑφρος, nom. pl. ὑφρος.

There were also i/yā-stems, not included in the table, for which see 237.

5. In the gen.sg. the common element is s. In cons. stems usually -es or -os, rarely -s. In i- and u-stems the normal type, as indicated by the usual forms of most IE languages (except Greek and Latin where only L. -us shows it) was that in -eis, -ois (Skt. -es, Goth. -ais, Lith. -ies, Osc. -eis) and -eus, -ous (Skt. -os, Goth. -aus, Lith. -aus, Osc. -ous, L. -us), that is, -ei-, etc., with strong grade of the stem vowel and weak grade of the case ending. But there are also some forms pointing to an alternative type -yes, -yos (Ved. ayas, Hom. ὑος, Att. οῖος) and -yes, -yos (Ved. paśas, madhvas, Hom. γογγός from *γογγός, etc.), that is, -yes-, etc., with weak grade of the stem and strong grade of the ending.

6. For the dat. sg. of cons. stems Sanskrit (pade, etc.) points to a diphthong which might be IE ei, oi, or ai. The Greek dat., being of loc. origin (ποδί=Skt. loc. padī), does not help. The infin. in -μεναι=Skt. -mane appears to be a dat. in origin, and thus points to IE -ai. But certain Greek dialect forms as Δεί and the Oscan forms me dí k e f, etc., point to IE -ei. Hence both ai and ei are given in the table as alternative IE endings.

7. In the instr. sg. and pl. and in the dat.-abl. pl. there are two parallel sets of endings, beginning with bh in most of the IE languages, but with m in Germanic and Balto-Slavic. So far as these are represented in Greek or Latin they belong to the bh-type, namely G. -φι, L. -bus. L. dat.-abl. pl. -bus is from -bhos, as are certain Celtic forms, while Skt. -bhgas, as if from -bhgyos, has y perhaps by mixture with the ending -bhi. G. -φι in Homer serves in a
variety of case functions and is indifferent to number, as βίοι-φι ‘by might’,
θύρη-φι ‘at the door’, ὡρεά-φι ‘on the mountains’, ἀπό ναῦ-φι ‘from the ships’.

8. In Greek and Latin the instr. sg. is not represented in any of the regular
case forms, but only in some adverbs (511.7); and the instr. pl. only in the
ο-stem form.

9. In the loc. sg. of consonant stems, besides the usual type with ending -i,
there were also simple stem forms without ending. Thus from n-stems Vedic
forms in -man beside -mani, to which correspond the G. infinitives in -μεν,
like δομεν.

10. In the loc. pl. the Sanskrit and Slavic forms point to IE -su. The G.
dat. pl. -σι may reflect an alternative IE -sî, but more probably is a Greek
modification of -su under the influence of the loc. sg. (G. dat. sg.) ending -i.
The ο-stem form -oīsu, Skt. -esu, ChSl. -echu, G. -οισι, is ultimately of pro-
nominal origin (see 303.3-7).

11. For the acc. pl. of α-stems the Sanskrit and Gothic forms point to
IE -ās, in which the n of the original -ns had been lost. But the Greek, Latin,
and Balto-Slavic forms come from -ans, which may represent IE -āns, this
being a sentence doublet of -ās, or may be due to a later restoration of n after
the analogy of -ons, etc.

12. For the gen. pl. the Sanskrit, Greek, and Gothic forms point to IE
-ām, the Celtic and Slavic to -om. The Latin (and Italic) may be derived
from either -ām or -om, but are assumed in this book to be from -ām, like the
Greek, etc. Perhaps the earliest form was -om (in ultimate origin nom.-acc.
sg. of an adjective ο-stem, like gen. pl. L. nostrum, Skt. asmākam), then
combined (or recombined) with o-stems to form -om, which then spread
widely to other stems, with subsequent local redistribution of -om and -ām,
regardless of the stem.

For α-stems the IE ending was presumably a contracted form of -āām,
but this is not reflected by the actual forms of the several languages, which
are either of pronominal origin, like the Greek and Italic, or after the analogy
of other stems (as Skt. -ānām, OHG -āno from n-stems).

α-stems. The Greek and Latin First Declension

231. The Greek and Latin first declension represents the IE
α-stems, except that the Greek type with nominative in short a,
like βάλλωσωσα, is of different origin, which will be discussed later.

For the change of ἄ to η in Ionic, and in Attic except after ε,
i, ρ, and for apparent exceptions to the rule, like Att. κήρη, see 88.
### Table of ᾳ-stem declension.

<table>
<thead>
<tr>
<th>Greek</th>
<th>Latin</th>
<th>Oscan (or Umbrian)</th>
<th>Other Languages, Selected Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Doric, etc. Attic Ionic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Singular</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nom.</td>
<td><strong>τιμᾶ</strong></td>
<td><strong>χώρα</strong></td>
<td><strong>τιμὴ</strong></td>
</tr>
<tr>
<td>Gen.</td>
<td><strong>τιμᾶς</strong></td>
<td><strong>χώρας</strong></td>
<td><strong>τιμῆ</strong></td>
</tr>
<tr>
<td>Dat.</td>
<td><strong>τιμᾶ</strong></td>
<td><strong>χώρα</strong></td>
<td><strong>τιμῆ</strong></td>
</tr>
<tr>
<td>Acc.</td>
<td><strong>τιμᾶν</strong></td>
<td><strong>χώραν</strong></td>
<td><strong>τιμὴν</strong></td>
</tr>
<tr>
<td>Voc.</td>
<td><strong>τιμᾶ</strong></td>
<td><strong>χώρα</strong></td>
<td><strong>τιμῆ</strong></td>
</tr>
<tr>
<td>Abl.</td>
<td>Hom. <strong>νήματα</strong>, Lesb. <strong>Δίκα</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nom.</td>
<td>All dialects <strong>τιμαῖ</strong></td>
<td><strong>vīae</strong></td>
<td><strong>scrifas</strong></td>
</tr>
<tr>
<td>Gen.</td>
<td>Dor., etc. <strong>τιμάων</strong></td>
<td><strong>vīrōm</strong></td>
<td><strong>egmazum</strong></td>
</tr>
<tr>
<td></td>
<td>Ion. <strong>τιμών</strong>, -ān</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dat.</td>
<td>Most dialects <strong>τιμᾶς</strong></td>
<td><strong>vīs</strong></td>
<td><strong>Diumpaīs</strong></td>
</tr>
<tr>
<td></td>
<td>Ion. <strong>τιμᾶς</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lesb. <strong>φόβασιν</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Early Att. <strong>dī-kησι</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acc.</td>
<td>Dor. <strong>τιμάτως</strong>, -āς</td>
<td><strong>vīs</strong></td>
<td><strong>vī s ā s</strong></td>
</tr>
<tr>
<td></td>
<td>Lesb. <strong>dīkais</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Really **eiusās**, **iōniādī**, etc. See p. 25 fn.
2. In this and the subsequent tables, Dat. in the plural stands for the dative in Greek, the dative-ablative in Latin.

### 233.

1. **Nom. sg.**—IE -ā, G. -ā, -η. The long vowel was retained in Oscan-Umbrian, but with a rounding (cf. NE *call*) which is represented by Osc. -ā, o, Umbr. -u, -o, beside -a. In Latin the shortening probably started in iambic words (102), and with the support of the regular shortening in the acc. -am was generalized.

2. **Gen. sg.**—IE -ās, G. -ās, -ης. This was retained in Oscan-Umbrian, but in Latin only in a few forms in early authors, like
vías in Ennius, and later in the phrases *pater familiás*, etc. It was replaced by -āi, with i taken over from the gen. of the second declension (cf. G. -āo in place of -ās, in masculines, and the resulting -av in Arcadian extended to feminines). This -āi occurs beside -ae in Plautus and occasionally in later poets. By shortening of the vowels it became -ai, whence the usual -ae.

a. The form -aes in some late epitaphs is only an imitation of the G. -ῆς, with ae in its later pronunciation for the open η.

3. Dat. sg.—IE -āi, G. -ā, η (really -āi, -η, 95), in Latin shortened to -ai (94), whence the usual -ae.

a. In early Latin inscriptions there are a few examples of a dative in -ā, which may represent the alternative development of a long diphthong (94), parallel to that which prevailed in the -ā from ōi in the second declension.

4. Acc. sg.—IE -ām, G. -āv, -nv with the regular change of final m (211.2), L. -am with shortening of the vowel before final m (101). Oscan has the long vowel in p a a m = quam, but perhaps only in monosyllables.

5. Voc. sg.—The usual Greek form is the nom. The true voc., IE -a, is seen in Hom. νβμφa, also Δικα in Sappho. It was also preserved in Oscan-Umbrian (Umbr. Tursa with -a, not -o as in the nom.). In Latin after the shortening of ă in the nom. the two cases would be identical, so that the Latin voc. may be either the old voc., or the nom. used as voc. as in Greek.

6. Abl. sg. in Latin.—The Latin -ā is from -ād, frequent in early inscriptions (*sententiād*, etc.), also in Oscan, and this was formed after the analogy of -ōd in the second declension. Whereas in the parent speech the abl. and gen. sg. had the same form, except in o-stems where there was a distinct abl. form in -ōd or -ēd, there developed in the Italic period a whole set of ablatives modeled after the inherited -ōd, namely -ād, -id, -ād, whence with the loss of final d after a long vowel (212.4) the usual -ā, -ē, -i, -ū.

7. Loc. sg.—IE -āi, whence L. -ai, -ae in Rōmai, Rōmae, etc. Cf. Osc. mēfiaí víaí 'in media via'. In Greek there are some loc. forms in -au formed after the analogy of -ōi, as in Θηβαί-γενής, πάλαι, etc.
234. 1. Nom. pl.—IE -ās was replaced in Greek by -ai formed after the analogy of -a. Similarly in Latin, at a time when the nom. pl. of o-stems was still -oi (later -i), only that here the -ās first became -āi (with i from the -oi, but ā retained; -ai after -oi, as in Greek, would have given later -i), whence, just as in the dat. sg., -ai, -ae. In Oscan-Umbrian the -ās remained.

2. Gen. pl.—The IE pronominal ending -āsōm (Skt. -āsām) was extended to nouns in prehistoric Greek and Italic. Hence in Greek, with loss of intervocalic σ (164), -āων, the earliest actual Greek form and the source of all the others, occurring in Homer (where it was Aeolic, beside the Ion. -εων), Thessalian, and Boeotian, contracted to -āv in most dialects, but Att.-Ion. -ήων, Ion. -εων, -ων, Att.-ών (88, 98.3, 104.5); Osc.-azum, L. -ārum (165, 101, 82.2).

a. L. -um occurs in some Greek proper names as Aeneadum (cf. G. -ων); in amphorum, drachmum and in masc. forms like agricolum, Trionum, which follow the analogy of the old o-stem forms (see 240.2).

3. Dat. (-abl) pl.—G. -ais is formed after the analogy of -ois, likewise in Italic -ais after -ois (cf. Osc. -ais, -ois), whence L. -eis, -ēs (91). An original loc. in -ās (cf. Skt. -āsu; intervocalic σ retained by analogy of -σi in cons. stems) serves as the dat. in early Attic inscriptions, as δικησω (δικηςω), ταιμίασι, and persists in locative adverbs like Ἀθηνησί, βηρᾶσι. From this with i after the analogy of -οσι comes early Att. -ησι, -ασι (in a few inscriptions), Ion. -ησι. Lesb. -αις is directly after -οσι.

a. In Attic inscriptions -ais is the latest form in chronological sequence, prevailing after about 420 B.C. But most dialects have it from the earliest times.

4. Acc. pl.—All forms of Greek and Italic go back to -ans (230.11). G. -eus, preserved in Cretan and Argive, whence usual -ās, Lesb. -eus, in some dialects -as (204.4). Osc. -a s s , Umbr. -af (in which -ss and -f represent the -ns), L. -ās, like -ōs from -ons, etc. (202.3).

235. The dual.—The Greek dual forms are special Greek formations on the analogy of those of the second declension, namely -ā
(kept thus in Att.-Ion.) after -ω, and -αυν, -αυ after -ουν, -ου. In the article and some of the other pronouns the o-stem forms are regularly used for the feminine, as τῶ, τοῖν (rarely τᾶ, ταῖν).

GREEK MASCULINE ā-STEMS

236. i. The Greek masculine ā-stems form a distinctive and productive type, differing from the feminines in the nom., gen., and (in part) the voc. sg. Yet there are scattered dialectic examples of masculines with unchanging inflection, nom. sg. -ā, gen. sg. -ās.

2. Nom. sg.—ās, -ης, with -s added after the analogy of -os.

a. The Homeric forms in -τᾶ, as ἱππῶτα, μητετα, etc. (cf. also ἐφίσσα), occurring as epithets with another noun, are probably stereotyped vocatives used also in apposition with nominatives. Cf. L. Iuppirter which is a vocative in origin (272.2). According to another view they represent an (otherwise unsubstantiated) IE nom. in -to from stems in -t, so that ἱππῶτα would belong to the stem seen in L. eques, equitis.

3. Gen. sg.—ās was replaced by -āo with o taken over from the final of the o-stem gen., -οω, -ο. This -āo occurs in Homer (Aeolic, beside Ion. -ω) and in several dialects, contracted to -ā in Doric, etc., Ion. -ṇο, -εω, -ω (88, 98.3, 104.5). Attic-ov, however, is not from this form (which would give -ω), but is the o-stem form taken over complete.

4. Voc. sg.—Words in -τᾶs, -τῆς and some others (national names like Πέρσης and compounds like παιδορπίβης) have -ā, the original voc. which is rare in feminines. Otherwise the original nom. form in -ā, -η is employed, as in the feminines, only here differentiated from the nom. with its added -s.

THE GREEK TYPE WITH NOM. SG. IN ā

237. The Greek feminine forms with nom. sg. in ā, though differing from the regular ā-stems only in the nom.-voc. and acc. sg. and classed with them under the first declension, represent a quite distinct type historically—one that in other languages remains more obviously distinct and is classed as a different declension, owing to the fact that the nom. sg. ends in -i (or -i from -i). This type is a yā-stem with gradation, ī/yā in Sanskrit (nom.
devē, acc. devim, gen. devyās, dat. devyāi, etc.) and elsewhere, but ĭa/ā in Greek. The Greek ĭa has been variously explained, but it probably represents an uncontracted weak grade, IE ya, in contrast to the more usual contracted ĭ (cf. πριάμαι, Skt. krī-, etc., 124). However this may be, the historical equivalence of the Greek type with the ĭ/ya stems elsewhere is obvious from their correspondence in specific categories, as the feminine of participles and other cons. stems and of u-stems. Thus:

ϕέρουσα from *ϕεροντια = Skt. bharanti, cf. also Lith. vežanti, Goth. frijondi, etc.
ϕέρουσαν from *ϕεροντιαν = Skt. bharantim
ϕέρονθαι from *ϕεροντιασ = Skt. bharantyās
ηδεία from *ἄδεια = Skt. svādvi

It is in such categories that this is the normal type of feminine. While in “adjectives of the first and second declension” the “first declension” means the regular ā-stems, in “adjectives of the first and third declension” it means the type with nom. in -ā.

But this type was also employed in feminine nouns formed from stems or roots ending in a consonant. Such nouns in Greek form an apparently miscellaneous group within the first declension, for which the grammars give certain mechanical rules. Their disguised unity is brought out only when one extracts from these rules the fact that, with but few exceptions, the -ā is preceded by an actual ĭ or by a group of sounds which comes regularly from some combination with ĭ, e.g. λά, from λή (187), σσ, ττ from κί, etc. (182), σ from ντά etc. (183), ζ from δά, etc. (183), αυ from αυή (188), -υρ from υρά (188), etc.

That is, as a class and most of them in actual fact come from early forms in ĭa. But some words which never had ĭa have been drawn into this type, as τόλμα, μέριμνα, διαιτα, etc.

a. All words derived from -ηα had inevitably a long penult, hence the analogical extension was most natural in other words with long penult. In some cases this was Attic only, or even late Attic, as κνίσα (Hom. κνίση), πείνα (earlier πεινη), etc.

The type is perhaps also secondary in abstracts like ἀλήθεια ‘truth’, where Ionic has ἀληθείη, etc.
<table>
<thead>
<tr>
<th>Greek</th>
<th>Latin</th>
<th>Oscan</th>
<th>Sanskrit</th>
<th>Other Languages, Selected Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Singular</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nom.</td>
<td>λώς</td>
<td>lupus</td>
<td>húrz</td>
<td>ἰνκας</td>
</tr>
<tr>
<td>Gen.</td>
<td>λόκου, -ου</td>
<td>lupi</td>
<td>sakaraklefs</td>
<td>ἰνκασα</td>
</tr>
<tr>
<td>Dat.</td>
<td>λόκῳ</td>
<td>lupō</td>
<td>húrtul</td>
<td>ἰνκαía</td>
</tr>
<tr>
<td>Acc.</td>
<td>λόκον</td>
<td>lupum</td>
<td>dolom</td>
<td>ἰνκαm</td>
</tr>
<tr>
<td>N.A.N.</td>
<td>ἱγαν</td>
<td>iugum</td>
<td>sakaraklám</td>
<td>ἱγαm</td>
</tr>
<tr>
<td>Voc.</td>
<td>ἱκε</td>
<td>iuke</td>
<td>u Tupre</td>
<td>ἱκα</td>
</tr>
<tr>
<td>Abl.</td>
<td>ἱκον, ἱκε</td>
<td>lipo</td>
<td>dolud</td>
<td>ἱκά</td>
</tr>
<tr>
<td>Loc.</td>
<td>ἱκοι, ἱκε</td>
<td>lumi</td>
<td>terel</td>
<td>ἱκε</td>
</tr>
<tr>
<td><strong>Plural</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nom.</td>
<td>λόκοι</td>
<td>lupi</td>
<td>νάυλανάς</td>
<td>pron. te</td>
</tr>
<tr>
<td>Gen.</td>
<td>λόκων</td>
<td>deum</td>
<td>zicolom</td>
<td>ἰνκας</td>
</tr>
<tr>
<td>Dat.</td>
<td>λόκους, λόκοσ</td>
<td>lupis</td>
<td>zicolois</td>
<td>ἰνκάνα</td>
</tr>
<tr>
<td>Acc.</td>
<td>λόκους, Cret. λόκορι</td>
<td>lupos</td>
<td>feihuiss</td>
<td></td>
</tr>
<tr>
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<td>ἱγάν</td>
<td>iuga</td>
<td>comono</td>
<td>yugā (Ved.)</td>
</tr>
<tr>
<td>N.A.V.</td>
<td>λόκο</td>
<td>ambō</td>
<td></td>
<td>ἰνκάδ</td>
</tr>
<tr>
<td><strong>Dual</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G.D.</td>
<td>λόκον</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

239. 1. Nom. sg. IE—ος, G. -ος, early L. -ος, whence usual -us (82.2). For L. puer, vir, ager, etc., see 109. Regular syncope of the o in Oscan-Umbrian, as Osc. húrz (s = ts), Bantins.

2. Gen. sg.—IE -osyo, earliest Greek, with loss of intervocalic s (164), -ou, preserved in Homer and Thessalian, whence Thess. -ou with apocope, elsewhere, with loss of i (179.1), -oo, contracted to -o or -ω (96).
The L. -i, which is an inherited -i, as shown by the uniform spelling in the early inscriptions in which there is no confusion of i and ei (89.2), has no connection with the preceding. Only in Celtic is there a corresponding regular gen. formation.

In nouns in -ius and -ium the -ii was regularly contracted to -i, as consili, imperi, etc., with position of accent retained. This was the normal form down through the Augustan period, but later was replaced by -ii, with i restored after the analogy of the other cases. In proper names the older form was more persistent, as Vergili, etc.

a. The Latin-Celtic -i may represent a collateral IE ending originally employed only in special uses, and possibly to be recognized in some Sanskrit forms in -i appearing in the first part of certain compounds, as stambhi-bhū- 'become a post', from stambha-.

3. Dat. sg.—IE -dī, G. -w (really -ω, 95); in Italic with twofold development (94), -oi in Oscan-Umbrian and in Numasioi of the Praenestine fibula (29), but -d in Latin.

4. Acc. sing.—IE -om, G. -ov (211.2), early L. -om, whence the usual -um (82.2).

5. Nom.-acc. sg. neut.—IE -om, with the same history as the preceding.

6. Voc. sg.—IE -e, G. -e, L. -e. But L. puer (yet puere in Plautus), vir, etc., whether with loss of the final e or nom. forms. From words in -ius a few early forms in -ie are quoted, as filie, but regularly fili and so in proper names, Valerī, etc.

7. Abl. sg.—IE -ōd, Osc. -ud from -ōd, early L. -ōd, whence the usual -ō (212.4). It survives in Greek in the Doric adverbs like δπω 'whence', Delph. foikw 'from the house' (Att. δπόθεν, οικόθεν). The IE -ēd appears in adverbs, early L. facilumēd, usual -ē.

8. Loc. sg.—IE -ei and -oi, both seen in Greek adverbs, as oikoi, έκεί, Dor. δπεί, etc. In Italic -ei, Osc. είσείτερεί ‘in eo territorio’, whence L. -i in domī, etc.

a. That in Latin "the loc. sg. has the same form as the gen. sg." is a convenient practical statement for school grammars, especially as it serves for both the first and the second declensions. But it has no historical basis and would not hold for early Latin (gen. -i, loc. -ei).
240. 1. **Nom. pl.**—IE *-ōs* in nouns, *-oi* in pronouns, with the distribution shown in Sanskrit and Germanic, as Skt. *te vykās* as if G. *τοι *λίκως. In Greek and Latin the pronominal form was generalized, in Oscan-Umbrian conversely the noun form (Osc. Núvλανύς 'Nolani', *ius-c* 'in'). L. *poploes* quoted (with later spelling for *oi*) from the Carmen Saliare, otherwise early *-ei*, usual *-i*.

   a. Inscriptions, mostly of the 2d cent. B.C., show some forms in *-eis*, *-is*, as *magistreis*, *eis* (in pronouns also in Plautus, as *hisce*), in which *s* has been added after the analogy of the nom. pl. of the third, fourth, and fifth declensions.

   b. From *deus* the normal form was *di*, likewise dat.-abl. pl. *dis*, resulting from contraction that took place at an intermediate stage in the development of the diphthongs. That is, *dei(w)oi*, *dei(w)ois* (170) became *deē*, *deēs* (89.2, 90), contracted to *de*, *deś*, whence *di*, *dis*. The spelling in inscriptions is usually *di*, *dis*, while *dii*, *diis*, more frequent in MSS, is an artificial compromise. Real dissyllabic *dei*, *deis*, with analogical restoration of *e* from the other cases, occur in later poets.

   2. **Gen. pl.**—IE *-ōm*, G. *-ων* (211.2), Osc.-Umbr. *-um*, *-om*, early L. *-om* (101), later *-um* (82.2), retained usually in words for coins or measures, etc. (hence by analogy also *amphorum*, *drachmum* from ā-stems, and *passum* from *u*-stem); in stereotyped phrases as *duumvirum*, *praefectus fabrum*, *socium* 'allies', frequently *liberum*, *deum*; occasionally in poetry *virum* and others.

   The usual L. *-ōrum* is a specifically Latin formation, after the analogy of *-ārum*.

   3. **Dat. (−abl.) pl.**—G. *-ois* from IE instr. *-ōis* (Skt. *-āis*) with shortening of the long diphthong (94); likewise Italic *-ois*, Osc. *-ois*, L. *poploes* quoted from the Carmen Saliare, otherwise early *-eis*, usual *-is*.

   Ion., Lesb., and early Att. *-oσι* is the loc. form (cf. Skt. *eṣu*; intervocalic *σ* retained by analogy of *-σι* in cons. stems).

   a. Attic inscriptions have both *-oσι* and *-ois* down to about 440 B.C., then *-ois*. Most of the dialects have *-ois* from the earliest times.

   4. **Acc. pl.**—IE *-ons*, G. *-ovs* preserved in Cretan and Argive, whence, according to dialect, *-os*, *-os*, *-ois*, *-ovs* (204.4), Osc. *us s*, L. *-ōs* (202.3).
5. Nom.-acc. pl. neut.—IE -ā, identical in form with the nom. sg. of ā-stems, and probably in origin a feminine collective. In Italic it has the same history as the nom. sg. in -ā, namely Osc. -o, etc. (233.1), but shortened in Latin. G. -a may be due to one or both of two factors: (1) shortening before a word beginning with a vowel (214.2), (2) influence of the ending of cons. stems (246.5).

241. i. Nom.-acc.-voc. dual.—For masculine, IE -ōu and -ō, sentence doublets, both represented in Sanskrit (-ā more common in Vedic, only -au in later Sanskrit). G. -w corresponds to the Vedic and Balto-Slavic forms, also L. ambō, octō (the numeral for ‘eight’ being an old dual, Skt. aśā, aśāu, Goth. ahtau), and duo (with iambic shortening). It was extended to neuters, as ἵνα, etc., which originally had a different form.

2. Gen.-dat. dual.—Hom. -ου, usual -ου. This cannot be fully identified with dual forms elsewhere, and its history is obscure. It was extended to cons. stems and all others of the third declension. Arcadian has -ου, also -αυ from ā-stems.

a. Skt. gen.-loc. -ayos points to IE -os, and ChSl. -oyu in pronouns similarly to -ous or -oyu. The oy, doubtless pronominal in origin (cf. 303.3-6), agrees with the first syllable of the Greek forms, and there is some relation between the ou of the second syllable and the Arc. forms in -uv.

CONSONANT STEMS

242. The case endings proper are virtually the same for all kinds of cons. stems. But there are other characteristics of the declension that are dependent upon the form of the stem, and one distinguishes different classes according as the stem ends in a stop, in a liquid or a nasal (mostly r-stems and n-stems), or in s. For the partial fusion of cons. stems with i-stems in Latin, see 262.

The history of the case endings proper, applying to cons. stems in general, will be given in connection with the stems in stops, leaving for other classes only some special peculiarities.

243. Accent and gradation.—There was once a system of accentual shift between stem and ending, with accompanying vowel gradation. This was partly obscured by leveling even in the parent speech (as in the s-stems), but was maintained in many
monosyllabic stop stems and in the $r$- and $n$-stems, as shown most clearly in Sanskrit.

The “strong cases” were (for masc. or fem. forms): nom. sg. with the lengthened ($\ddot{a}$ or $\ddot{o}$) grade of the stem; the acc. sg., voc. sg. (loc. sg. in part), nom.-acc.-voc. dual, and nom. pl., all with the strong ($e$ or $o$) grade.

The others were the “weak cases”, with accent on the ending and weak grade of the stem, though the latter for obvious reasons does not appear in stems like *ped-.

The loc. sg. goes with the weak cases in the accent of monosyllabic stop stems, as Skt. $pādi$, G. $ποδί$. But in the gradation of $n$- and $r$-stems it shows both strong and weak forms, as Skt. $πिलारि$, but G. $πατρι$, Skt. $mūrdhāni$ and $mūrdhni$.

Of all this, the one feature that has most generally persisted in Greek and Latin is the lengthened grade in the nom. sg. masc. or fem., as G. Dor. $πῶς$, L. $pēs$; in $n$-stems, G. $-ην$, $-ων$, L. $-ō$; in $r$-stems, G. $-ηρ$, $-ωρ$, L. $-er$, $-ör$ (from $-ēr$, $-ōr$, 101); in $s$-stems, G. $-ωs$ (aiδως) and $-ης$ (ευμενής), L. $-ōs$ ($flos$, homōs; later $-or$, 255).

Beyond this, Greek has the accent shift, with or without gradation, in forms like $ποὺς$, $ποδός$, $θρίξ$, $τρίχος$, and both accent shift and gradation in the type $πατήρ$, $πατρός$, and a few $n$-stems, as $ἀρήν$, $ἀρνός$, $κύων$, $κυνός$.

The accent shift in G. $ποὺς$, $ποδός$, etc., is the same as in Sanskrit except in the acc. pl. $πόδας$ in contrast to Skt. $padās$. In the gradation of $πατήρ$, etc., the strong grade of the nom. pl. $πατέρες$ (like Skt. $piḷāras$) has extended to the acc. pl. $πατέρας$ and even to the gen. pl. $πατέρων$ (but also Hom. $πατρῶν$).

In the majority of $r$- and $n$-stems the old gradation has been still further reduced by analogical leveling, either generalization of the lengthened grade of the nom. sg. (as $-ων$, $-ωνος$), or in the other cases of the $e$-, $o$-, or weak grade (see 249).
### Decalogue of Nouns

**Stems Ending in a Stop**

#### 244. Table.

<table>
<thead>
<tr>
<th>Greek</th>
<th>Latin</th>
<th>Sanskrit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Singular</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gen.</td>
<td>ἐχθρός</td>
<td>pedēs</td>
</tr>
<tr>
<td>Dat.</td>
<td>ἐφί</td>
<td>pedē</td>
</tr>
<tr>
<td>Acc.</td>
<td>ἐνδυματός</td>
<td>pedem</td>
</tr>
<tr>
<td>Abl.</td>
<td></td>
<td>pedē</td>
</tr>
</tbody>
</table>

| **Plural** | | |
| N.V. | ἐκθρῶν | pedēs | pādas |
| Gen. | ἐφίων | pedēm | pādam |
| Dat. | ἐφίων | pedibus | pādhyās |
| Acc. | ἐνδυματά | pedēs | pādas |

*For Att. ἐφί, see p. 100 ftn.*

#### 245. 1. Nom. sg.—IE -s. For its union with the final stop of the stem (and similarly that of the -σι in the G. dat.-pl.), see 191–93.

2. Gen. sg.—IE -es and -os with vowel gradation. The former prevails in Latin, -es in a few old inscriptions (*Salutes, Veneres, Apolones*), whence the usual -is (112). The -os gives the regular G. -os and the occasional L. -os, -uś in inscriptions, as *Divos, régus, nóminus*, etc.

3. Dat. sg.—IE -ei (230.6), Osc. -ei, early L. -ei, -ē (Hercolei, Hercole, Mariei, Iunone), whence the usual -ē (89.2).

The Greek dat. sg. in -ē is in origin the IE loc.


a. Skt. -am in pādam, etc., has the m added after the analogy of vowel stems. Similarly G. -av occasionally in the dialects and frequently in late inscriptions.

5. Nom.-acc. sg. neut.—IE stem form without ending. So L. cor (from *cord, cf. Skt. hrḍ), lac (from *lact), G. γάλα (from *γαλάκτ), etc.

6. Voc. sg.—Generally in stop stems the nom. sg. serves also as
the vocative. But Greek has some distinct vocatives, stem forms with regular loss of the final stop, as παι (stem παιδ-), γύναι (γυναικ-), ἀνα (ἀνακ-, ἀνακτ-), and so regularly from stems in -ιδ- or -ντ-, as ἔλπις, γέρων.

In some of the other classes of cons. stems the voc. is distinguished from the nom. in gradation and accent, as πάτερ, Σώκρατες.

7. Abl. sg. in Latin.—The L. abl. sg. in -e is best explained as the IE loc. with regular change of final i to e (74b).

The same form occurs in locative expressions like rūre, Carthāgine, beside others in -ī, like rūre which follow the analogy of o-stem forms like domī.

In early Latin occur forms with the i-stem ending (260.7), as conventionid, aërid, bovid.

246. 1. Nom. pl.—IE -es, G. -es, Osc. -s with syncope (m e d - d i s s from *meddikes; so h u m u s from *homōnes). In Latin this ending, which would have yielded -is as in the gen. sg., was replaced by the -ēs of i-stems (261.1).

2. Gen. pl.—IE -ōm, G. -ων (211.2), Osc.-Umbr. -um, -om, early L. -om (101), usual -um (82.2).

3. Dat.-abl. pl.—IE -bhos, Italic -flos (with syncope, Osc. -f s, -s s, - s, Umbr. -s), early L. -bos (137), usual -bus (82.2). Originally added directly to the stem, as if L. *pedbus (cf. Skt. padbhyaś), but this replaced by the i-stem form (261.3) in Latin, hence pedibus, etc. (so also in Oscan, as ligis 'legibus', but in Umbrian by the u-stem form, as fratrius 'fratribus').

4. G. dat. pl. -σι is in origin the loc. pl. answering to Skt. -su (see 230.10). For -σιν see 215.

a. Besides the usual forms like φίλαξι, ποσί, ποσί (from *ποδ-σί, 193), forms in -εσι are characteristic of the Aeolic dialects and are frequent in Homer, as πόδεσι, κίνεσι, ἄνδρεσι, βέσι (or with simplification of the σι, as αγέσι). The probable explanation is that this spread from the regular -εσι of σ-stems, as in βέλεσι, ἕπεσι. After its spread to other stems it even reacted on the σ-stems in Hom. ἐκπεσι.


6. Nom.-acc. pl. neut.—IE -e, Skt. -i, G. -a (85). This would
give also the L. -a, but there is reason to believe that the latter is from -ā, the o-stem form (240.5), this having been extended to all neuters in the Italic period, as appears from the Oscan-Umbrian forms. A survival of this -ā is seen in the numerals trīgintā, etc.

247. Dual. Nom.-acc.-voc.—Greek has -e for all genders and for all classes of the third declension, including i- and u-stems. This possibly represents the IE ending of masc. and fem. cons. stems, but there is no clear evidence from the other IE languages (Sanskrit has -āu, the o-stem form, in masc. and fem., and -i in neuters; Slavic has the i-stem form in masc. and fem., and the o-stem form in neuters).

Gen.-dat.—Greek has -ou, Hom. -ou, the form of o-stems.

I-STEMS AND N-STEMS

248. Nom. sg. masc. fem.—The IE form ended in the lengthened grade of the stem, without s (that is, the s which was probably once present as in other cons. stems was already lost in the parent speech). Furthermore the final r or n was lost under certain conditions, so that there were sentence doublets such as -dr and -ō, or -ōn and ō, of which one type or the other might come to prevail in a given language. Greek reflects the forms with final r or n, Sanskrit those without, while Latin agrees with Greek for the r-stems, but with Sanskrit for the n-stems. Thus:

G. πατήρ, ῥήτωρ | L. pater, victor (101) || Skt. pitā, dātā
G. ποιμήν, ἀγών || L. sermō, homō | Skt. rājā

a. Such is the situation in the typical classes. There are some few words with stems ending in r or n, but without gradation and with nom. sg. in -s. Thus G. μάρτυς from *μαρτυρός (cf. Cret. μαίτυρος), Dor. μάκαρος; μέλαι, τάλας, from *μελανς, *τάλανς, κρέις from *κρεύς, δελφίς (also late δελφίν), and others in -is, -ivos. So L. sanguis from *sanguins, formed to gen. sanguinis, etc. (also early L. neut. sanguen, sanguinis).

249. Gradation of the stem.—The IE system of gradation (see 243) has been modified by analogical leveling, resulting in a variety of types.

1. G. πατήρ, μήτηρ, θυγάτηρ, γαστήρ, with weak grade in gen. sg., dat. sg., dat. pl., otherwise the e-grade. Thus πατής, πατεῖ,
πατράσι (cf. Skt. dat. sg. pîtré, loc. pl. pîlîsû), but πατέρα, πάτερ,
πατέρες (cf. Skt. pilârâm, pîlîr, pilâras), πατέρων, πατέρας. In
Homer the distribution is less fixed, e.g. πατέρος beside πατρός,
πατρών beside πατέρων, θυγάτρες beside θυγατέρες, etc.

2. G. ἀνήρ, with e-grade only in the voc. sg. ἀνερ, otherwise the
weak grade generalized, as ἀνδρός (from *ἀνρός, 201.1), ἀνδρί,
ἀνδράσι, also ἀνδρα, ἀνδρες, etc. (in Homer fluctuation between
these forms and ἀνερα, ἀνέρες, etc.)

L. pater, måler, fråter show the same generalization of the weak
grade outside of the nom. sg. and voc. sg., e.g. not only patris
like πατρός, but also patrem like ἀνδρα and in contrast to πατέρα,
Skt. pilâram.

3. G. αἰθήρ, αἰθέρος, similarly ἁήρ, δαήρ, etc., with generalization
of the e-grade. So ἀστήρ, ἀστέρος, etc., but ἀστράσι with weak
grade.

4. G. agent nouns like σωτήρ, σωτήρος, with generalization of
the lengthened grade of the nom. sg., except in the voc. sg. σωτέρ.

5. G. agent nouns like βήτωρ, βήτορος, with generalization of
the o-grade.

6. L. agent nouns like victor, victóris, likewise soror, soróris
(Skt. svasar-), with generalization of the lengthened grade of the
nom. sg. before the shortening of -or to -or. Hence parallel to
G. σωτήρ, σωτήρος, but in contrast to βήτωρ, βήτορος.

7. G. κύων, voc. sg. κύον, otherwise with the weak grade
generealized, as κυνός (cf. Skt. ḍunás), κυί, κύνα, κύνες, etc., parallel
to ἀνήρ, ἀνδρός. So ἀρήν, ἀρνός, ἀρνί, ἀρνα, ἀρνες, etc. L. caro,
carnis (Umbr. karu, dat. sg. kârnê).

8. Type of G. ἀγών, ἀγώνος, L. sermo, sermónis, also G. Ἠλην,
Ἠλῆνος, with generalization of the lengthened grade of the
nom. sg.

9. Type of G. δαίμων, δαίμονος, ποιμήν, ποιμένος, L. homô,
hominis, with generalization of the e- or o-grade. An indirect
trace of the weak grade is seen in dat. pl. δαίμονα, ποιμέσι, which
represent *δαίμασι, *ποιμάσι (a = IE ἄ), with the vowel changed to
conform to that of the other cases (not with substitution of the
full μον or μεν which would have resulted in *δαίμουνα, *ποιμεσί).
An actual form similar to the assumed *ποιμᾶσι is φρασῖ beside usual φροσί from φρόν.

In L. homō, hominis, and likewise in neuters like nōmen, nōminis, the in may represent either en or on, with regular weakening in medial syllables (110.2, 3).

a. There is no Latin type corresponding to the Greek type in -ην. Only the rare word liēn, liēnis answers in inflection, as in meaning, to G. σπλῆν, σπληνοῦς, and was probably influenced by it; flāmen and pecten are probably neuters in origin; oscen, tibicen, etc., are compounds from the root of canō with the regular weakening (112).

250. Neuter n-stems.—The IE neuter n-stems are only apparently lacking in Greek. They are represented by the neuter τ-stems, as δνομα, δνόματος = L. nōmen, nominis = Skt. nāma, nāmnas.

The original ν-stem shows itself in the derivatives, as δνομαινω (*-avωνω), σημαινω, etc. So also in dat. pl. -ασι (cf. Skt. -asv), for if this were from *-αρ-σι, one would expect traces of -ασι (as in Hom. ποσι from *ποδ-σι). The nom.-acc. sg. has the weak grade of the stem, IE -η, G. -a, L. -en, Skt. a.

a. The precise source of the G. τ- inflection is uncertain. There are several possible factors. (1) a t-element which is sometimes added in the nom.-acc. sg. of ῥ/ν stems (251), as Skt. yakṛ, gen. yaknas, çakṛ, gen. çaknas. This might have extended to the other cases at the expense of the n-stem form, as -ατος in place of -αντος. (2) IE adverbial -tos, Skt. -tas with ablatival force and often used co-ordinately with the regular ablative form. Hence δνόμα-τος might answer to Skt. nāma-tas. (3) Parallel suffixes -men- (nom.-acc. sg. -my) and -myto-, as in L. fragmen and fragmentum. The latter would give rise to nom.-acc. pl. -ματα.

251. Neuter ῥ/ν stems.—A peculiar mixed type, with nom.-acc. sg. ending in -η, the other cases from an n-stem, occurs in several of the IE languages and is evidently inherited from the parent speech. In Greek the n-stem forms are represented by -ατος, etc. (250).

L. femur, feminis (beside femoris with generalized ῥ)
G. ἱππαρ, ἱππατος like Skt. yakṛ, yaknas, L. iecur (iocur), once *iecinis beside iecoris (like feminis, femoris), whence the blend iocineris (similarly iter, ilineris)
G. ὄθαρος, ὄθαρος, Skt. ūdhar, ūdhnas, L. über, but überis with generalized r.
G. ūdor, ὄθαρος, like Umbr. ūturator, abl. un e from *udne (Skt. has nom.-acc. ūda-ka-m, gen. ūdnas; cf. also Goth. watō, watins, with n-stem, OE water, etc., with r-stem generalized)
For the nom.-acc. form there is variation between:
IE -γ, as G. ἡπαρ, L. iecur (from -or), Skt. yakṛ
IE -er, as L. über, Skt. ūdhar
IE -στ, as G. ὄδωρ, Umbr. ūturator

252. Greek r-stem forms in other neuters.—A few of these possibly reflect occasional IE combinations of n-stems with others, parallel to the well-defined r/n type (251). But most of them are due to the analogical spread in Greek of r-forms from the great mass of neuters belonging under 250, 251. This took place especially in Attic and spread further in the later κοινή.
Homer has oós, oōatos (Att. ωτός), κάρη, κράτας, κράτος, etc., and from the u-stems γόνυ, δόρυ, besides γονώς, δούρως from *γονυατός, *δορφατός (176.1, 266.2), also γονατός, δορφατός from *γονυατός, *δορφατός, whence likewise Att. γόνατος, δόρατος (176.1).
Att. πέρας, πέρατος belongs in origin with the type ἡπαρ, ἡπατος, as shown by Hom. πείραρ, πείρατος, pointing to *περφαρ, *περφατός, which would give Att. *περαρ, πέρατος (176.1), of which *περαρ was replaced by πέρας after the analogy of other neuters in -as.
Conversely τέρας, κέρας, which have only σ-stem inflection in Homer (τέρας, κέρας), have Att. τέρατος, κέρατος (except in the military phrase ἐπὶ κέρως), the latter from *κερα-ατός, a blend of κέρας and *κέρατος (cf. *γονυατός above). Similarly Att. φώς, φωτός (Hom. φάς, φάει), Att. κρέας, κρέας, but later κρέατος.

a. Apart from the neuters, the τ-stem inflection is secondary in several others as γέλας, ἔρως (orig. σ-stems like αἶδος, 255), cf. γελαστός, ἔραστός), χρώς, ἀγρός, where Homer has no τ-forms except from χρώς (χρωτός, χρωτ' beside usual χρωβός, χρήδα).

253. There are no productive types of stems ending in m or in l.
There is only one m-stem in Latin, namely hiems, hiemis, and none in Greek. Originally m-stems were χίων, χίωνως (cf. L. hiems, Av. gen. sg. ziūnō, etc.) and χθων, χθωνός (cf. χαμαῖ, L. humus, Av.
zemē, etc.), but the ν which arose regularly from final m in the nom. sg. was, under the further influence of the inherited n-stems, generalized. Similarly in the numeral els, évos (cf. ὅμος, L. semel), the ν which arose regularly in ἐν (from *ēμ-ς) and ἐν (from *ēμ) was generalized.

There is only one λ-stem in Greek, namely ἄλς, ἄλος, cognate with L. sāl (212.6b), salis. Latin has also sōl, sōlis (from *sāvel, cf. ἡλίως, ἄδελως, etc.), vigil (probably an i-stem form originally), and some compounds of verbal stems, as exsus, cōnsul, etc.

**S-STEMS**

254. The most important type of s-stems is that of the neuters in -os. The stem has vowel gradation, the o-grade in the nom.-acc. sg., the e-grade in all other cases, IE nom.-acc. sg. -os, gen. sg. -eses/os, etc.

<table>
<thead>
<tr>
<th>G.</th>
<th>L.</th>
<th>Skt.</th>
<th>ChSl.</th>
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</thead>
<tbody>
<tr>
<td>γένος</td>
<td>genus</td>
<td>janas</td>
<td>sīno</td>
</tr>
<tr>
<td>γένεις, Att. γένους</td>
<td>generis</td>
<td>janasas</td>
<td>slovo</td>
</tr>
</tbody>
</table>

For the loss of intervocalic s in Greek, and its change to r in Latin, see 164. In Greek the uncontracted forms occur in Homer and elsewhere, as Hom. βέλεος, βέλει, βέλεα, βέλεων, while Attic has only the contracted forms, as γένους, γένει, γένη, γενών. Dat. pl. Hom. βέλεσσων (also βέλεσσων, 246.4) and βέλεσων, Att. γένεσις(ν) (see 208.1).

In Latin, beside the type genus, generis, with the original gradation preserved, there is the type corpus, corporis in which the o-grade of the stem was generalized by extension from the old nom.-acc. sg. in -os. The e-grade may still appear in adverbs or derivatives, as in temperē, tempestas beside tempus, temporis.

a. There are also a few neuters in which the -s of the nom.-acc. sg. has been replaced by r after the analogy of the other cases, as rōbur (early rōbus, cf. rōbus), fulgur, gen. fulgūris, aequor. Cf. honor, honoris, etc. (255).

b. Greek neuters in -as, as γέρας, gen. γέραος, Att. γέρως, correspond to some Sanskrit neuters in -is, like kravis=kreas, and reflect IE stems in -as-, of which the vowel originally belonged to a dissyllabic verb stem (127).

Hom. acc. pl. γερᾶ, κρέα etc., beside regular τέρας, are of doubtful explanation.
Some neuters in -άς have gen. -έος, etc., like the neuters in -ός, instead of normal -ώς, etc., e.g. Hom. οἶδας, οἶδεος.
For the secondary τ-inflection of Att. τέπας, etc., see 252.

255. Masculines and feminines in -ός.—This is a rare type in Greek, but productive in Latin.
Hom. ἦός, Att. ἐώς, Lesb. αὔως, from IE *ausōs (L. aurōra, from *ausōs-ā; cf. Flōra beside flōs) beside IE *usōs, Skt. usās, gen. usāsas. The nom. sg. had the lengthened grade -ός, the other cases -ός-, hence, with loss of intervocalic s and vowel contraction, Hom. gen. sg. ἦός, acc. sg. ἦό. Att. ἐώς has been drawn into the analogy of νέως, etc., but still has acc. sg. ἐώ. In Attic only αἴδως follows the original type.
In Latin the lengthened grade of the nom. sg. has been generalized. So flōs, flōris, etc., with rhotacism of the intervocalic s. Likewise honōs, honōris, but here the r of the oblique cases was carried over to the nom. sg. and the vowel shortened (101), hence the usual honor, honōris, and similarly the whole large class of masculine verbal abstracts like amor, labor, timor, etc.
So arbor from arbōs, but gen. arboris without the generalization of the lengthened grade.

a. The -ός persists in the monosyllables flōs, rōs, mōs. In general the nom. sg. -όρ is usual from Plautus on, but the older forms in -ός appear occasionally even in later writers, especially honōs.

256. Masculines and feminines in -ές.—There is the closest agreement between the Greek and Sanskrit s-stem adjectives, which are formed from (in Greek, mostly with composition) the neuter nouns in -ός. The stem had the lengthened grade ēς in the nom. sg. masc.-fem., the e-grade é in all the other forms, including the nom.-acc. sg. neut. (here in contrast to the -ός of nouns).

<table>
<thead>
<tr>
<th>Greek</th>
<th>Sanskrit</th>
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<tbody>
<tr>
<td>Nom. sg. m. f.</td>
<td>εὐμενής</td>
</tr>
<tr>
<td>Nom.-acc. sg. n.</td>
<td>εὐμενές</td>
</tr>
<tr>
<td>Gen. sg.</td>
<td>εὐμενέως, Att. -ούς</td>
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<tr>
<td>Acc. sg.</td>
<td>εὐμενέα, Att. -ἡ</td>
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</table>

Greek nouns in -ής are all of this adjective type in origin. So ἦ τριήσης (ναῖς) ‘the triply fitted (ship), trireme’, and the numerous proper names like Σωκράτης (cf. κράτος), Δημοσθένης (cf. σθένος),
etc. These proper names may have acc. sg. in -ην after the analogy of names in -ης of the first declension, as Σωκράτην like Θουκυδίδην.

a. Isolated relics of this type in Latin are perhaps Cerēs, Cerēris, pāberis, mulier (cf. muliebris from *mulies-ris by 202.2), degener.

257. Miscellaneous s-stems.—G. μῦς, μῦς (thus agreeing with the type ὑφῆς, -us, and so acc. sg. μῦν), L. mūs, mūris, glis, gliris, mās, maris.

L. vis and spēs have pl. virēs, spērēs, as if from s-stems, which may be inherited (cf. Skt. vayṇas ‘strength’) or analogical. The nom. sg. vis may be from an s-stem, or from an i-stem (G. ἵς), while the other cases of the singular are from simple vi-.

The neuters iūs, iūris and rūs, rūris belong in origin to the type genus, generis, coming from *yewos, *rewos, with syncope of o.

### i-STEMS

258. Table of i-stem declension.

<table>
<thead>
<tr>
<th>Greek</th>
<th>Latin</th>
<th>Sanskrit</th>
<th>Other Languages, Selected Forms</th>
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<tbody>
<tr>
<td></td>
<td>I</td>
<td>II</td>
<td>III</td>
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<td>Most Dial.</td>
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<td>Attic</td>
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#### Singular

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<tr>
<th>Acc. N.A.N.</th>
<th>Voc.</th>
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<tr>
<td>πόλιν, (adj.)</td>
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<td>turrim, -em</td>
<td>mare</td>
<td>agnim</td>
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<td>turri, -e</td>
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Osc. aeleis, Lith. nakties

Osc. slagfm

Osc. slaagid

#### Plural

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<td>Umbr. trīs</td>
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<td>Goth. prins</td>
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Osc. tīs

Osc. atiūm

Osc. luisa-rifs

Umbr. trīs

Goth. prins

Osc. trīs

Osc. atiūm

Osc. luisa-rifs

Umbr. trīs

Goth. prins
GREEK

259. 1. In Greek there was a redistribution of the vowels reflecting the original gradation (IE i and ei, ey, also ēi, 230.3), resulting in two main dialectic types (258, cols. I and III) and the partial development of a third type (258, col. II).

The original distribution in the plural is seen in the forms of the numeral τρεῖς, as nom. pl. Cret. τρὲς, Ther. τρῆς, Att. τρεῖς, all from IE *treyes (cf. Skt. trayas, L. tres), but gen. pl. τριῶν (cf. L. trium) even in Attic, dat. pl. τριῶ (cf. Skt. tris) even in Attic, acc. pl. *τρῖνς (Cret. τρῖνς with ē introduced anew from τριῶν, etc.), τρῖς (but here Att. τρεῖς).

2. The type πόλις, πόλιος, etc., with ē throughout is common to all dialects except Attic, and is also Attic in the isolated ois 'sheep', gen. oís (accent after the analogy of other monosyllabic stems like bōis, bōs), from δῆς (cf. L. avis, Skt. avis), δῆς (cf. Skt. gen. avyas). The acc. pl. had regularly -ōn (cf. Arg. ὡν) or the resulting -ēs. Hom. πόλεις probably for πόλις, but also πόλιας with the cons. stem ending.

This type may be explained simply as a generalization of the ē which was inherited in most of the forms, at the expense of the e (from the strong grade IE ey) which belonged to others, for example, nom. pl. πόλιες in place of *πολεῖς after the analogy of πολιῶν, πολίοι, etc. (that is, just the opposite of what happened in Attic; see below).

a. Another possible factor is the influence of an IE type which has otherwise disappeared from Greek, namely that of Skt. (Ved.) nādis, gen. sg. nādias, nom. pl. nādias, loc. pl. nādisu, as if G. *νόλις, πόλιος, πόλιες, *πόλις.

3. The type of Hom. πόλης, etc., may be explained as follows. An IE loc. sg. in -ē (from -ēi, the lengthened grade of the stem, without case ending, see 230.9) is indicated by Ved. agnā, and this would give G. *πόλη. Hence, with -i added after the analogy of the other Greek datives, πόληī, from which η spread to πόλης, πόλης, πόλης.

From πόλης comes Att. πόλεως with quantitative metathesis (98.3); and from πόληī an Att. πόλη in some inscriptions.
4. Attic.—Gen. sg. πόλεως from πόλης (see above, 3). In poetry also πόλεος, with ε from dat. sg. and the usual gen. sg. ending. Dat. sg. πόλει, also Hom. πόλει, πτόλει, from IE -ει. Voc. sg. πόλι, IE -ι.

The plural forms result from an early extension of ε from the nom. -ες (IE -eyes), -ες, to the other cases at the expense of the orig. i, so gen. πόλεων, dat. πόλεσι (contrast τριῶν, τρισι), acc. *πόλευς, whence πόλεως.

The same substitution of ε for i extends to the dual forms πόλει from *πόλεε, and πολέων. Hom. δοσε is from *οκεε.

5. The acc. pl. neut., as τρία, is generally taken as having a from the other stems, orig. the cons. stem ending. But it is also possible that it reflects an IE uncontracted io, so that τρία is related to Ved. tṛi just as π्रίαμα to Skt. kṛī- (124).

LATIN

260. 1. Nom. sg.—IE -is, L. -is unchanged in most words. Syncope and vowel development in imber from *imbris, like ager from *agros (109), likewise in adjectives like ācer. Syncope also in gēns, mōns, pars, etc. (108).

The forms in -ēs, like sedēs (gen. pl. sēdum), aedēs, aedēs, etc., cannot belong originally to i-stems, unless they are nom. pl. forms which came to be construed as singular collectives, this being one of several possible explanations. They may reflect a rare type of stems in -ē-, nom. -ēs.

2. Gen. sg.—IE -eis (230.5), Osc. -eis (extended to cons. stems and even to the o-stems), which would have given L. -is, was completely displaced by the -is of cons. stems (245.2).

3. Dat. sg.—IE -eyei (cf. Skt. agnaye) would yield the L. -i (through -eei, -ēi, -ei), but this may equally well represent the cons. stem ending (245.3).

4. Acc. sg.—IE -im, L. -im retained in a few words, but in most replaced by the -em of cons. stems (245.4).

5. Nom.-acc. sg. neut.—IE -i, L. -e (74b) in mare, etc. Forms like animal, exemplar are from -āli, -āri, with loss of the final vowel (108) and subsequent shortening of ā before the final l or r (101).
6. **Voc. sg.**—There is no distinct voc. form like G. πῶλα. The nom. was used, just as in cons. stems.

7. **Abl. sg.**—Italic -id, formed after the analogy of -ōd (see 231.6), Osc. -i.did (= -idi in contrast to -i.im = -im), early L. -id, whence -i. This was much more persistent than the acc. -im, being usual or frequent in many nouns, including most neuters, and regular in adjectives. But in the majority of nouns the -e of cons. stems is more usual.

261. 1. **Nom. pl.**—IE -eyes (Skt. -ayas, G. -eis, -eis), L. -ēs (178).

2. **Gen. pl.**—IE -iōm, L. -ium (101, 82.2).


4. **Acc. pl.**—IE -ins (G. dial. -us), L. -is (202.3). This remained the usual form down to the Augustan period, when the -ēs of cons. stems became increasingly frequent and eventually prevailed.

5. **Nom-acc. pl. neut.**—L. -ia probably from -iā (cf. Umbr. trio with o from ą) with -a from o-stems (240.5). L. trí in trigintā (315) like Ved. tri.

262. The partial fusion of cons. stems and i-stems in Latin may be summarized as follows:

The cons. stems furnished the gen. sg. -is.

The i-stems furnished the nom. pl. -ēs and the dat.-abl. pl. -ibus.

The cons. stem endings encroached upon those of the i-stems in the following order of time and frequency:

1) acc. sg. -em upon -im
2) abl. sg. -e upon -i
3) acc. pl. -ēs upon -is

The dat. sg. -i may be from either class or both.

The two classes are usually kept distinct in the nom. sg., and most consistently in the gen. pl. and nom.-acc. pl. neut. It is upon this basis that we still call forms like pēs, rēx, etc., cons. stems, and forms like turris, finis, etc., i-stems.

But there are also nouns which do not conform to either of
these types, and which are "mixed stems" in a peculiar sense. That is, they are mixed stems, not in the sense that all nouns of the third declension are such historically, but from the point of view of the usual Latin types (see 263).

The fusion of cons. stems and -i-stems had begun in the Italic period, but was carried farther in Latin than in Oscan-Umbrian (cf. e.g. the nom. pl., 246.1).

263. Latin "mixed stems".—The most important type is that in which the singular agrees with that of stop stems like pēs, rēx, but the plural with that of -i-stems (gen. pl.-ium), as gēns, mōns, pars, nox, urbs, etc. The majority of these are orig. -i-stems, formed with the suffix -ī- (Skt. -īs, G. -is), with syncope of the i in the nom. sg., e.g. mors from *mortis (Skt. mṛtis). A few may have been cons. stems, as probably dēns (cf. Skt. dant-, G. dōdis, ḍōdbros), with -i-stem plural (but also dentum, Varro) after the analogy of gēns, etc. Some are words whose cognates show an interchange of t- and ti-stems, as nox (cf. G. νοξ, νυκτός, but Lith. naktis; Skt. usually nakti-) and especially words like civitās with gen. pl. -um or -ium (cf. G. -της, -της, but Skt. -tā- and -tāti-).

A few orig. s-stems have gen. pl. -ium, as mūs, mās, glīs. So also as, assium, os, ossium. But for some of these, and in fact for a number of words, the evidence as to the usual gen. pl. form is insufficient.

The opposite relation to that noted in forms like gēns, gen. pl. gentium is seen in canis, gen. pl. canum and a few others. Some are original cons. stems, as canis (cf. G. κύων, Skt. ḍvan-), iuvenis (cf. Skt. yuva-,) mēnsis (cf. G. μήν, gen. μηνός, Lesb. μήνυς from stem *μήρος), so that in these the gen. pl. -um is regular and the nom. sg. -is secondary (cf. the complete transition to an i-stem in nāvis = G. vaḯs). From senex (with a guttural suffix, cf. Skt. sanaka- beside sana-, IE *seno-) the rest of the declension follows that of its opposite iuvenis, and so gen. pl. sēnum after iuvenum. From volucris the gen. pl. volucrum is perhaps due to the analogy of celerum. Several other nouns in -is or -ēs have gen. pl. -um beside -ium, most frequently sēdēs.
### U-Stems and Ú-Stems

#### 264. Table of u-stem and ú-stem declension.

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<th></th>
<th>Greek</th>
<th>Latin</th>
<th>Sanskrit</th>
<th>Latin</th>
<th>Greek</th>
<th>Sanskrit</th>
</tr>
</thead>
</table>
| Nom.  | Π_longitude| ἄδος | tribus | sūnus | sūs | ὅφφος | ὑμοῦ
| Gen.  | Π_longitude | ἄδος | tribus | sūnos | suis | ὅφφος | ὑμοῦ
| Dat.  | Π_longitude | ἄδει | tribui, tribū | sūnave loc. sūnāv | sui | ὅφφος loc. | bhrwne loc.
| Acc.  | Π_longitude | ἄδων | tribum | sūnum | suem | ὅφφος | bhrwam
| N.A.N. | ἀστυ | ἄδο | genu(ά?) madhū | sūno | Nom. | bhrwam | bhrwms
| Voc.  | Π_longitude | ἄδο | tribū | Nom. | sūno | ὅφφος | bhrwms
| Abl.  | Π_longitude | ἄδω | tribū | Nom. | sūno | ὅφφος | bhrwms |

#### Plural

<table>
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<th></th>
<th>Greek</th>
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<th>Sanskrit</th>
<th>Latin</th>
<th>Greek</th>
<th>Sanskrit</th>
</tr>
</thead>
</table>
| Nom.  | Π_longitude | ἄδεις | tribus | sūnavas | suēs | ὅφφος | bhrwms
| Gen.  | Π_longitude | ἄδων | tribusum tribubus, sūnāv | suēs, sūnēs | ὅφφος | bhrwms
| Dat.  | Π_longitude | ἄδει | tribus sūnāv, sūbys | suēs, sūnēs | ὅφφος | bhrwms
| Acc.  | Π_longitude | ἄδεις | tribus sūnāv | suēs | ὅφφος | bhrwms |
| N.A.N. | ἀστη | ἄδει | genua madhūni | Nom. | bhrwms |

#### 265. The IE u-stem declension is represented in Latin by the fourth declension; in Greek by the masculine and neuter of adjectives like ἄδος, but in only a few nouns, namely Π_longitude, πελεκος, πρέσβυς (orig. an adjective), the neut. άστυ, also ὁυς (=usual ὁυς) in Attic inscriptions, Homer, and several dialects.

The majority of Greek nouns follow type II (gen. sg. -νός), which is based upon the IE ú-stems but has spread at the expense of the u-stems so as to include most of the nouns in -ν and the neuters like δάκρυ, μέθυ. Fluctuation between the two types is seen in the Attic inflection of ἔγγελευς, gen. sg. -εως or -νός, etc.
U-STEMS

266. 1. Nom. sg.—IE -us, G. -us, L. -us.

2. Gen. sg.—IE -eus, -ous (cf. Skt. sūnas, Goth. sunaus, Lith. sūnaus, Osc. castrous), early L. -ous (once senātous), L. -ūs. Early L. senātuos, fructuīs, etc., represent a different formation, either an inherited parallel type in -u-os, -u-es (see 230.5), or more probably formed anew in Latin from dat. sg. -ui. G. -eos, as regularly in adjectives (ἡδος, etc.) and also, except in Attic, in the few nouns left in this type (Hom. viēs, ἄστεως, Cret. viēs, Boeot. ἄστιος), is from -e̱fos with e̱f after the analogy of other cases, as dat. sg. -e̱f, nom. pl. -e̱fes.

Att. ἄστεως follows the analogy of πόλεως (259.4) likewise πόρεως, πρόσβεως.

The neuters γόνυ, δόρυ have Hom. γονυῖς, δορῆς from *γονυᾶς, *δορᾶς (like Ved. paṇvas, madhvas, 230.5), and similarly the other cases, as δοπά from *aporî, δοφα from *aporfa (for the r-stem forms, as γονατός, Att. γόνατος, see 252). Of the same type is Hom. viōs from *vūfas, whence also dat. sg. viī, acc. sg. viā.

3. Dat. sg.—IE -ewei (cf. Skt. sūnave, ChSl. synovi), whence regularly (cf. *newos to novus, 80.1; *de-novē to denū, 110.5) L. -ei. The form in -ū is from -ou (cf. Umbr. dat. sg. trīfo), this probably an old loc. sg. (cf. Umbr. ma n u v e 'in the hand') from IE -ēu, -ēu (cf. Skt. sunāu). G. ei from -e̱f is the loc. sg. IE -ewi as in Ved. sūnavi.


5. Nom.-acc. sg. neut.—IE -u, G. -u, L. u or ū(?). L. -ū in the few forms quotable from poetry (genū, cornū, etc.) might be explained as an old neut. pl. form or as an old dual form. But one doubts whether this was actually the normal form, and not rather the -u to be expected.

6. Voc. sg.—IE -u (beside -eu, Skt. -o), G. -v. In Latin the nom. form is used.

7. Abl. sg.—Italic -ūd, formed after the analogy of -ōd (see 231.6), early L. -ūd (magistrātūd), whence -ū.

267. 1. Nom. pl.—IE -ewes (cf Skt. sūnavas, ChSl. synove), G. -efes (not yet quotable), -e̱es uncontracted in most dialects, Att. -e̱es.
It is a question whether L. -ūs is also to be derived from -eves by assuming early syncope of the e in the final syllable (-eves, -owes, -ous, -ūs; otherwise the result would be -uis, like -ui in dat. sg., 266.3), or is the acc. pl. form used as nom. pl. under the influence of the identity of the two cases in the -ēs of cons. stems. An occurrence of the form in Oscan, or in an early Latin inscription, showing whether the spelling was -OVS or -VS, would settle the matter.

2. Gen. pl.—IE -uom, early L. -uom (om being kept much longer than in the other declensions because of the preceding u, 82.5), later -uum. The form -um occurs long before the change of -uom to -uum and therefore cannot be a contraction of the latter. It started in passum, formed after the analogy of other words denoting measures and coins, as iugerum, amphorum, numnum, etc. (240.2), and passed to others, as currum.

G. -owv retained in words which follow type II, as δακρων, but in type I replaced by -eowv with e from the nom., as ἡδεων, Att. πηχεων (with accent after gen. sg. πηχεως).

3. Dat. pl.—IE -ubhos, L. -ubus retained in certain words, but generally -ibus. Here there is a complication of phonetic factors (cf. optumus, optimus, etc., 110.4 with a) and others, and insufficient evidence as to the actual facts in normal speech. The -ubus was favored in aribus, arcubus, paribus to distinguish them from the corresponding forms of ars, arx, pars; also in tribubus, which is prescribed by the grammarians as the only correct form and is uniform in our literary texts, though an early inscription has trebibos; it occurs in specubus beside specibus, lacubus beside lacibus, and occasionally in several other words.

G. owi representing the IE loc. (cf. Skt. -uṣu) was retained in the words which passed over to type II, as δακρούι, but in type I was replaced by -eoi with e from the nom., as ἡδειν, πηχεσιν.

Hom. vlados (also Cretan) has a from the analogy of πατράσι, etc.

4. Acc. pl.—IE -ums, G. -uwv, -us, L. -ūs (202.3). G. -uwv occurs in Cret., Arg. vilvus, and from it comes the -ūs of words that follow type II. Otherwise it was replaced, at least in Attic-Ionic, by a form with e from the nom., either -eis, whence Att. -eis, or -efas, Hom. -eas (πελέκεας, πολέας).
5. Nom.-acc. pl. neut.—L. -ua probably from -uā (cf. Umbr. castruō with o from ā), with -ā from o-stems 240.5). G. -ua in ḏākrouā, etc., of type II, but in type I replaced by -eā, after the analogy of -eves, whence Hom. ἀστεα, Att. ἀστη, Att.-Ion. ἥδεα regularly uncontracted (late ἡμίση, etc.).

a. The spread of e from the strong grade at the expense of u throughout the plural (and also the dual, as in πῆχει, πῆχεν), is parallel to the spread of e at the expense of  in Att. πόλεων, πόλεως, πόλεις, etc. (259.4), only that the latter is specifically Attic, whereas forms like πῆχεων, πῆχεσι, etc., are at least Attic-Ionic. The situation in the other dialects is imperfectly known.

u-stems

268. The Greek inflection given under type II, that is, with gen. sg. -vos, is based upon that of IE ū-stems, which are directly represented by σῦς, ὑφὶς, and some others. The majority of the orig. u-stem nouns also follow this type. If barytone they retain the short u in the nom., acc., and voc. sg. (βότρυς, στάχυς, ἀκρυ, etc.), while if accented on the last syllable, they usually have -ūs, etc. (Hom. βρῶτος, etc., IE suffix -tu-), though with some fluctuation.

The inflection of ὑφὶς agrees very closely with that of Skt. bhrūs. But acc. sg. ὑφὺν, not ὑφια (which is rare and probably due to the analogy of acc. pl. ὑφιας) like Skt. bhruvam; acc. pl. ὑφιας like Skt. bhruvas sometimes in Homer, but regularly ὑφὶς from -vuss the u-stem form; dat. pl. ὑφισι with the u-stem form, not -ωςi like Skt. -ūsu.

In Latin the ū-stem type is represented by the isolated sūs and grūs, while socrus, which originally belonged to it (cf. Skt. cvačrūs, gen. sg. cvačruvas, ChSl. svekry, gen. sg. svekrīve), has become a u-stem. The acc. sg. suem shows the original formation in contrast to Umbr. sim (from *sūm, like G. σῶν). The dat.-abl. pl. is regularly suibus with the usual i-stem form, but rarely sūbus (cf. Skt. -ūbhyaś) or subus (with u from suēs, etc.)

Diphthongal stems

269. Greek nouns like βασιλεὺς, φορεῦς, φοινῆς, etc.—This very productive type of agent nouns is peculiar to Greek. It has no equivalent in the other IE languages, and while it is doubtless
connected in some way with IE u-stems or words formed with the suffix -ωω-, its precise relation to these is obscure. But its history within Greek is clear. The stem was -ηu- or -ηf- throughout, parallel to the generalized -ωω- in ἄγων, ἄγωνος. The ηυ became ευ in prehistoric times (94), while antevocalic ηf remained intact (as in Cyprian) or, with loss of f, in Homer and various dialects.

Nom. sg. *βασιληνεις to βασιλεις (94)
Gen. sg. ....... βασιληφος, Hom. -ής, Ion. -ές, Att. -έως (98.3)
Dat. sg. ....... βασιληφι, Hom. -ηι, Ion. -ει, Att. -ει
Acc. sg. ....... βασιληφα, Hom. -ήα, Ion. -έα, Att. -έα (98.3)
Voc. sg. ....... *βασιλην to βασιλειν

Nom. pl. ......... βασιληφες, Hom. -ήες, Ion. -έες, Att. -έες, -ής, -είς
Gen. pl. ...... βασιληφων, Hom. -ήων, Ion. -έων, Att. -έων
Dat. pl. ........ *βασιληφεις to βασιλειεις (94)
Acc. pl. ........ βασιληφας, Hom. -ήας, Ion. -έας, Att. -έας, -είς

a. In Attic the nom. pl. -ήα (from -ήες) is the prevailing form till about 350 B.C. The later -είς is from -έες with ε from -έων, etc. The nom. pl. forms were also used for the acc. pl., after the analogy of the agreement in πόλεις, πόλεσ, etc. So occasionally -ής, and regularly -είς from about the end of the 4th cent.

The acc. sg. -ή from -ήα is early in some dialects, and occurs in the κοινή.

b. A nom. sg. -ήας, probably re-formed from gen. sg. -ής, etc., is regular in Arcadian (φωνής, etc.), and in proper names occurs elsewhere. Such a variant form of ὁδυσσεύς was Ωλιξές, Λ. Ολιξές (146).

c. The proper names in -έες sometimes show forms differing from those given above, as Hom. Τυδεύς, Τυδεύς, Τυδεύ, Τυδεά, and Τυδή. Such forms point to a grade -εf- in contrast to the usual generalized -ηf-.

270. Greek nouns like ηρως, πάτρως, etc.—In this small class the stem is -ωω-, -ωf, parallel to -ηu- in βασιλεις (269). Nom. sg. -ως from -ωυς (cf. βῶς beside βοῦς, 94) or possibly re-formed from the other cases. Gen. sg. -ωος, dat. sg. -ωι and -ω, acc. sg. -ωα and -ω (also -ωυ after vowel stems), all from -ωσ, etc., though forms with f are not yet quotation. For πάτρως, μητρως cf. the u-element in πατριως, μητρωα, L. patruus, Skt. pitruyas ‘father’s brother’.

271. Greek nouns like πευδος, Σαπφος, etc.—The stem is -οι-, seen in the voc. sg. -οι, but with loss of intervocalic ι in gen. sg. -δος, -ους, dat. sg. -δι, -οι, acc. sg. -δα, -ω. Nom. sg. with lengthened grade -ωα (attested by early inscriptions and the grammarians)
and -ω. A close parallel is the isolated Skt. sakhā ‘friend’, acc. sg. sakhāyaṃ.

272. Monosyllabic diphthongal stems.—

1. G. βοῦς, L. βοῦ (loanword, 155.6).

Nom. sg. with lengthened grade, IE *gʷoũs (Skt. gāus), whence (94) G. βοῦς, Dor. βῶς, L. bōs. Acc. sg. βοῦν, formed from βοῦς after the analogy of vowel stems. So also Att. acc. pl. βοῦς in contrast to Hom. βοᾶς.

The other cases are from *gʷow-, as G. βο(STEM)βος, βο(STEM)ί, L. bovis, bōve (Skt. gāve), bōvem, or from *gʷou-, as G. βοοί, L. būbus (Skt. gobhyas). The rare L. bōbus has ō from nom. sg.

a. Att. χοῦς, in origin a contracted o-stem (*χορος), is inflected like βοῦς, as gen. sg. χοῦς, etc. In Hellenistic Greek there are similar forms of νοῦς, πλοῦς, etc.

2. G. Zevs, L. Iuppiter, Iovis. The IE stem is *dyeu- with gradation.

Nom. sg. with lengthened grade, IE *d(STEM)yeus (Skt. dyāus ‘sky’), whence (94) G. Zevs, also L. diēs from which a full e-stem inflection is developed (273).

Voc. sg. *dyeu, G. Zev, in Italian combined with pater, like G. Zeo πατερ, in Umbr. I u p a t e r (so also dat. sg. I u v e p a t e r e), L. Iūpiter with regular weakening of medial vowel (110.1), then Iuppiter (209), this vocative form serving also for the nominative.

The other Latin cases are from *dyeu-, whence (80.1, 180) early L. Diovis, usual Iovis, Iovi (so Osc. D i ú v e i, I u v e i, Umbr. I u v e i, Skt. dyave), Iovem.

The other Greek cases are from *diw-, the weak grade, as Διδ(STEM)βος (Skt. divās), Διδ(STEM)ί, Διδ(STEM)α.

The extension of the weak grade to Δια is parallel to that in ἀνδρα, κύνα (249.2, 7).

In Homer and various dialects also Ζηβος, Ζηνί, Ζηνα, built up from an acc. sg. *Ζην (or actual Ζην in Hom. II. 8. 206, etc.) = Skt. dyām.

3. G. ναῦς. The IE stem is nāu- without gradation.

Nom. sg. IE *nāus (Skt. nāus), whence ναῦς. In Hom. νηῦς, also dat. pl. νυσί, the η is restored from the other cases.
Gen. sg. IE *nawós (Skt. nāvās), whence Dor. vāós, Hom. νῆός, Att. νέως (98.3). So in the other cases, stem νā(f)-, Hom. νη-, Att. νη- in νῆ, νῆς or shortened in νέων. Att. acc. sg. ναῦν and acc. pl. ναῦς are formed from nom. sg. ναῦς after the analogy of vowel stems, in contrast to Hom. νη, νῆς (so Skt. nāvam, nāvas).

In Latin the word has become an i-stem, nāvis.

THE LATIN FIFTH DECLENSION

273. The history of the Latin fifth declension has been much disputed, and is in some respects still a problem. There is nothing similar in the other IE languages except the Lith. iē-stems (žemé, gen. sg. žemēs, etc.), and, apart from their not agreeing in the nom. sg., they have been shown to be largely, if not wholly, yā-stems in origin. Elsewhere there are a few isolated nouns in -ē (probably verb stems used substantively), like G. χρή ‘need, necessity’, Skt. cṛaddhā- ‘faith’ (cpd. of dḥē-, IE *dḥē). But there is no evidence of any productive type of ē-stems.

The Latin fifth declension represents then a special Latin development (or partly Italic, since there are some traces of it in Oscan-Umbrian). It is an ē-declension built up from some few forms containing an inherited ē, on the analogy of the a-declension.

The two words that are the commonest, and whose history is best known, are diphthongal stems in origin, namely: 

diēs from *diēus (Skt. dyāus, etc., 94)

rēs from *rēs (Skt. rās, gen. sg. rāyas)

The ē which arose from a long diphthong (94) in the nom. sg. and acc. sg. (cf. Skt. acc. sg. dyām beside divam, but rāyam) was the foundation of an apparent ē-stem, from which the other cases were formed, mostly parallel to those of a-stems. Possibly fidēs and spēs are to be reckoned as inherited ē-stems, analogous to G. χρή.

Words of the type faciēs, speciēs, etc., appear to be transfers from yā-stems, with which some of them interchange in the historical period, as māleriēs, māleria, dūriliēs, dūritia, etc. This cannot be ascribed to any known phonetic change, but rests on an
analogue spread, for which the comprehensive rēs may be chiefly responsible.

274. 1. Gen. sg.—The occasional -ēs of early poetry (diēs, rabiēs) is formed after the analogy of the old -ās (233.2); the -ēi after the analogy of the early -āī (233.2). Plautus has rēī, reī, and monosyllabic reī. This last represents a phonetic development parallel to that of the -āī to -ai, -ae. It may be further represented by forms that occur with the spellings -ī, and -ē (as famī, diē), but their authenticity and significance are uncertain. In general the older forms, which kept the stem vowel and ending distinct, were those approved in the classical period, namely -ēī, usually retained after a vowel (diēī, etc.), otherwise shortened to -ēi (reī, fīdeī, etc.).

2. Dat. sg.—The early monosyllabic -ei (reī, dieī) may be from an -ēi formed after the analogy of -āī before the shortening, or directly after -ai, -ae. The identity with the gen. sg. reī, etc., led to further confusion, and the gen. forms in -ēi, -ēi came to be the approved dat. forms also.

3. Acc. sg.—-em from -ēm, with ē in part from a long diphthong (273).

4. Abl. sg.—-ē from -ēd (though not quotable), formed after the analogy of -ād, etc.

5. Nom. pl.—-ēs may have started in rēs from *rēyes (Skt. rāyas), or be formed after the analogy of the old nom. pl. -ās before its displacement (234.1).


7. Dat. abl. pl.—-ēbus after -ibus, etc.

8. Acc. pl.—-ēs after -ās (or earlier -ēns after -ēns).

Nouns of Variable Declension. Heteroclites

275. Nouns of variable declension, or heteroclites (ἕτεροκλίτα “differently declined”), may represent a mixture of two inherited parallel stems, as L. domus which has partly u-stem declension corresponding to that of ChSl. domu, and partly o-stem declension corresponding to that of G. σῶμα, Skt. damas.

Or they may represent a mixed type already established in the parent speech, such as the IE r/n neuters reflected in L. femur,
feminis, etc. (251); or, again, a later but still prehistoric type of mixture, such as the Latin third declension.

Most commonly they are due to analogical formations favored by certain case forms that are common to different stems, as G. Σωκράτης (see 256) after θουκυδίδης etc., favored by the common nom. sg. -ης, or, as some Latin interchanges between o- and u-stem or between o- and neut. s-stem forms, favored by the common nom. sg. -us (hortus, tribus, genus).

276. Among the many examples of heteroclitic forms the following may be noticed here:

1. Interchange between o- and u-stem forms in Latin. Besides domus, which stands by itself (276), several names of trees show some fluctuation, as fagus, laurus, o-stems, but also nom.-acc. pl. -ūs, conversely quercus, u-stem but also gen. pl. quercōrum.

Nouns in -lus have in early Latin a gen. sg. -ī, as senātī (also Osc. senāteis, not -ōus), quaestī, exercītī, etc.

In late vulgar Latin the u-stems were completely fused with the o-stems and disappeared as a distinct class.

2. Interchange between o-stems and neut. s-stems. G. σκότος, gen. sg. σκότον or σκότους, and so in the other cases. L. nom.-acc. sg. vulgus, pelagus (G. loanword, πελαγος, neut. s-stem), virus (cognate with G. ἴός, o-stem), like genus, but gen. sg. -ī, etc.

3. Further interchange between o-stems and cons. stems. Mainly in neuters, where the nom.-acc. pl. form was the same. L. vās, vāsis, but pl. vāsa, vāsōrum. L. iūgerum, iūgerī, but pl. iūgera, iūgerum (which may be the o-stem form like nummum), iūgeribus. There are several examples of -ibus in place of -is.

4. For Latin, cf. also the interchange between the first and fifth declension in materia, materiēs, etc. (273a); between the third and fifth in some of the nouns in -ēs, as famēs, gen. sg. famis, abl. sg. famē; between i-stems and cons. stems in canis, gen. pl. canum, etc. (263).

5. For Greek, cf. also the mixture of r-stem forms with others in neuters (252), also in γελως, etc. (252a); the o- and u-stem forms in viōs, viūs (265); the diphthongal inflection of Att. χωῆς, etc. (272.1a).
277. Many nouns have a different gender in singular and plural, frequently with a distinction in sense. G. ὁ σῶτος, pl. τὰ σῶτα; ὁ δεημός, pl. τὰ δεημά and οἱ δεημοί; τὸ στάδιον, pl. τὰ στάδια and οἱ στάδιοι. L. locus masc., pl. loca 'places' and loci 'passages in authors'; iocus, pl. ioca and ioci; frēnum, pl. frēna and freni.

Some of these reflect an association between the neuter plural and a collective. In late vulgar Latin many neuter plurals came to be felt as singular collectives and were declined as feminines of the first declension, e.g. gaudia, whence It. gioia, Fr. joie, NE joy.

INDECLINABLE AND DEFECTIVE NOUNS

278. Among the indeclinable nouns are the names of the letters in both Greek and Latin, as G. ἀλφα, βήτα (only late forms with τ-inflection, as gen. sg. σίγματος, after the type of δνομα), L. a, be, etc. G. χρεὼν (mostly nom.-acc., but also τοῦ χρεών) is from χρεὼ δν, parallel to ἀδηλον δν, etc. Hom. nom.-acc. δῶ = δῶμα (in Hesiod, pl. =δῶματα), κρῆ = κριθή, look like abbreviated forms (and as such were imitated by later writers), but their actual source is uncertain. The majority of indeclinable nouns are words of foreign origin, or onomatopoeic syllables like G. μῦ, L. mu.

Among the so-called defective nouns are many in which the lack of a quotable example of a particular case form may well be accidental. Thus, until recent times the proper nom. sg. ἀρῆν (usually replaced by ἄμβος) to gen. ἄρνος, etc., was unknown, but it has turned up in a 5th-cent. Attic inscription, and the older ἀρῆν in Cretan. Nouns that occur only in a single case form are merely isolated survivals of words that had otherwise become obsolete, or in part had from the outset been used only in what was equivalent to an adverbial phrase. Thus G. acc. sg. νίφα in Hesiod is the sole relic of a *νιψ, *νίφος, the inherited word for 'snow' corresponding to L. nix, nivis, Goth. snaiws, OE snāw, NE snow, etc., but displaced (apart from the deriv. νιφάδες 'snow-flakes') by χνών, χνύνος. The isolation of L. nātū 'by birth', sponte 'of free will', forte 'by chance', etc., of which other case forms are unknown or rare, is similar to the restriction of NE
sake (in contrast to OE sacu and the cognate NHG Sache) to the phrases for the sake of, for one's sake. The matter belongs mainly to the history of the vocabulary.

DECLENSION OF ADJECTIVES AND PARTICIPLES

279. Greek and Latin have the same principal type of adjectives (280), but otherwise little in common in their adjective types. Greek has u-stem adjectives, which are unknown in Latin. Conversely Latin has i-stem adjectives, which are rare in Greek. The cons. stem adjectives are of different types in each.

O- AND Ā-STEM ADJECTIVES

280. The commonest type of adjectives is that in which the masculine and neuter are formed from an o-stem, the feminine from an ā-stem, as G. σοφός, σοφῆ, σοφῶ, L. bonus, bona, bonum.

The declension is that which has been discussed for nouns. L. ruber, liber, like ager, puer (109). But Latin adjectives in -ius have gen. sg. -ii and voc. sg. -ie (for nouns, see 239.2, 6). Greek adjectives like ἄξιος have nom. pl. fem. and gen. pl. fem. with the accent of the corresponding masculine forms, as ἄξιαι, ἄξιαν, in contrast to the regular ὀλικαί, ὀλικῶν.

a. The declension of G. μέγας is built up from an inherited nom.-acc. sg. neut. μέγα = Skt. māhi (IE *meg(h)2, cf. 85). To this was formed nom. sg. masc. μέγας, acc. sg. masc. μέγαν, while all the other forms are from μεγα-λο-, μεγα-λα- with added suffix.

281. Greek adjectives of two endings, as masc. fem. ἄλογος, neut. ἄλογον. This type is especially characteristic of compounds, and there it has its origin. For example, ἄ-λογος 'one without reason' retained the original λόγος whether used in apposition to a masculine or to a feminine, without shifting in the latter case to a more distinctly feminine form. Since Greek has many feminine nouns in -ος, there was no serious discordance in this retention of the -ος in the feminine (as there would be in Sanskrit, where there are no feminine a-stems, and where a compound of an a-stem if used as feminine must pass over to the ā-stem form). Only a special neuter form was developed, as ἄλογον.
From the very numerous compounds of o-stems, like ἀλογος, the type spread to other compounds, like ἄδικος from δίκη, and further to many simple adjectives, as φρόνιμος, ἡσυχος, ἴσως (from -νος, like νεώς, 98.3).

a. There are several adjectives, especially among those in -ος, -αος, etc., which fluctuate between the declension with two endings and that with three.

GREEK U-STEM ADJECTIVES

282. The Greek adjectives like ἡδος, γαλυκος, etc., represent an inherited type of adjectives which is common in Indo-Iranian, Lithuanian, and Germanic, but is unknown in Latin. In Latin the original u-stem adjectives have mostly become i-stem adjectives, by the addition of i, which perhaps started from a lost nom. sg. fem. in -i (like Skt. svādvi). Thus L. suavis from *suādis (Skt. svādus, fem. svādevi, G. ἡδος), gravis (Skt. gurus, G. βαρὸς), tenuis (Skt. lanus).

The Greek declension of the masculine and neuter has been discussed in connection with the noun (266, 267). The feminine is formed, like that of consonant stems, with the suffix -(e)ια, as in Sanskrit with the corresponding ἵ/γα (237). But in Greek this is added to the strong grade of the u-stem, in Sanskrit to the weak grade (in the parent speech there was probably an accentual shift with gradation between different case forms). Thus G. ἡδεια from -εφια but Skt. svādivi.

a. The declension of πολύς is built up from an inherited nom.-acc. sg. neut. πολύ = Skt. puṛu, Goth. filu. To this was formed nom. sg. masc. πολύς, acc. sg. masc. πολυν, while all the other forms are from πολλο-, πολλά-. These are perhaps from *πολυ-λο-; like μεγα-λο- beside μεγα- (250α), though this attractive explanation involves a serious difficulty (vowel syncope would be anomalous in Greek, and by haplography one would expect *πολυ-λο- > *πολο-). By another view the λλ originated in a fem. *πολφια, *πολφιᾶς, like Skt. puṛi, puṛyās.

LATIN I-STEM ADJECTIVES

283. In Latin the i-stem adjectives are numerous, while in Greek they are rare. Often the Latin forms correspond to o-stem adjectives elsewhere, as similis, humilis to G. ὀμαλός, χθαμαλός, or to u-stem adjectives, as suavis, etc. (282).
The normal type is that of two endings, like masc.-fem. *gravis*, neut. *grave*. The declension is that of the *i*-stem nouns, only that here the abl. sg. is regularly -i.

The type with three endings is a special development of the preceding. For example, masc.-fem. *ācris* became *ācer* (like *ager*, 109), also masc. or fem. as actually in early Latin (cf. also Umbr. *pacer* masc. or fem.). Beside this there was a restored *ācris* like *inlūstris* or early L. *alacris*, etc. From the two forms *ācer*, *ācris*, both used for masc. or fem., the *ācer* came to be used as masc. only, after the analogy of *o*-stem forms like *ruber*, fem. *rubra*, and *ācris* was left for the feminine.

a. In Greek, simple *i*-stem adjectives are very rare, as ἵρος, τρόφος. Adjective compounds of *i*-stems, as ἄστολος, keep the *i*-stem inflection in most dialects, but in Attic follow the type ἔρος, ἔριδος.

**CONSONANT STEM ADJECTIVES**

284. *s*-stem adjectives.—Greek type *εἰμενής*, *εἰμενές* mostly compounds (see 256). Latin comparatives, like *melior*, *melius* (see 292).

L. *velus* 'old' is an old neuter noun (cf. G. *féros* 'year'), first used in apposition to another neuter (e.g. *vinum velus*) and then generally as an adjective. Similarly L. *über* 'abundant' is the neuter *r*-stem *über* 'udder' used without change as an adjective.

285. *n*-stem adjectives in Greek.—Type σῶφρων. The only difference from the noun declension (249.9) is in the neut. -ov (pl. -ona), which was supplied to -ων, after the analogy of *εἰμενής*, *εἰμενές* and the like, in place of the original neuter represented by δνομα, etc. (250). A similar replacement of the original neuter form by the form of the stem appearing in the oblique cases occurs in the other *v*-stem adjectives and the *vt*-stem adjectives and participles, e.g. neut. τέρεν, μέλαν, χαρίεν, λέγον, etc.

Beside this common type in -ων, there are a few other *v*-stem adjectives, in which there is a separate feminine form. Thus: τέρην, (cf. πουμῆν), τέρευα (*τερευμα), τέρεν
μέλας (from *μέλαν-ς), μέλαινα (*μελαιμα), μέλαν
τάλας (*ταλαν-ς), τάλαινα (*ταλαιμα), τάλαν
Like τέρπυ, except that there is naturally no feminine form, ἄρρυ, ἄρρεν.

286. The Greek type χαρίες, χαρίεσσα, χαρίεν.—Formed from noun stems with the suffix -φεντ- = Skt. -van- in ῥῦφα-vanī-'beautiful', etc., IE -went-, weak grade -ωντ-. The strong grade -φεντ- is generalized in the masculine and neuter, as gen. sg. -εντός, nom. sg. -εις from -φεντ-, nom.-acc. sg. neut. -εν from -φεντ-. The feminine is not from -φεντ-α which would give -είςα (as in part. τιθείσα), but from -φερ-α (182), this from -φαρ-α (-φαρ- = IE -φι-, cf. Skt. fem. ῥūpā-vati), with the vowel changed to ε under the influence of the -φεντ- forms (cf. πομέσι for -άσι, 249.9). A few forms with f are quotable from inscriptions, as Boeot. χαρί-φεταν, Corcyr. στονόβεσσαν.

This class of adjectives is almost wholly poetical, very few of them occurring in Attic prose. Hence they commonly appear with the non-Attic σα in the feminine, and in uncontracted forms like μελιτόες, τιμήες, etc. But some gave rise to nouns in common use which appear in their proper Attic form, as names of cakes like πλακοῦς, μελιττοῦττα, οίνοῦττα, or place names like Ραμνοῦς.

287. The Greek ντ-participles.—These have the regular cons. stem declension in the masculine and neuter, while the feminine is formed with the μα/-μά suffix, as nom. sg. φέρουσα from *φεροντία = Skt. bharantī (237).

The nom. sg. masc. had -ντς, whence -ς with lengthening of the preceding vowel (204.4), as διδοῦς from *διδόντς, λισᾶς from *λισαντς, τιθεῖς from *τιθεντς, λυθεῖς from *λυθεντς.

But from thematic stems, where according to the evidence of other languages we should also expect -ους, yielding -ονς as in διδοῦς, we have rather φέρων, λιπών, etc. These are apparently formed after the analogy of the regular -ον of ν-stems. Cf. the occasional shift of ν-stems to ντ-stems, as in λέων, λέοντος, originally an ν-stem as shown by the fem. λέανα and by L. leō, leōnis, likewise in δράκων, θεράπων.

288. The Greek perfect active participle.—For the formation, see 435. The old s-stem forms survive in nom. sg. masc. -ως,
parallel to αἰδώς (255), nom.-acc. sg. neut. -ος, parallel to γένος, while the other masc. and neut. forms are from a τ-stem. Fem. -ωα from -υοία = Skt. -υι.

289. The Latin nt-participles and adjectives like duplex, audāx, etc.—The absence of a distinct feminine form of the participle, in contrast to Greek, Sanskrit, etc., is connected with the general fusion of i- and cons. stems in Latin. An old nom. sg. fem. *ferenti = Skt. bhāranti would be drawn into the common i-stem class, becoming *ferentis, like mōrs from *mortis, etc. (108). The subsequent distribution of i- and cons. stem forms has nothing to do with gender. The i-stem forms, favored by the adjective type gravis, prevailed in the gen. pl. -ium (in early Latin still sometimes -um, as amantium, Plautus), nom.-acc. pl. neut. -ia, while in the abl. sg. there was fluctuation between -e and -i, with a tendency to prefer the latter in adjectival use, as regularly in the adjectives proper.

The most remarkable feature of the Latin type is the nom.-acc. sg. neut. in -s, as amāns, duplex, for which there is no wholly convincing explanation. A phonetic change of final nt to ns, which would explain the participial form (as coming from the original neuter form in -nt), is assumed by some scholars, but is very doubtful. For the compound adjectives, a form like duplex (Umbrian tuplak, without s) may be taken as the masculine form retained even in apposition with the neuter, for which there are some parallels (as Ved. dvipāt ‘bipes’, masc. form used also as neuter).

290. Other cons. stem adjectives in Greek.—Adjectivally used compounds may be formed from any type of cons. stem, as ἄπατωρ, nom.-acc. pl. neut. ἄπατορα beside πατήρ, with gradation as in σώφρων beside φρήν (120), ἐβελπίς, neut. ἐβελπί, gen. sg. ἐβελπίδος; ἄχαρις, neut. ἄχαρι, gen. sg. ἄχαριτος, etc. Compounds of i-stems, as ἄπολις, ἄπολι, have partly -δος, etc., in Attic.

Other adjectives have only a masc.-fem. form, with no neuter, as ἀρπαξ, etc.
COMPARISON OF ADJECTIVES

291. The IE suffixes of comparison were as follows:

**Comparative:** -yes-, with gradation

**Superlative:** -isto-

These were originally primary suffixes, added to the root rather than to the stem of the adjective. The addition of -yes- to certain forms ending in ı gave rise to a productive -ı-yes-. In Sanskrit -ıyas- is the usual form, as in svādiyas-, comp. of svādu- ‘sweet’, while the simple -yas- occurs only in a few words, as sanyas- (cf. L. senior) comparative of sana- ‘old’. But in Avestan it is always -yah- = Skt. -yas-. The superlative suffix -isto- is obviously -is-ı-, the weak grade of -yes-, with suffix -ı-ı-.

G. ἡδιστος, Skt. svādisṭhas, Goth. *sutīstis (cf. smalistics), NE sweetest.

292. The Latin comparatives have the nom.-acc. sg. neut. from the grade -yos-, as melius from *melyos (180), like genus. All the other forms are from the grade -yōs, which belonged to the nom. sg. masc.-fem. and was extended to the other cases, with subsequent change of the intervocalic s to r and the analogical substitution of r for s in the nom. sg. and resulting shortening to -or.

That is, melior, melioris has the same history as honor, honöris (255), and the forms meliōris, etc., were used for the neuter also.

a. L. minor, minus are not formed with the comparative suffix. An adj. *minu-s ‘less’, from the stem seen in minuō ‘lessen’ and so having comparative force from the meaning of the root itself, was naturally associated with the regular comparatives, especially its opposite maior, maius, and by their analogy became minor, minus.

b. L. plūs has a complicated and disputed history, but the most probable view is as follows: An orig. *pīe-yos (from the root of *pīe- ‘fill’ seen in L. plē-nus, G. πλήρως, etc., as is likewise G. πλεῖων, πλεῖστος; precisely reflected in Skt. prāyas-, Av. frāyā) became *pīeos, *pleos, then *pleus under the influence of minus (see above, a), whence regularly (92) pious (SC de Bacch.), pīus. Cicero’s plocra must then be a false archaism. The plural pleōris (so to be read in the Carmen Saliare) would be regular, from *pīe-yōs-ēs, while plēres is formed anew from pīus. Likewise the superlative plūrimus would be formed anew from pious, pīus, in place of the regular formation from *pleis- which appears in the plosima ‘plurime’ quoted from the Carmen Saliare. The
spelling *ploirume in the early Scipio epitaph, which is earlier than the *plouruma of another inscription and which seems to support *ploera, is an admitted difficulty for the view expressed. But much greater difficulties are involved in starting from a form *plo-is-, especially as there is no support for *plo- beside plē- in any of the cognate formations.

293. In the Greek comparatives of the type ἐλάσσων, ἡδίων the shorter forms of certain cases are from -yos- or -i-yos- (cf. Skt. -i-yas-, 291), as acc. sg. masc.-fem. and nom.-acc. pl. neut. ἐλάσσω, ἡδίο from *ἐλαγχ-ιοσα, *ἀδ-ι-ιοσα, nom. and acc. pl. masc.-fem. ἐλάσσους, ἡδίους from nom. pl. *ἐλαγχ-ιοσες, *ἀδ-ι-ιοσες.

The usual forms in -ων, -ονος have their origin in an n-stem extension of the weak grade -is- such as is seen also in the Germanic comparatives, as Goth. sul-isan- (Eng. -er in sweeter is of the same origin) and in the Lithuanian comparatives as saldesnis ‘sweeter’, (from -yes-ni-s). From -is-ōn would come -ων (ἡδίων) and then by mixture with the forms coming from -yos- or -i-yos- (above) also -ων (ἐλάσσων, etc.) and -ων (ἡδίων). The fluctuation in the quantity of the i (usually i in Attic poetry, i in Homer and Doric poetry) is the same for ἡδίων etc., as for ἡδίω, etc.

a. The lengthened vowel of the root syllable in ἐλάσσων, θάσσων, Att. ελάττων, θάττων (a shown by the accent of the neuter, as Att. θάττων), is explained by deriving these from ἐλαγχιον, etc. (like ἰσσον from *ἀγχιον to ἀγχι, 182b).

But in μᾶλλον from *μαλιον to μάλα it must be due to some analogy. Likewise the ει of Att. μείζων, κρείττων (also ὀδεξιον after μείζων) in contrast to the regular Ion. μέζων, κρέσσων from *μεγιον, *κρείτοιον, must be due to the analogy of some words in which the ει is regular, as perhaps χείρων, which may come from *χεριον, and ἀμελιον, which has orig. ei.

b. Hom. πλέες, πλέας (also Cret. πλέες etc.), are from an s-stem form, probably *plē-is-, beside *plē-yos- (cf. 292b).

294. Another type of comparison is more common in Greek and in Sanskrit, namely that in G. -τερος, -τατος, Skt. -lara-, lama-.

The comparative represents a specialized use of the suffix -lero-(also -ero-) that appears in words of contrasted relation like G. δεξιερος, ἀριστερος, L. dexter, sinister, G. ἡμέτερος, L. noster, G. πότερος, Skt. kalaras.

The superlative reflects the suffix seen also in L. ultimus, Goth.
asluma, etc., which with Skt. -lama- point to an IE -lmo-, and
for which the Greek equivalent would be -taμο-. This was re-
placed by -taτο- under the influence of the other superla
tive suffix -ιστο-, just as the -mo-suffix was replaced by -το- in cer-
tain ordinals, as δεκατος contrasted with L. decimus, Skt. daca
tamas (318).

These suffixes (in contrast to those of 291) were regularly added
to the stem of the positive. Thus δηλό-τερος, δηλό-τατος; γλυκύ-
terōs, γλυκύ-τατος; μελάν-τερος, μελάν-τατος; ἀληθέο-τερός, ἀληθέο-
tatōs; χαριέα-τερός, χαριέα-τατός (from *χαριέτ-τερος, etc., 190,
286).

a. But from o-stem adjectives with short penult we find regularly -ω-τερος,
etc., as σοφό-τερος, σοφό-τατος; νεώ-τερος, νεώ-τατος. This type probably
started in certain words in which the suffixes were added to adverbs in -ω
like ἀνώ-τερος, ἀνώ-τατος from ἀνω. It was favored because of the resulting
avoidance of a long succession of short syllables.

Only apparent exceptions are στενό-τερος, κενό-τερος since these are from
earlier *στενότ-τερος, *κενό-τερος. For combination of stop and liquid
the earlier syllabic value prevails, hence πικρό-τερος, πικρό-τατος. In poetry there
are occasional variants from the general rule.

b. From the regular forms like ἀληθεό-τερος, χαριέο-τερος (above), etc.,
-έστερος, -έστατος were extended to adjectives in -ων and to some in -ος
(-ους), including all in -νος (-νους), also to some others. Thus εἰδαμον-
έστερος, εἰδαμον-έστατος; (ἀπλό-έστερος) ἀπλόνεστερος, ἀπλόνεστατος;
εὐνούχεστερος, εὐνούχεστατος; poet. ἀφδονεστερος, ἀφδονεστατος.

c. From several adjectives in -αιος and some others we have -αιτερος,
etc., as γεραιτερος from γεραιος; μεσαιτερος, μεσαιτατος from μειος.
This type started in certain forms in which the suffixes were added to adverbs in -αι
like παλαι-τερος, παλαι-τατος from παλαι.

d. Another analogical extension is that of -ιστερος, -ιστατος from regular
forms like ἀχαριστο-τερος (*ἀχαριτ-τερος, 190) to some others of derogatory
meaning, as κλεπτιστερος, κλεπτιστατος; λαλιστερος, λαλιστατος.

295. The Latin superlative is based upon that of the type men-
tioned in the preceding paragraph (Skt. -lma-, etc.). But much
of the history is obscure, especially as regards the commonest form, -issimus.

The clearest forms historically are those that are irregular from
the Latin point of view, such as ullimus, intimus, insimus, pluri-
mus, summus (from *sup-mo-), which directly reflect the suffix
-tmo-, -mo-, or -mo. Furthermore pessimus is regular from *ped-tmo- (cf. peior from *ped-yōs, 180), and maximus, proximus are perhaps formed with -mo- from adverbs ending in s.

The commoner types of superlative point to an element -smo- in place of -tmo-, but the precise analysis and source of the s is uncertain. Thus acerrimus comes from *ācersemos, this from *ācrismos; similarly facillimus from *facilsemos, this from *facilismos. These may be further analyzed as *ācri-smos, *facilismos, or as *ācr-is-mos, *facil-is- mos with -is- representing the weak grade of the comparative suffix (cf. mag-is and mag-is-ter) or taken over from the old -is-to-. The most usual type, as in clārissimus, gravissimus, is also the most difficult. Apparently to be analyzed as -is-smo, it is possibly a blend of the old -isto- and -smo-.

296. Composite comparison.—Several of the commonest adjectives have their comparative and superlative formed from other, formally unrelated, words, just as in NE good, better, best, or bad, worse, worst. Thus:

G. ἄγαθος, ἀμείων, ἀριστος (or βελτίων, βελτιστος)
G. κακός, χείρων, χειριστος (beside κακίων, κάκιστος)
L. bonus, melior, optimus
L. malus, peior, pessimus
L. multus, plius, plurimus

a. This is a phase of the same phenomenon that shows itself also in some of the commonest verbs, as in NE be, am, was, or go, went. So L. est, fuit; ferō, tuli; G. ἔρχομαι, ἔλθον; φέρω, αἴσω, ἔνεγκα, etc. Words of different formal origin and originally of somewhat different meaning became associated in usage, and supplemented each other. The term “defective” (comparison, etc.) is less appropriate than “composite” or “supplementary”.

PRONOUNS

PERSONAL PRONOUNS

297. The personal pronouns in the various IE languages, in spite of obvious relationship, show a bewildering variety of forms from which it would be idle to attempt to reconstruct precise paradigms for the parent speech. So far as reconstructed IE forms
are employed here, it is only as the proper theoretical bases for
certain limited sets of correspondences. Thus G. ἐγώ, L. ego, and
Goth. ik may be combined on the base of an IE *eḡo, while Skt.
āham, Av. azəm, OPers. adam are as if from an IE *eḡhom, and
there are still other variations.

The pronoun of the first person was made up of four distinct
formal groups, all represented in English, namely by I, me, we,
us. The Greek and Latin forms belong with I, me, and (less
obviously) with us.

The pronoun of the second person was made up in the singular
of a group of forms to which NE thou, thee belong, containing *tū,
*tewe-, *twe-, *te-; in the plural, of two formal groups, one to which
NE ye belongs (but not you, which has a different history), and
another containing *wes in various grades, to which all the Greek
and Latin plural forms belong.

The reflexive pronoun, which was originally a reflexive of all
persons, was made up of an element *sewe-, *swe-, *se-. The Greek
forms of this stem partly retain their reflexive force in Homer,
but are generally used for simple reference to the third person.

298. 1. Nom. sg.—G. ἐγώ, L. ego with iambic shortening (102).
Cf. Goth. ik, OE ic (and ic), NE I.

G. σύ (so in most dialects), Dor. τά, L. tū. Cf. Goth. āu, OE āu,
NE thou. IE *tu and *tū. The ι of σύ is after the analogy of that
in the other cases where it comes regularly from *iω- (176.4).

2. Gen. sg.—Hom. ἐμεῖο, σεῖο, εἶο, from *eme-syo, *twe-syo,
*swe-syo, parallel to τοῖο from *to-syo. Hence ἐμεῖο, ἐμεῦ, Att.
ἐμοῦ, with enclitic from stem me-, *meio, *μεο, μευ, Att. μου; σεῖο,
σεῦ, Att. σοῦ, enclitic σεῖο, σεῦ, Att. σου; εἶ, εῦ, Att. οῦ, enclitic έο,
έο, Att. οῦ.

Also ἐμέθεν, σέθεν, έθεν, with the same adverbial ending as in
ἄλλο-θεν, etc.

Also, after the analogy of the cons. stem ending, Dor. ἐμεῖος,
ἐμεῦς; τέος, τέος; Locr. ἡαιο.

L. mei, tuu, suu are in origin gen. sg. of the possessives meus,
luus, suus. Early Latin also mis, lis, perhaps from enclitic *moi,
*ioi (Skt. gen.-dat. te, me, G. μοι, σοι) with gen. sg. ending -s.
3. Dat. sg.—G. ἐμοί, μοι, the latter = Skt. enclitic gen.-dat. sg. me; οἰ, σοι from *τωίοι, Dor. τοί, το, Hom. το, from *τοί = Skt. enclitic gen.-dat. te; οἶ, οἱ, in many dialects fοι, from *swoi, Hom. also εοῖ from *sewoi.

Doric also euiv, riv, fiv, with the same ending as in the dat. pl. Hom. ἀμυν, etc. (299.3).

L. mihi, tibi, sibi with iambic shortening (102) from mihi, tibi, sibi, these, with weakening of e to i (79.2), from *meghei, *tebehi, *sebehi. Cf. Umbr. mehe, tefe, Osc. tfe i, sffe i, OPruss. tebeï, sebeï, ChSl. tebē, sebē, and for the consonants of the ending also Skt. mahyam, tubhyam. Beside mihi also mī, like nīl from nihīl.

4. Acc. sg.—G. euē, me; at, ae, Dor. re (Dor. also rō, nom. used as acc.); ét, ē (in dialects fe), Hom. also et. These point to *(e)me, *twe, etc., without case ending, as do Goth. mi-k, si-k (cf. NHG mich, dich, sich) with an added particle, and as Skt. enclitic mā, tvā (beside emphatic mām, tvām) point to *mē, *twē. L. mē, tē, sē, though they seemingly agree with Skt. enclitic mā, tvā, are from the earlier attested mēd, lēd, sēd, in which the d presumably represents an added particle.

5. Abl. sg.—L. mē, tē, sē are from early L. mēd, lēd, sēd, with the same ablative ending d as in nouns and other pronouns. Cf. Skt. mad, tvad from *med, *twed with short vowel in contrast to the Latin.

299. 1. The plural of the pronouns of the first and second person contain respectively *nes and *wes with gradation. Thus: *nes, *nos and *wes, *wos Skt. enclitic acc.-gen.-dat. nas, vas; also in the Latin possessives noster and vester, early voster *nēs, *nōs and *wēs, *wōs L. nōs, vōs

*ys and *us. The former in Goth. uns, NHG uns, OE ús, NE us; both, with an added element in Greek and Sanskrit forms (see below, 3)

2. Latin.—Nom.-acc. nōs, vōs are inherited forms differing only in gradation from Skt. nas, vas. Their use as nominatives is secondary, replacing that of forms allied to NE we, ye.

Gen. pl. nostrum, vestrum (early L. vostrum, 83.1) are in origin gen. pl. forms of the possessives noster, vester; as nostri, vestri used
for the objective genitive are gen. sg. forms of the same, and analogous to gen. sg. mei, lui. Dat. pl. nōbis, vōbis, early L. nōbeis, vōbeis, contain nō-, vō-, abstracted from nōs, vōs, and a blend of an old bh-ending (like -bhos, L. bus, 230.7) with that of o-stems in illēs, early illēs.

3. The Greek and most of the Sanskrit plural forms are made up of the weak grades *ŋs and *us with the addition of a particle -sme, allied to the sm-element in other pronominal forms like Skt. lasmāi, tasmin, etc. (303.7).

Acc. *ŋs-sme, *us-sme. Skt. asmān, yuṣmān (init. y from yūyam, like NE ye), with adoption of the acc. pl. ending from other pronouns as lān; G. *əsme, *ʊs-με, whence regularly (203.2) Lesb. əμμε, ʊμμε, Dor. əμέ, ʊμέ. The ' in əμέ, is due to the analogy of ʊμέ, where it is regular before init. ν (167). Hence again in Attic-Ionic, with η from ə and with added case ending, Hom. ʊμέας, ʊμέας (-eas as in σ-stems and υ-stems), Att. ʊμάς, ʊμάς (with unusual contraction of ea to ə instead of η, perhaps belonging with the instances mentioned in 104.6), enclitic ʊμας, ʊμας.

The other cases are from forms like the above, with adoption of case endings:

Nom. Lesb. əμμες, ʊμμες, Dor. əμές, ʊμές, by the addition of s to əμμε, etc., giving -es as in cons. stems; but Att.-Ion. ʊμές, ʊμές, formed to ʊμέας, etc., after the analogy of -eis to -eas in σ- and υ-stems.

Gen. Lesb. əμεὼν, Dor. əμέων, Ion. ʊμέων, ʊμέων, Att. ʊμών, ʊμών, enclitic ʊμων, ʊμων.

Dat. Lesb. əμμων, ʊμμων, ʊμμων, ʊμμων, Dor. əμίν, ʊμίν, Att.-Ion. ʊμίν, ʊμίν, enclitic ʊμν, ʊμν. The ending seems to be the same that appears in Sanskrit in the loc. sg. masc. of impersonal pronouns, as ta-smin, etc. (303.8), beside which Avestan has forms without the final n (cf. əμμν, əμμ). There is no clear explanation of the i in Att.-Ion. ʊμίν, ʊμίν.

4. The dual of the first person, νω, agrees with Skt. nāu, Av. nā. Hom. νοί, from *νο-ί, probably a blend of νω and a form related to ChSl. νē, Goth. wit 'we two'.

The σφ-forms of the dual of the second person and dual and
plural of the third or reflexive are of obscure origin. The latter are possibly built up from a weak form of the reflexive *se and the case ending -φι (237), that is, starting from σφι, σφυ.

300. Possessive pronouns.—The possessives are adjectives formed from the stems of the personal pronouns by the addition of -o- (fem. -ά-), or in some with the suffix -tero- serving here as in other words of contrasting relations (like G. δεξιερος, L. dexter, etc. 294).

1. G. ἕμος. L. meus from *meyos, like ChSl. moi from *moyos, probably formed from the gen.-dat.-loc. *mei, moi (Skt. me, G. μοι).

2. G. σός from *twos, and τέσ from *tevos. From *tevos also Italic *lowos (cf. Umbr. louver ‘tui’), early L. lovos (rare), whence usual tuus with the weakening (110.5) in proclitic use.

3. G. ὃς from *swos, and ἔς from *sevos. From *sevos also Italic *sowos (cf. Osc. s ú v a d ‘sua’), early L. sowos (rare), whence the usual suus with weakening as in tuus.

   a. This stem (like the corresponding substantive pronoun) was originally a reflexive with reference to all persons and numbers, as in Sanskrit and in the Balto-Slavic languages. There are traces of this wider use in Homer, where ὃς sometimes means ‘my own’ or ‘your own’ (A 142, i 28, etc.).

   b. The rare early L. sis, säs, etc. (to be distinguished from the similar forms of a demonstrative pronoun so-, 306.7), may come from *swos— with loss of w before o (170), or may reflect a by-form of the stem without w, as in L. sibi.

4. G. ημετερος and ἄμος. L. nositer, from *nos beside nōs (299.1).

5. G. δειμετερος and ὑμός. L. vester, early L. voster, from *wos beside vōs (299.1).

6. G. σφετερος from σφείς, etc., after the analogy of ημετερος.

301. The Greek reflexive pronouns.—The usual Greek reflexive pronouns are combinations of the personal pronouns with the intensive αὑτός. In Homer they are still uncompounded, as ἐμοί αὑτώ, σοι αὑτώ, ἐοι αὑτώ. The later Ionic forms in Herodotus, ἐμωντω, etc., started with the dat. sg. ἐωντω from ἐοι αὑτώ.

The Attic forms, ἐμαυτω, σεαυτω or σαυτο, ἐαυτο or αυτο, would seem to be most simply explained as starting from the acc. sg. forms ἐμ' αὐτόν, σε αὐτόν, ἐ αὐτόν. But if they are properly
PRONOUNS

ἐμαυτοῦ, etc., to which some late forms like ἐμαυτοῦ point, they will rather have started with the dat. sg. ἐστι αὐτῶ, like the Ionic forms, corresponding to the latter in the same phonetic relation as Att. ἄνηρ to Ion. ὕνηρ.

a. The dialects have various expressions for the reflexive, as (1) the personal pronouns with αὐτός, as in Homer; (2) αὐτός alone as sometimes in Homer; (3) αὐτὸς αὐτός, αὐτοσαυτός, αὐτοσαυτός, etc.

302. The Greek reciprocal pronoun.—The stem ἀλλαλο-, Att.-Ion. ἀλληλο-, occurring only in oblique cases of the dual and plural, originated in phrases like ἀλλος ἀλλον, ἀλλοι ἀλλον, etc., parallel to L. alter alterum, alii alios, etc. Dissimilation accounts for the simplification of the second άλ. The α is surprising, for it could arise phonetically only from certain feminine and neuter forms, such as ἀλλα ἀλλαν, whence ἀλλαδάλαν, then with plural ending ἀλλαδάλας (ἀλληλάς), or ἀλλα ἀλλα, whence ἀλλάλα (ἀλληλα). Its generalization may have been favored by the numerous stem compounds like στρατάγος (στρατηγός).

DEMONSTRATIVE, INTERROGATIVE, INDEFINITE, AND RELATIVE PRONOUNS

PECULIARITIES OF DECLENSION

303. The declension of the various classes of pronouns other than personal agrees much more nearly with that of nouns and adjectives. But it presents a number of characteristic peculiarities.

1. Nom.-acc. sg. neut.—The IE ending was -d, in o-stems -od in contrast to -om of nouns, in i-stems -id in contrast to -i of nouns. In Greek, where a final dental was lost, the difference persisted in -o contrasted to -ov of nouns. L. id, illud (from -od), hoc from *hod-ce, quod, quid. G. τὸ, αὐτό, τὸῦτο, ἐκεῖνο, τί. Cf. Skt. tad, yad, kad, with the particles id, cid (or lat, cit, etc., the final t and d being interchangeable); also, with added particle, Skt. idam (: L. idem), Goth. ita, pata (with Gmc. t from d).

2. Nom. sg. masc. in -o.—G. ὁ, Skt. sa, Goth. sa, all pointing to an IE *so without the usual case ending. L. hic from *ho-ce (306.3).
3. Nom. sg. masc. in -oi.—L. qui from quoi (goi in the Duenos inscription; cf. also Osc. puí). The relative was frequently unaccented, hence the same phonetic development (quoi, quei, qui) as in final syllables (90).


6. Nom. pl. masc. in -oi.—In Greek and Latin no longer distinctively pronominal, since it was extended to nouns (240.1).

7. The same i-element as in 3–6 appears also in the gen. pl. masc. *toisōm (Skt. teṣām), which is not represented in Greek or Latin; further in the loc. pl. masc. *toisu (Skt. teṣu), but here it had extended to nouns even in the parent speech (230.10).

8. A series of forms containing an sm-element, such as Skt. dat. sg. tasmai, loc. sg. tasmin, is represented in the Italic dialects (Umbr. esmei ‘huic’, pusme ‘cuia’), but not in Latin; in Greek by Cret. δῦino = δυῖο = δυῖο and less directly by forms of the personal pronouns ἄμμυ, etc. (293.3).

304. 1. The Latin genitive singular.—The origin of eius, huius, cuius (really, eiis etc., 179.2) and illius, istius, ipsius is much disputed. The view preferred here is as follows: The form cuius, earlier quoius, is a stereotyped nom. sg. masc. of the possessive adjective cuius, -a, -um, earlier quoius, quoiius, which is most frequently used in early Latin, is attested for the Italic dialects (Osc. puiii ‘cuia’), and which may further be identified in form with G. poios. That is, from a phrase like *quoios servos, in which the adjective form might refer to a man or a woman, this form came to serve as the gen. sg. of qui and quis, receiving some formal support from the still existing genitive forms in -os (246.2).

After *quoios were formed *eiis, eius and *hoios, hoius, huius.

The forms like illius may be regarded as old genitives in -i made over into -ios after the analogy of *quoios, *eiis.
a. In early poetry quoius, eius, huius must sometimes be read either as two short syllables or one long. There are grounds for believing the latter reading correct, that is, monosyllabic quois, eis, huiis, just as illius must sometimes be read illis. All these arose from the fuller forms standing in close combination with a following word and unaccented, by syncope of the vowel of the final syllable.

From illis modi, istis modi arose further illimodi, istimodi, with loss of s before m (202.1), and from these again some other forms in -t, as isti formas.

2. The Latin dative singular.—The ending is the same as the loc. sg. -ei of o-stems. This served for the masc. and fem. dat. sg. of pronouns in Italic (Osc. dat. sg. altrei, cf. also Umbr. esmei), and in Latin was further extended to cover the dat. sg. fem., though some examples of a distinct feminine form, as eae, istae, occur in early Latin. So illi, isti, ipst.

The datives of is, hic, qui go back to eiiei, *hoiei, quoiei, formed with the same ending to the genitives *eiios (eius), etc.

The eiiei is represented by eiei of an inscription and by what is read as et in early poetry, where, however, monosyllabic ei is more common. This latter is perhaps the regular form of the classical period, parallel to the monosyllabic huic, cui. For ei (with i restored after the analogy of illi, etc.) is not attested before Ovid.

The *hoiei, quoiei (quoiei in early inscriptions) are represented by the forms read as huic, quoi in early poetry, beside more usual monosyllabic huic (also hoic, hoice in inscriptions) and quo (the regular spelling of inscriptions till after 50 B.C.), later cui. Dissyllabic huic, cui occur only in late poetry (Juvenal, Martial).

THE GREEK DEMONSTRATIVE PRONOUNS

305. 1. The definite article, δ, ἡ (ἀ), τό, is in origin a demonstrative pronoun. In Homer it still has demonstrative force to a large extent, and if also used as an article it is not an obligatory complement of a noun with definite reference as in Attic (except with proper names). It corresponds to Skt. sa, sā, tad and Goth. sa, so, bata (bat-a), all from IE *so, *sā, *lod. The stem was so-, sā- in the nom. sg. masc. and fem., but to-, tā- in all other cases. So nom. pl. τοῖ, ταῖ (cf. Skt. le, tās) in most of the West Greek dia-
lects and often in Homer, but replaced by oi, ai after the analogy of the singular δ, η, in Attic-Ionic, etc.

2. δδε, ηδε, τδδε is formed from the preceding by the addition of the particle -δε. The dialects have parallel forms with other particles, as Thess. δνε, Arc. δι, Arc.-Cypr. δνυ.

3. oυτος, αυτη, τουτο is also built up from δ, α, το, with the addition of a particle v (cf. Skt. nom. sg. masc. fem. asāu) and the further addition of what was at first perhaps the nom.-acc. sg. neut. το repeated (e.g. το-δ-το) or used as a particle (e.g. also *ο-δ-το). The combination then took on declension based on this final element, with variation of the first syllable only as between ου-, του- and αυ-, ταυ- according to gender. Some dialects have ου or του- throughout, as ουτα, τουτα = ταυτα. Att.-Ion. nom. pl. ουτοι, αυται in place of τουτοι, ταυται are like οι, αι in place of τοι, ται (see above, 1).

4. ἐκεῖνος is ἐ-κεῖνο with a prefixed pronominal particle like that in L. e-quisdem, Osc. e-lando 'tanta'. κεῖνος, in dialects also κῆνος, is from *κε-είνος, in which the first part is also a pronominal particle like that in L. ce-do, huius-ce, while the second is probably from a demonstrative stem *ἐνο- akin to Skt. ana- (instr. anena) and ChSl. onā. Dor. τῆνος corresponds in use, but is of different origin, derived from an adverb seen in Hom. τῇ 'there'.

5. ὁ δὲίνα is of disputed origin. Possibly it started from an acc. sg. τοῦδε ἐνα, whence τοῦδείνα, felt as τῶν δείνα, with resulting ὁ δείνα, etc.

THE LATIN DEMONSTRATIVE PRONOUNS

306. 1. is, ea, id.—The forms is, id, and an early acc. sg. masc. im, are from a stem i-, seen also in Osc. ix-ic, i d - i k, Goth. is 'he', Skt. nom.-acc. sg. neut. id-am, acc. sg. masc. im-am. The other forms (but for the gen. sg. and dat. sg. see 304) are from eo-, eā-, these from *eyo-, *eyā-, which perhaps started from some particular case forms (cf. Skt. nom. sg. masc. ay-am, Vedic instr. sg. fem. ayā).

a. The nom. pl. masc. and dat.-abl. pl. are ei, eis in early Latin, but in the classical period are contracted to i, is, often spelled it, iis. In later poets appear again ei, eis restored by analogy. Cf. the corresponding forms of deus (240.1b).
2. *idem, eadem, idem.*—Formed from the preceding with the addition of a particle -dem. Nom. sg. masc. *idem* from *is-dem* (202.1). But nom.-acc. sg. neut. *idem* is *id-em* with a particle -em, like Skt. *id-am*. The abl. sg. forms may also be analyzed as *eōd-em*, *eād-em*, with the old abl. ending preserved by its medial position. It is possible that these gave rise to the -dem of the other forms. But there is also no objection to assuming here (and likewise in forms like *tan-dem*, *pri-dem*) another particle -dem, related to others beginning with d as in *quam-de*, *quīdam*.

3. *hic, haec, hoc.*—The stem is *ho-, hā-, as if from an IE *gho-*, but there are no cognates in the other languages except possibly certain enclitic particles of emphasis. The particle -c(e), which is optionally added in many forms, as *huius-ce*, *hōs-ce*, *his-ce*, etc., beside usual *huius*, etc. (in early Latin also *hōrunc*, *hārunc*), is permanently attached in the singular forms except the genitive and in the nom.-acc. pl. neut. *haec.*

Nom. sg. masc. *hic*, early *hec*, probably with weakening in proclitic use from *ho-ce* (or perhaps first *ho>* *he* by 83.3), in which *ho* is an old nom. sg. without s, like IE *so*, G. ḍ (303.2). In early poetry the form is always a short syllable before a word beginning with a vowel, but later is more often a long syllable, in which case it is to be understood as *hicc* (as correctly stated by the grammarians and sometimes so written), due to the analogy of nom.-acc. sg. neut. *hoc* which is regularly a long syllable, that is, *hocc* from *hōd-ce*.

Acc. sg. masc. *hunc*, early *hunc*, from *hom-ce*, as acc. sg. fem. *hanc* from *ham-ce*. Abl. sg. *hōc*, *hāc* from *hōd-ce*, *hād-ce*. For *huius*, *hūc*, see 304.1, 2; for *haec*, see 303.4, 5.

4. *ille, illa, illud.*—The etymology is doubtful. An archaic *olle* or *ollus* is quoted by the grammarians from ancient laws, and some forms of this are used by later writers, as *ollī*, *olla*, etc. This is perhaps from a stem *ol-no-*, which is the source of certain Slavic forms and of which the first part would be seen in L. *ultra* (from *ol-trād*) and *ōlīm*. The usual *ille* might be from *olle*, with the vowel changed under the influence of *is* and *iste*. The e of *olle*, *ille* would be from the analogy of *iste* or others with e from the pro-
nominal nom. sg. in -o (303.2). But there are other possible ways of analyzing these forms and the whole matter is quite uncertain.

5. istic, ista, isticul.—Probably from *esto- (so Umbr. esto, etc.), with change to isto- under the influence of īs. It may contain the stem *lo- (Skt. ta-, G. tr-, 305.1), but even this analysis is uncertain.

6. ipse, ipsa, ipsum.—From *is-pse, that is, īs with added particle -pse, as indicated by early L. ea-pse, eum-pse, eam-pse, eā-pse (also in reāpse from rē eāpse), beside which there are some probable readings with both parts declined, as eumpsum. The usual forms are from ipse declined after the analogy of ille, istic, but with nom.-acc. sg. neut. -um, not -ud (early Latin also nom. sg. masc. ipsus).

7. The rare early L. sum, sam, sōs, sapsa (quoted from Ennius), sumpse (Plautus) are from the stem IE *so-, *sā-, seen in G. ὅ, ἢ, Skt. sa, sā (305.1).

THE INTERROGATIVE, INDEFINITE, AND RELATIVE PRONOUNS

307. The Greek interrogative-indefinite, τίς, τί, τίς, τί, the Latin interrogative-indefinite, quis, quid, and the Latin relative, qui, quae, quod, represent an IE interrogative-indefinite pronoun which is found in all the IE languages. Its use in Latin as a relative is secondary, one that developed in Italic, it being Oscano-Umbrian as well as Latin. The same relative use developed elsewhere, but mostly in the historical period, as in the case of NE who, which, which were not used as relatives until the end of the 12th cent. or later.

a. But there is some reason to believe that the indefinite relative use ('whoever', etc.) had already developed in part in the parent speech. This is also the most probable connecting link in the evolution of the Latin definite relative use.

308. The stem was *qʷo- (with fem. *qʷā-) or *qʷi- in the declined forms, also *qʷu- in adverbs. For the phonetic changes of the initial consonant, see 154, 158.5).

1. Stem *qʷo-.—G. πo- in adverbs and derivatives, as ποῦ, ποθεν,
πότερος, ποίος, etc., L. qui (from quoi, 303.3), quod. Cf. Osc. pūi, pūd, Skt. kas, Goth. hwas, Lith. kas, ChSl. kū-to.

2. Stem *q-r̃i.—G. ris, ri, L. quis, quid. Cf. Osc. pīs, pīd, Av. ciś, Skt. particle cid, Goth. kvileiks, OE hwilec, NE which, ChSl. či-lo.


309. G. ris, ri.—Most of the case forms are from a secondary stem τυ-, as τίνος, τίν, τίνα, τίνες, etc. This probably started from an acc. sg. *τιν-, this becoming τίνα after the analogy of ἔνα (acc. sg. of εἶς) through the association in the indefinite use of the pronoun.

To the original i-stem belong ris, ri, dat. pl. τισι, and the peculiar Hom. ἄσσα, Att. ἀττα=τυά, which are abstracted from phrases like πολλά ττα and so are really σσα, ττα from *τια. So also ἄσσα, ἀττα=ἀτυά are from *ἀτια.

The gen. sg. Hom. τεό, τεῶ, Att. τοῦ=τίνος is from an IE *q̣esyo with the e-grade of the o-stem (so Av. cahya in contrast to Skt. kasya). To this gen. sg. τεό were formed dat. sg. τεω, τεῖ and Hom. τεῶν, Hdt. τεῶσι.

a. That no τεῖo is attested in Homer, like τοῖο or like ἔμεῖο beside ἔμεῖo, may well be accidental. But some scholars believe otherwise and derive τεῖo from an IE *q̣eso, attested by OHG hwes, ChSl. česo.

310. The declension of L. qui and quis.—The differentiation between relative qui, quae, quod and interrogative (-indefinite) quis, quid, while it is by no means an absolute one, is observed also in the corresponding Oscan-Umbrian forms, and so has its beginnings in the Italic period. Early L. quēs is also indefinite in contrast to relative quēi, e.g. sei ques homines quei sibei deicerent in SC de Bacch., signes homines sunt quos in Cato.

But in the other case forms there is no trace of such differentiation in the distribution of o-stem and i-stem forms, which is the same for all uses.
The fem. quae goes normally with masc. qui, quis being masc. or fem. like other i-stems and like G. ris. But quae is sometimes used for the interrogative, and for the indefinite use the usual form is qua or sometimes quae. So nom. acc. pl. neut. indef. qua or quae.

The formal distribution of the stems is then as follows, with inclusion in parentheses of the less usual forms or related adverbs, etc.

<table>
<thead>
<tr>
<th>o-Stem</th>
<th>a-Stem</th>
<th>i-Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>qui</td>
<td>quod</td>
<td>quis</td>
</tr>
<tr>
<td>cuius (304.1)</td>
<td>quae, qua</td>
<td>quid</td>
</tr>
<tr>
<td>cui (304.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(conj. quom) quod</td>
<td>quam</td>
<td>quem quid</td>
</tr>
<tr>
<td>quod</td>
<td>qua</td>
<td></td>
</tr>
<tr>
<td>(quis)</td>
<td></td>
<td>(qui-cum, adv. qui)</td>
</tr>
<tr>
<td>qui quae, qua</td>
<td>quae</td>
<td></td>
</tr>
<tr>
<td>quorum (quis)</td>
<td>qudrum</td>
<td></td>
</tr>
<tr>
<td>quos quae, qua</td>
<td>quas</td>
<td>(queis)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(conj. quia)</td>
</tr>
</tbody>
</table>

311. The Greek relative and indefinite relative pronouns.

1. ὡς, ἢ (ᾼ), ὃ corresponds exactly to the Sanskrit relative yas, yā, yad, stem ya-, representing an IE *yo-, found also in other languages with partly relative, partly demonstrative force.

   a. In Homer and in many dialects the forms of the article are used as relatives.

2. ὡτις, ἢτις, ὃτι is a combination of ὡς and the indefinite, with declension of both parts, as gen. sg. ὡτυνος, ἢτυνος, etc. There is another set of forms in which only the second part is declined and usually with the shorter forms of ὅς in the oblique cases. Thus Hom. ὡτις, ὡτεο, ὡτεω, ὡτινα, ὡτεων, ὡτεωσι, ὡτυνας; Att. ὡτου, ὡτω and rarely ὡτων, ὡτος. The first part is that which belongs to the nom.-acc. sg. neut. ὃτι, Hom. ὡτι (from *ὅτις, combined before the loss of the final dental), whence ττ in Hom. ὡτεο, Lesb. ὡτυνες, etc.

   a. The derivation of ὡτι from a *σφωθ-τι, given by some, rests on a single occurrence of ὡτι, which is at variance with all other evidence and probably an error.
NUMERALS

CARDINALS

312. The parent speech had words for 1–10 (though different forms for the colorless 1), with combinations for 11–19; for 20, 30, etc., and 100, 200, etc., with combinations for the intervening numbers; perhaps also for 1,000, though here there is no general agreement.

The system is obviously the decimal, based originally on the counting of the fingers. But there are some traces of the intrusion of a sexagesimal system with its grouping by sixties or the subordinate dozens or scores. Of the digits the first four were declined, the rest indeclinable.

313. 1–10.—1. IE *oi- with various suffixes, as *oi-no-, *oi-wo, *oi-qʷo-. L. unus, early oinos, oenus, Goth. ains, OE an. Cf. Av. aēva- from *oi-wo-, Skt. eka- from *oi-qʷo-. This group is represented in Greek by ıkHy 'ace on the dice', and olós 'alone', Cypr. olposé, but not as a numeral.

G. ēis, Cret. ēvν, from *sem-s, neut. ēv from *sem, with extension of ν to évós, etc., fem. μία from *șmuα, all related to L. semel, simul, G. ἁμα, ȳμός.

Hom. īa (Aeol.), once also īos, is from a pronominal stem i (cf. Cret. īos = ēkēivos).

2. IE *duō(u) and *dwō(u), with dual inflection. Skt. dvāu, Vedic dvāiū, dvā as one or two syllables, fem. and neut. dvē, Goth. twai, OE twā (= Skt. dvē).

Hom. ḍwō (= Vedic dvā in 2 syll.), but ḍwēka from *ďfω (= Vedic dvā in 1 syll.), Hom. also ḍwo, as regularly in other dialects, probably from ḍwō by shortening before a word beginning with a vowel (214.2). Used indeclinably in Homer and often in Attic, but also Att. gen.-dat. ḍwōν, late ḍwēν; plural forms ḍwōr, ḍwōs, ḍwās, etc., in various dialects and in late Attic.

L. nom. (acc.) masc., nom.-acc. neut. duō, from *duō by iambic shortening, otherwise plural forms as nom. fem. duae, gen. duōrum (also duom, duum), duārum, dat. duōbus, duābus, acc. duōs, duās.
In compounds IE *dwi-, Skt. dvi-paḍ-, OE twi-fēle, L. bi-pēs, G. δι-πος (for this last some assume a parallel *di-). In Italic also du-, L. du-plex, du-centi, Umbr. du-pla, tus-plak, du-pursus ‘bipedibus’.

3. IE *tri-, nom. pl. *treyes. Skt. trayas, G. τρεῖς, L. tres. For declension in Greek see 259.

4. IE *qewer- with gradation, *qewer-, *qewer-, *qewer-, also *qewer-, *qewer-, etc.
   Skt. nom. pl. caturās, acc. pl. caturas, Hom. τέσσαρες, Hom. πέντε (121, 154.2), Ion. τέσσαρες, Att. τέταρτες, Boeot. πέτταρες, Dor. τέτορες (τ instead of σσ, ττ, after τετρα- in dat. pl. τέτρασι from *tentras, in τέτρατος and in compounds), L. quattuor (121, 209).
   In compounds IE *qewer-, Skt. catur-, *qewer-, G. τετρα-; *qetur-, Av. āduru-, L. quadrus (d unexplained, see 315a).

5. IE *pewq-e. Skt. rāṇa, G. πέντε, Lesb., Thess. πέμπε (154.2), L. quinque (40.8, 79).
   In compounds G. πεντε-, but mostly πεντα-, after τετρα-, ἑπτα-, δέκα-.

6. IE *s(w)eks. With w, G. ξ, dial. čξ, Av. xvaš, W. chwech; without w, L. sex, Skt. sas, Goth. sath, Lith. šeši.
   In compounds G. ξ-, and ξα- after ἑπτα- etc.


8. IE *okto(u), a dual form. Skt. avāro(u), Goth. ahtau, G. δκτω, L. octō.
   In compounds G. δκτω-, and δκτα- after ἑπτα-, etc.


10. IE dekn. Skt. daça, Goth. tathun, G. δέκα, L. decem.

314. 11–19.—Compounds or compound phrases. Skt. ekādaça, dvādaça, etc.

G. ἐνδεκα, δώδεκα, dial. also ὅνωδεκα, ἵσοδεκα, δέκα δύο, τρεῖς καὶ δέκα or (especially when the subject precedes) δέκα τρεῖς, etc.
L. undecim (from *oino-decem formed after stem compounds like universus), duodecem, trèdecim (*très-decem, 202.1), quattuor-decem, quindecem, sèdecim (*sex-decem, 202.1), septendecim, all with -decim for which we should expect rather -dicem. Also octò-decem, novendecim, but usually duodèvigninti, undèvigninti. Also decem duo (cf. Umbr. desen-duf), decem et duo, etc.

315. 20–90.—Compounds of *kmt-, *kmt-, etc., probably from *dikmt-, etc., from *dekm. Skt. viñçati-, triñçai-, etc.

Dor. dikati, Att. eikosi (*e-ikosi, with prothetic e; o after -kouta; East G. -si from -ri), L. viginti, from an IE dual form *wi-kmti, this probably by dissimilation from *dwī-kmti.

G. triakonta, tevarákonta (but Dor. tetrapókonta), pentákonta, éxhkonta, but from ordinal forms ébdoémhkonta, ógdoékonta, évenh-konta.

L. triginta, quadrāgintā, quinquágintā, sexágintā, sepluēgintā (septu- unexplained), oclògintā, nònagintā (from ordinal).

a. The second part of these numerals for 30–90 is a neuter plural of *kmt-, *kmt- (or kmt-), with final d in Latin in contrast to the usual neutrals (240.5, 246.6). The first part is likewise a neuter plural in L. triginta (with tri like Vedic neut. pl. trí, in contrast to usual tria from *triā with o-stem ending, 261.5), G. triákonta (triā with o-stem ending, whence usual tria), tevarákonta; so perhaps, with o-stem ending, L. quadrāgintā, whence by analogy quinquágintā, etc. The lengthening in pentákonta, whence éxhkonta, etc., and in Dor. tetrapókonta, is possibly due to the analogy of triákonta. But the explanation of these forms and of L. quadrāgintā, etc., is far from certain.

The L. ini for eni is perhaps due to vowel assimilation in viginti, whence by analogy also quadrāginti, etc. (in contrast to quadringenti, etc.).

There is no adequate explanation of the voiced in place of voiceless stop in several of the numeral forms, namely d for t in L. quadru-, quadrāginta, quadringenti, g for c in L. viginti, triginta, etc., quadringenti, quingenti, etc. (beside ducenti, trecenti, sescenti). Cf. also G. ébdōmos, ógyōos (318).

316. 100, 200, etc.—IE *kmt-, like the second part of the words for 20, 30, etc., but used alone for a decade of decades. Originally declined and construed as a neuter noun, as in Sanskrit, Germanic, Celtic, and Balto-Slavic, but an indeclinable adjective in Greek and Latin. Skt. çala-, nom.-acc. sg. çalam.

L. centum, G. ēkato, that is, ē-kato 'one hundred', a blend of *ēv kata and *ē-kato.
G. διακόσιοι, τριακόσιοι, etc., Arc. -κάσιοι, Dor. -κατοι, from *-κιλίο-, with Att.-Ion. o for a (as in εικός) after the forms in -κντα. διακόσιοι (instead of *δικσιοί) after τριακόσιοι.

L. ducenti, etc. (rarely also ducentum, etc., as neuter nouns), from *-κιλίο- trecenti from *tricenti with vowel assimilation, sescenti from *sex-centi (207); with unexplained g for c (see also 315a, end) quingenti from *quinqu(e)centi, septingentii from *septem-centi (79.1), nöngenti from *novemcenti (92.2c), and, after the analogy of these three, also quadringingenti, octingenti.

317. 1,000.—Att. χίλιοι (i from ε, 96d), Ion. χείλιοι, Lac. χήλιοι Lesb. χέλλιοι, from *χεσίλιοι (203.2), may be connected with Skt. sāhasra-, this being analyzed as sa-hasra- ‘one thousand’. L. mille has also been combined with these on the basis of a feminine abstract *smī ghšli (*smī = G. μία, ghšli with weak grade of *gheslo-), but this is quite uncertain.

ORDINALS

318. The ordinals, except those for ‘first’ and ‘second’, are derived from the cardinals with the suffixes -to- or -mo-, or sometimes with simple -o-. Cf. Skt. caturthas ‘fourth’ but daçamas ‘tenth’, saptathas or saptamas ‘seventh’, L. quārtus, quintus, sextus, but septime (*septi-o-), decimus (*deki-o-), nōnus (*novenos, 92.2d). Greek has -mo- only in ἐξάδομος, otherwise -to-, as πρῶτος, τρίτος, τέταρτος, etc.

G. πρῶτος from *prō-to-, Dor. πρᾶτος from a weak grade (as in Skt. pūras ‘in front, former’, Lith. pirmas ‘first’), L. primus from *pris-mo- (cf. priscus). Cf. Umbr. promom, OE forma and fyrst, Skt. prathamas, etc., all from varieties of *pro ‘before’.

G. δεύτερος from δεῦω ‘fail to reach’, hence ‘behindhand, second’ (cf. δεύτατος ‘last’).

L. secundus, pple. (see 170, 439) of sequor, hence ‘following’.

L. tertius from *trilio- (cf. 109) beside G. τρίτος from *tri-to-. Cf. Skt. tṛṭyās.

L. quārtus (for ā, see 99.2b), quartus, with a after quattuor, from *quorios (cf. Praen. Quorta), this from *qua-twilo- (cf. G. τέταρτος
from *τετράτος, Lith. ketvirtas; *quortos instead of *tuortos by influence of quattuor).

G. ἓθωμος, Dor. ἓθημος from *ἔθημος, *sebdmo- (cf. ChSl. sedmi), this by assimilation from *septmo-, *septma-, L. septimus.

G. δῦδος from δῦδος (now attested) and L. octāvus reflect some such form as *οκτῶως from *οκτοῦ (313.8), but the precise phonetic development is obscure.

**MULTIPlicativeS**

319. The term “multiplicative” is commonly applied to forms like G. τριπλῶς, L. triplex, NE threefold or triple. In their use they cover a variety of relations to the numeral, some of which may also be distinguished by distinctive formal types. In origin they are possessive compounds of words meaning ‘fold’ or the like, and their first extension from the literal meaning was to (‘three’ serving here as typical) ‘having three parts’, as in L. triplex mundus, the threefold world of sky, land, and sea.

Hence also ‘of three kinds’, a use shading off imperceptibly from the preceding, but one for which special types may develop, as late L. trifarius, NHG dreierlei.

Hence also (with less subordination of the parts to the whole) ‘consisting of three in a group’, as in L. triplex mürus ‘a triple wall’, that is, a series of three walls, or NE triple play, triple victory (three together). This is the collective use, for which there may be also distinctive formal types called “collectives”.

Hence also (a group of three being a given unit raised to the third power) ‘three times as much or as many’, as in L. duplex centuriōnī, triplex equītī ‘double pay to the centurion, triple pay to the knight’. This is the proportional use, for which there may also be distinctive types sometimes called “proportionals”. So Att. τριπλάσιος, though τριπλῶς is used in the same sense in most dialects and sometimes in Attic; L. triplus, though triplex is also so used.

320. The common multiplicatives of Greek, Italic, and the Germanic languages are compounds the second part of which contains the root *pel- ‘fold’ or the same with a guttural (cf. G.
πλέκω, L. plicō) or dental extension (cf. Goth. falban, OE sealdan 'fold').

G. τριπλάσιος, τριπλαύς (dial. also διπλαῖος), L. triplus, Umbr. tripler.

L. triplex, Umbr. τυπλάκ, Hom. τριπλαξ 'with three bands', διπλαξ 'with two folds'.

Att. τριπλάσιος (proportional use) from a *τρι-πλα-τος (like ἀμβρόσιος from ἀμβροτος) beside poet. τρι-παλ-τος. Also τριπλασίων with comparative form favored by the meaning and frequent construction with following ἕ. Ion. τριπλήσιος (Hdt.), if genuine, is after the analogy of adjectives in -ησιος.

Cf. Goth. ainfáls, OE príscald, NE threefold (while NE triple is from L. triplus).

a. Other, less common, Greek types are:

τριφάσιος (Hdt.) 'of three kinds' or collective, from *τρι-φατος, probably to φαίω.

τριπτυχος, from πτυξ 'fold'.

τριφυῆς, τριψιος 'of three parts, kinds' and proportional, from φῶ- 'be' (cf. φύσις 'nature'). Cf. El. διψιος = Att. διπλασιος; δεκάφυα ζωάγρια 'tenfold rewards' in Callimachus.

τρισσός, Att. τριτός, from *τριχιος, from adv. τρίχα; Ion. τριξός from *τριχθιος from adv. τριχθα. Mostly collective 'consisting of three', in Hellenistic times frequent for 'in three copies, in triplicate'.

b. The Latin adverbs bifāriam, trifāriam mean 'in two (three) parts', so multīfāriam 'in many places'. The adjectives trifārius, etc., derived from them, do not occur till the 2d cent. A.D., and the specialized sense 'of three kinds', etc. (reflected in NE multifarious), belongs mainly to mediaeval Latin.

c. A distinctive type of numeral derivative, not a multiplicative, is G. τριτάιος 'on the third day', etc.

DISTRIBUTIVES

321. The Latin distributives bīnī, tērī, etc., are in origin collectives. That is, their "non-distributive" use in bīnas litterās, etc., is the earlier, and they gained their distributive force from the context, in which the distributive notion was already expressed, as it continued to be in large measure. Thus where Greek used the simple cardinals with a distributive word or phrase, as ἕκαστῳ δίο 'two for each', Latin used the collectives, as ūnicuique
bini ‘two together for each’. The collectives are particularly appropriate for such a context, and became fixed in Latin usage, themselves absorbing distributive force.

They are related to certain collective forms in Germanic and Balto-Slavic, and like them are formed with the suffix -no-. Thus bini from *dwis-no- (cf. bis from *dwis), trini (preferred in the old collective use) from *tris-no-, while terni is formed anew from ter (this from *tris), quaterni from quater, and, by analogy of bini, trini, also quini, sēni (*sex-noi), septēni, octōni, novēni, dēni, etc.

Different of course is singuli, a derivative of *sem- in semel, etc.

There is no series of distributive adjectives in Greek or in any other IE language except Latin. Distribution is expressed in Greek by the cardinals with some form of ἐκαστὸς or εἶς, or a prepositional phrase. Thus πέντε ἐκαστῷ (or καθ’ ἐκαστῷν, καθ’ ἕνα) or áνα πέντε ‘five apiece’.

**COLLECTIVES**

322. As previously noted, the multiplicatives may have collective sense, and there are certain derivatives that are primarily adjective collectives, as G. τρισοῦς, etc. (see 320a), likewise Hom. δῶοι, and in origin the Latin distributives.

The collective notion may also be expressed in prepositional phrases, as G. ἄνα τρεῖς ‘by threes’. Such phrases are commonly called distributive, but where the meaning is simply ‘by threes, in groups of three’, they should obviously be classed as collective. In many languages the same phrase is used both for the collective and for the true distributive sense. So G. ἄνα τρεῖς is, according to the context, either ‘by threes’ or ‘three apiece’.

Collective nouns, meaning ‘group of three, triad’, etc., occur in the IE languages in considerable variety, partly in specialized applications. Cf. NE quartette, sextette in music, but foursome in golf, decade in time, etc. The principal series in Greek and Latin are:

G. τριάς, -αιος, etc. These started in forms like ἐπτάς, δεκάς with a from IE ἤ. Cf. Skt. dačat- ‘decad’, also pañcad- ‘pentad’, etc. By analogy also μονάς ‘unit’ from μονός.
L. *terniō*, etc., formed from *terni*, etc., after the type *legiō*, *legiōnis*, etc.

Other, more specialized types are:

G. τριτός ‘sacrifice of three animals’ and a division of the tribe, πεντήκοστος ‘body of fifty men’, χίλιοστός ‘body of a thousand men’.


**NUMERAL ADVERBS**

**323.** The most distinctive class and the one to which the term “numeral adverbs” is often applied specifically is that denoting how many times.¹

G. ἄπαξ from ἄ- (IE *smy-) and an adverbial form from the root of πήγνυμι, ἐπάγας ‘fix’

L. *semel*, likewise from *sem-* (cf. *simul*). Cf. Skt. *sa-ṛt* ‘once’

IE *dvis*, Skt. *dvis*, G. *δίς*, L. *bis*

IE *tris*, Skt. *tris*, G. *τρίς*, L. *ter* L. *quater* after *ter*

G. *τετράκις*, *πεντάκις*, etc. (dial. also -ι and -ω, cf. Att. *πάνυ*)

L. *quinquie(n)s*, *sexie(n)s*, etc., like *toti(e)n*s, *quoti(e)n*s, formed with -iēnt (IE *γην-*, cf. Skt. kiyat ‘how much?’) + adverbial *s* (as in *bis*, also *abs*, etc.)

a. In late times these adverbs came to be replaced by phrases analogous to NE three times (now usual for thrice, while twice persists), etc. So Hellenistic τρεῖς καυρῶς (NG τρεῖς φορές; cf. G. φορά ‘movement’, πίνειν κατὰ φοράν ‘drink at one gulp’) late L. *tribus vicibus* (Fr. *trois fois*).

b. Among other numeral adverbs are: G. τρίχα or τριχθά ‘in three parts or ways’, *τετραχά*, *πενταχά*, etc., hence also *τριχῆ, τριχοῦ, τριχῶς* in same meaning; *τριπλῆ, τριπλῶς, τρισάως*, etc.

¹ These are also sometimes called multiplicative adverbs, but they are clearly not co-ordinate with the multiplicative adjectives. An adverb corresponding to an adjective like *τριακώς* ‘of three parts’, etc., is one like τριχά ‘in three parts’; conversely an adjective corresponding to an adverb meaning ‘three times’ is one meaning ‘occurring three times’, like NHG dreimalig. Such an adjective type, where it exists, is derived from the adverbs, and there is no such type in Greek or Latin. The term multiplicative was originally and is still most commonly applied to adjectives like G. *τριπλῶς*, L. *triplex*, and is best retained in this application.
PREPOSITIONS

324. The discussion of prepositions and their uses belongs properly to the dictionary, or under the head of syntax. But it may be noted here that about half of the Greek and Latin prepositions are formally related to each other, although in some cases their meanings have widely diverged.

<table>
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<th>Latin</th>
<th>Greek</th>
<th>Latin</th>
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<tbody>
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<td>ante</td>
<td>ἐπι</td>
<td>ob</td>
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<tr>
<td>ἀνά</td>
<td>ab, abs, a</td>
<td>προ</td>
<td>per</td>
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<tr>
<td>ἐν</td>
<td>in</td>
<td>ὑπ</td>
<td>pró</td>
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<tr>
<td>εἰς, ἐκ</td>
<td>ex, ἐ</td>
<td>ὑπ</td>
<td>super (167)</td>
</tr>
</tbody>
</table>

a. G. ἐν was originally used with acc. and dat., just as L. in with acc. and abl., and this double use of ἐν persisted in several dialects. But in others the ἐν with acc. was replaced by an extension ἐπ-ε, whence (204.4) ἐς or ἐλ.

VERBS

SURVEY OF THE VERB SYSTEM

325. Voice.—The parent speech had two voices, an active and a medio-passive. The latter is represented by the Greek and Sanskrit middle, a type common to Greek and Indo-Iranian, with relics in other branches; and also by the Latin deponent-passive, a different formal type, common to Italic and Celtic and now attested in Tocharian and Hittite. There was no specifically passive voice. Apart from the use of the middle in passive sense, the forms used to express the passive are different in the several languages and grew up independently.

a. The middle was used for actions in which the subject was intimately concerned (more than as the mere doer), what one did to oneself (reflexive middle), for oneself, with one’s own possessions, what one felt oneself, etc. Its force is best observed from Greek usage. But even here the distinction from the active is often subtle, and sometimes wholly illusive. In Latin the passive use was the dominant one. The deponents show some agreement with the middle elsewhere, either in the individual word, as sequitur = G. ἑπερα, Skt. sacate, or in the type of words. But the distinction from the active had mostly vanished, and the deponents were felt simply as “passive forms with active meaning”. In late Latin the deponents were more and more replaced by active forms, until they finally disappeared.
326. Mood.—The moods of the parent speech were the indicative, subjunctive, optative, and imperative, as in Greek and Indo-Iranian. The functions of the subjunctive and optative are best observed from Greek usage, which agrees in its main lines with that of the Veda. In Latin (likewise in the Italic dialects) the subjunctive and optative were merged, in both form and function, in the one mood known as the subjunctive. The same is true of the Germanic languages, and in present spoken English even the subjunctive is virtually obsolete. In classical Sanskrit the subjunctive disappears (except the forms of the first person serving as imperative), only the optative remaining in use. In Greek the use of the optative is on the wane in the Hellenistic period, being rare in the New Testament, and it eventually disappears.

a. In Vedic Sanskrit (and in the earliest Avestan) the augmentless past tenses of the indicative are often used with subjunctive force, especially in prohibitions introduced by mā ( = G. μῆ). This doubtless reflects a usage of the parent speech, and the Italic and Celtic ē-subjunctive rests on such a use of certain indicative forms.

The term “injunctive” is often employed in this connection. But one must guard against supposing that this is a distinct formal category, coordinate with the other moods. It must be understood as a short expression for “past indicative forms with subjunctive force”.

327. Tense.—The tenses of the parent speech served to denote differences in the “aspect” of the action, and to some extent also differences of time. It is the aspect of the action that was indicated by the different tense stems, while certain tenses of these tense stems denoted past time. Thus:

Present stem, action going on, situation

Present indicative, such action or situation in present (or sometimes future, or indefinite) time

Imperfect indicative, such action or situation in past time

Aorist stem, momentary action, the point of beginning (ingressive aorist) or end (resultative aorist), or more generally action viewed in summary without reference to duration

Aorist indicative, such action in past time
Perfect stem, action completed

Perfect indicative, action completed with present result. Present state of the subject, resulting from previous action or experience.

There was probably no distinctive future tense, future time being expressed by the present indicative, by the subjunctive, or by certain s-formations with desiderative and future force (see 388).

There were no tenses of relative time (i.e. relative to time other than that of the speaker) like the Latin pluperfect and future perfect; nor past and future forms of the true (present) perfect, like the Greek pluperfect and future perfect.

a. The tense values assumed for the parent speech are substantially those observed in Greek. In Latin the original perfect and aorist are merged in the perfect, and apart from the distinction in use between imperfect and perfect, which still survives in the Romance languages, the Latin tenses are purely temporal. In general the tendency in most of the IE languages has been to use the simple tenses for distinctions of time, leaving the aspect of the action either unexpressed or expressed by other means. In the Slavic languages there is an elaborate and subtle system of aspects, two parallel conjugations known as "imperfective" and "perfective", of which the latter has much in common with certain values (not all) of the old aorist.

b. In the perfect indicative the completed action from which comes the present result may be lost sight of, so that the form is in feeling a simple present. Thus IE *woida 'I have seen' (cf. L. vidi), hence simply 'I know', as in G. οἶδα, Skt. veda, Goth. wait.

In line with its original value of indicating the state of the subject is the fact that it may stand in contrast with a transitive present active and in agreement with a present middle, as G. πέπωθε 'am persuaded', in contrast to πείθω 'persuade', but like πείθομαι; or again the fact that in many verbs only the perfect middle occurs, or is earlier than the perfect active.

In Homer (as also mostly in the Rigveda) the perfect still indicates the present state of the subject, as πέπωθε 'am persuaded', τέθηκε 'is dead', ἔστηκε 'is standing', etc., and so also in the few cases where the verb is transitive, as μυρί 'Οδυσσεῖς ἔσθηκα τοργεν', describing Odysseus as one who has wrought countless brave deeds and so is of proved prowess. From cases like the last it is an easy transition to the situation where the result is not any particular state of the subject and the perfect denotes simply completed action as in τύντο δέδωκε 'has given this'. This wider use of the perfect is well established only from the 5th cent. B.C. on. The further step, the use
of the perfect as a simple past tense, the "historical perfect," is sometimes observed in the Attic writers, and becomes common in the Hellenistic period. This confusion with the aorist eventually led to the disappearance of the perfect except for a few survivals in modern aorist forms. In its older value its place was taken by periphrastic expressions like ἔχω γράψας or ἔχω γε-γραμμένον.

Similar transitions in the use of the perfect took place at various periods in the other IE languages. In Latin the development of the historical perfect belongs to the prehistoric period.

c. The term "aspect", though first applied to the peculiar Slavic system, is used above in a broader sense. It is convenient, in its very vagueness, as covering certain disparate non-temporal distinctions which are difficult to define precisely and differ greatly in the several languages.

328. *Number.*—Like the noun, the verb had a dual as well as singular and plural. Dual forms of the second and third person were freely employed in Greek, but eventually disappeared, like the dual forms of the noun (227).

329. *Non-finite forms. Infinitives and participles.*

1. *Infinitives.*—The infinitive is in origin a case form of a noun which has become attached to the verb system, sharing in some of the characteristics of a verb, such as voice, tense, and construction with the direct object. The process had no doubt begun in the parent speech, but without stabilization of any particular set of forms as infinitives. This is indicated by the situation in Vedic Sanskrit with its multiplicity of forms serving as infinitives, and by the great diversity between the forms which became established as infinitives in the several IE languages.

2. *Participles.*—The parent speech had:
Active participles, formed with the suffix -nt-.
Perfect active participles, formed with the suffix -ves-.
Middle participles, formed with the suffix -meno-.
Verbal adjectives formed from the root or verb stem (not from a tense stem) with the suffixes -lo- or -no-, having for the most part the force of a past passive participle (437.1) but also formed from intransitive verbs.

**PERSONAL ENDINGS**

330. The personal endings that are common to several tenses are for convenience discussed in advance of the treatment of
tense formation. But certain endings that are peculiar to the perfect, and others that are peculiar to the imperative, are discussed later in connection with these formations.

The two sets of endings known as primary and secondary are so called from their distribution as it appears most clearly in Greek and Sanskrit, namely, primary endings in the present indicative, secondary endings in the imperfect and aorist and in the optative, with fluctuation in the subjunctive. There are relics of a similar distribution in other branches of IE, but in Celtic it is along entirely different lines.

For the difference between thematic and unthematic forms, which must be alluded to in discussing the endings, see 349.1a.

**PERSONAL ENDINGS OF THE ACTIVE**

331. Table of the active personal endings.

<table>
<thead>
<tr>
<th></th>
<th>IE</th>
<th>SANSKRIT</th>
<th>GREEK</th>
<th>LATIN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary</td>
<td>Secondary</td>
<td>Primary</td>
<td>Secondary</td>
</tr>
<tr>
<td>Singular</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 -mi, -ο</td>
<td>-m, -η</td>
<td>-mi</td>
<td>-m, -am</td>
<td>-μ, -ω</td>
</tr>
<tr>
<td>2 -si</td>
<td>-s</td>
<td>-si</td>
<td>-s</td>
<td>-si</td>
</tr>
<tr>
<td>3 -li</td>
<td>-l</td>
<td>-li</td>
<td>-t</td>
<td>-t</td>
</tr>
<tr>
<td>Dual</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1 -wes, -wos</td>
<td>-we</td>
<td>-vas</td>
<td>-ra</td>
<td>-tov</td>
</tr>
<tr>
<td>2 -les (?)</td>
<td>-lom</td>
<td>-lhas</td>
<td>-lam</td>
<td>-tov</td>
</tr>
<tr>
<td>3 -les</td>
<td>-lām</td>
<td>-lās</td>
<td>-lām</td>
<td>-tov</td>
</tr>
<tr>
<td>Plural</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 -mes, -mos</td>
<td>-me (?)</td>
<td>-mas</td>
<td>-ma</td>
<td>-με, -με</td>
</tr>
<tr>
<td>2 -le (?)</td>
<td>-te</td>
<td>-tha</td>
<td>-la</td>
<td>-τε</td>
</tr>
<tr>
<td>3 -nli</td>
<td>-nl</td>
<td>-nli</td>
<td>-nl</td>
<td>-vri</td>
</tr>
<tr>
<td>-enti</td>
<td>-ent</td>
<td>-anti</td>
<td>-an</td>
<td>-eπτι</td>
</tr>
<tr>
<td>-γli</td>
<td>-γl</td>
<td>-γli</td>
<td>-γl</td>
<td>-γτί</td>
</tr>
<tr>
<td>-ai</td>
<td>-ai</td>
<td>-ai</td>
<td>-ai</td>
<td>-α</td>
</tr>
</tbody>
</table>
332. Table of present and imperfect indicative active, thematic.

<table>
<thead>
<tr>
<th></th>
<th>IE</th>
<th>Sanskrit</th>
<th>Greek</th>
<th>Latin</th>
<th>Gothic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Present</td>
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<tr>
<td>Sing.</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1 * bhérd</td>
<td>bhárdi</td>
<td>férdó</td>
<td>legó</td>
<td>batra</td>
<td></td>
</tr>
<tr>
<td>2 * bhéresi</td>
<td>bhársi</td>
<td>féres</td>
<td>legis</td>
<td>batris</td>
<td></td>
</tr>
<tr>
<td>3 * bhéreti</td>
<td>bhárali</td>
<td>ferei</td>
<td>legit</td>
<td>batrip</td>
<td></td>
</tr>
<tr>
<td>Plur.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 * bhéromes, -mos</td>
<td>bháramas</td>
<td>Dor. féromes, Att. -meu</td>
<td>legitmus</td>
<td>batram</td>
<td></td>
</tr>
<tr>
<td>2 * bhérethe</td>
<td>bháratha</td>
<td>férete</td>
<td>legite</td>
<td>batrip</td>
<td></td>
</tr>
<tr>
<td>3 * bhéronti</td>
<td>bhárali</td>
<td>Dor. féronvi, Att. férovai</td>
<td>legunte</td>
<td>batrand</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Imperfect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sing.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1 * ébherom</td>
<td>abharap</td>
<td>éphéor</td>
<td>[légéham]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 * ébheres</td>
<td>abharas</td>
<td>éfere</td>
<td>légbas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 * ébheret</td>
<td>abharat</td>
<td>éfere</td>
<td>légebait</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plur.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 * ébherome</td>
<td>abharáma</td>
<td>Dor. éférosmes, Att. -meu</td>
<td>légebámus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 * ébherete</td>
<td>abharata</td>
<td>éfere</td>
<td>légebátis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 * ébheront</td>
<td>abharan</td>
<td>éfepov</td>
<td>légebanti</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dual</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2 * ébheretom</td>
<td>abharatam</td>
<td>éphéronv, Dor. -tāv</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 * ébheretām</td>
<td>abharatām</td>
<td>éphéropthv, Dor. -tāv</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
333. Table of present and imperfect indicative active, un-thematic.

<table>
<thead>
<tr>
<th></th>
<th>IE</th>
<th>Sanskrit</th>
<th>Greek</th>
<th>Latin</th>
<th>Old Lithuanian</th>
</tr>
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<tbody>
<tr>
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<tr>
<td>Present</td>
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</tr>
<tr>
<td>Sing.</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1 *ėsmi</td>
<td>āsmi</td>
<td>ēμι, Lesb.</td>
<td>sum</td>
<td>esmi</td>
<td></td>
</tr>
<tr>
<td>2 *ēssi, ēsi</td>
<td>āsi</td>
<td>ēl, ēlē, ētōl</td>
<td>es</td>
<td>esi</td>
<td></td>
</tr>
<tr>
<td>3 *ēsti</td>
<td>āsti</td>
<td>ētōl</td>
<td>est</td>
<td>esti</td>
<td></td>
</tr>
<tr>
<td>Plur.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 *smēs, smōs</td>
<td>smās</td>
<td>ἱσμὲν, ἱσμήν</td>
<td>sumus</td>
<td>esme</td>
<td></td>
</tr>
<tr>
<td>2 *stē</td>
<td>stā</td>
<td>stōrē</td>
<td>estis</td>
<td>este</td>
<td></td>
</tr>
<tr>
<td>3 *sēntī</td>
<td>sāntī</td>
<td>Dor. ērāl, Att. ēlōl</td>
<td>sunt, O.-U. sent</td>
<td>Goth. sind</td>
<td></td>
</tr>
<tr>
<td>Imperfect</td>
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</tr>
<tr>
<td>Sing.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 *ēsm</td>
<td>āsam</td>
<td>ḫa, ḫu</td>
<td>[eram</td>
<td>erās</td>
<td></td>
</tr>
<tr>
<td>2 *ēss</td>
<td>ās, āsis</td>
<td>ḫוθā</td>
<td>erat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 *ēst</td>
<td>ās, āsit</td>
<td>ḫu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plur.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1 *ēsme</td>
<td>āsma</td>
<td>ḫμεν</td>
<td>erāmus</td>
<td>erālis</td>
<td></td>
</tr>
<tr>
<td>2 *ēste</td>
<td>āsia</td>
<td>ḫοτε, ḫre</td>
<td>erālis</td>
<td>erānīl</td>
<td></td>
</tr>
<tr>
<td>3 *ēsent</td>
<td>āsan</td>
<td>ḫoar</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
### Comparative Greek and Latin Grammar

#### 334. Other examples of unthematic present and imperfect indicative active.

<table>
<thead>
<tr>
<th>Sanskrit</th>
<th>Greek</th>
<th>Latin</th>
<th>Sanskrit</th>
<th>Greek</th>
<th>Sanskrit</th>
<th>Greek</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sing.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 ēmi</td>
<td>ἐμυ</td>
<td>eō</td>
<td>dadhmēmi</td>
<td>τιθημ</td>
<td>sunōmi</td>
<td>δεικνῦμι</td>
</tr>
<tr>
<td>2 ēsi</td>
<td>ει</td>
<td>is</td>
<td>dadhāsi</td>
<td>τιθη</td>
<td>sunōs</td>
<td>δεικνὺς</td>
</tr>
<tr>
<td>3 ēi</td>
<td>εῖ</td>
<td>it</td>
<td>dadhāi</td>
<td>Dor. τιθατι, Att. -τι</td>
<td>sunōi</td>
<td>δεικνύοι</td>
</tr>
<tr>
<td><strong>Plur.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 imās</td>
<td>ἵμερ</td>
<td>imus</td>
<td>dadhmās</td>
<td>τιθημερ</td>
<td>sunumās</td>
<td>δεικνυμερ</td>
</tr>
<tr>
<td>2 ilāhā</td>
<td>τρε</td>
<td>itis</td>
<td>dadhāthā</td>
<td>τιθη</td>
<td>sunūthā</td>
<td>δεικνυρ</td>
</tr>
<tr>
<td>3 yānti</td>
<td>τάσι</td>
<td>euni</td>
<td>dadhāti</td>
<td>Dor. τιθατ, Att. τιθατι-αοι</td>
<td>sundant</td>
<td>δεικνυσι</td>
</tr>
</tbody>
</table>

#### 335. First singular.—Primary ending -mi in unthematic forms, -o in thematic (the thematic vowel being included in the -o), as in G. ειμι, τιθημ, etc., but φέρω, λέγω, etc. In Sanskrit the -mi was extended to thematic verbs. In Latin the -mi is not represented, the -m of sum, inquam being the secondary ending. For iambic shortening in volo, nescio, and eventually short o in all forms except monosyllables, see 102.

- Secondary -m after vowels, L. -m, G. -v. Secondary -m after consonants, G. -a in Hom. ᾧ and in the aorist, as ἐλῦσα. (In Skt. ásam, etc., the m is added after the analogy of the thematic forms.)
336. Second singular.—Primary -si in Hom. ἐσοὶ from *es-si, and in ei from *esi (Skt. asi), whence also Hom. els with s added after the analogy of φέρεις, etc.; ei (to eiμι) from *ei-si (Skt. esi). Other μ-verbs have the secondary ending, as τίθης, ἱστης, διδως, δείκνυς. But a Dor. τίθης occurs, perhaps formed anew after ἐσοὶ or with -ι from 3 sg. τίθητι.

The thematic form, as φέρεις, is best explained as coming from *φερει, representing IE *bheresi (according to another view it would represent an original form in -ei), with addition of the secondary ending -si after the analogy of ἐφέρες.

The -σθα in Hom. ἱσθα, τίθησθα, etc. spread from perfect forms like ολισθα in which the ending is -θα (402.1), ἱσθα itself being perhaps in origin such a perfect form, that is, ἱσ-θα.

L. -s may represent either the primary -si with loss of the final i (as in 3 sg., 3 pl., 337, 340), or the secondary -s, or both.

337. Third singular.—The primary -τι appears in Greek only in unthematic forms, as ἐστι, Dor. τίθητι, διδωτι, Att. τίθησι, διδοσι.

The thematic form, as φέρεις, cannot possibly come from IE *bhereti, which would give a Dor. *φερετι, Att. *φερεσι. It seems to be formed to 2 sg. φέρεις after the analogy of the relation between 2 sg. ἐφέρες and 3 sg. ἐφερε.

The secondary -τ was regularly lost in Greek (211.1), hence ἐφερε, and ἃs from *ης-τ, the regular form preserved in most dialects, but in Attic-Ionic replaced by the originally 3 pl. ἂν (339.2).

In Italic the endings -τι and -τ became respectively -t and -d, the difference between primary and secondary endings being thus still maintained. Cf. Osc. 3 sg. pres. indic. f a a m a t , k a s i t but 3 sg. perf. indic. k úμ b e n e d, 3 sg. pres. subj. f a k i i a d . In early Latin too, inscriptions have fhefaked, feced, sied, but usually -t in all tenses, as later.

338. First plural.—The primary -mes, -mos is represented by Dor. -mes (common to most of the West Greek dialects) and by L. -mus. The -μεν of Attic-Ionic, etc., agrees with Skt. secondary -ma except for the final v (of uncertain source) and is doubtless in
origin the secondary ending. But the actual distribution of -µes and -µev, is not one of primary and secondary ending, one or the other being generalized according to the dialect.

339. Second plural.—The Sanskrit distinction between primary -tha and secondary -ta is perhaps not original. At any rate other languages point only to -te. So G. -re, and L. -le in the imperative. L. -lis is from -le-s, with s added after the analysis of the 2 sg. ending -s.

340. Third plural. 1. Thematic.—Primary ont in Dor. φεροντi, Arc. φερονσ, Lesb. φεροντι, Att.-Ion. φερουντι (204.2), L. ferunt, -ont in early inscriptions. (The reading tremonti in a quotation from the Carmen Salire is open to doubt. All other evidence indicates that -nti became -nt in the Italic period.) Secondary -onti, whence with loss of the final dental G. ξφερον.

2. Unthematic -enti, -ent.—IE *senti, Skt. santi, Goth. sind, Osc.-Umbr. sent, G. *ἐντi, whence, with substitution of ' after the analogy of all the other present forms, Dor. ἐντi, Att.-Ion. iοσi. For Hom. ἐσοι beside iοσi, see below, 5. IE *esent, Skt. asan, G. ἦν, ἦν used as 3 sg. in Attic-Ionic, but originally 3 pl. as is ἦν regularly in the Doric dialects. Att.-Ion. ἦσαν has -σαν from the σ-aorist.

This is the only Greek present which shows this form of the endings, which originally, if we judge by the situation in Sanskrit, belonged to all the unthematic present classes except the reduplicating.

3. Unthematic -nti, -nt.—This form was regular after a consonant when the ending was unaccented, in contrast to the accented -enti. In Sanskrit it belongs to the reduplicating class, as júhvati, dādati, dādhati, etc., with accent on the syllable of reduplication. To Skt dādhati would correspond a G. *t刺激, which does not exist, any more than a *t刺激µev like Skt. dadhmās. Since in Greek the weak form of the present stem is τιθε- (τιθε-µεν, τιθε-τε), it takes the form of the ending which is normal after a vowel, namely -ντi as seen in Dor. τιθεντi. So also Dor. διδοντi in contrast to Skt. dādati. But the -nti form of the ending, though not
reflected in any Greek present, is represented by the -ατι, -ασι (not -άσι) of scattered perfect forms, as Dor. ἀνατεθήκατι, Arc. ἔσλελοιπασι, Hom. πεφίκασι.

The secondary -νι is indirectly represented by -αν (σαν) of the aorist (see below, 5).

4. In Greek all the active unthematic presents except ελμι are from roots or present stems ending in a vowel, and their earliest 3 pl. forms had the regular endings -ντι, -ν, like the thematic forms. So Dor. φαντι, τιθετι, διδοντι, also, though not yet quotable, δεικνυντι and probably ἦντι. Hence Att.-Ion. φασι, and, with a shift of accent (if correctly recorded) due to the influence of the contract verbs, Ion. τιθείσι, διδοῦσι, δεικνύσι, also the rare ἦσι. But Att. τιθέασι, etc., for which see below, 5.

The corresponding secondary ἐτιθεν, ἐδιδον, ἔθεν, ἐδον, etc., are the regular forms of most dialects outside of Attic-Ionic, and some such occur in Homer, as ἐσταν, ἐφαν, ἐβαν. In Attic-Ionic these were replaced by ἐτιθεσαν, ἔθεσαν, etc., with -σαν taken over from the aorist.

In late Greek -σαν spread even to thematic forms as ἐλάβοσαν, ἐλέγοσαν, and to the optative as ἐχοῦσαν.

5. G. -αντι (-άσι), -αν.—These cannot directly represent any of the IE varieties of the endings, but have grown up and become productive in Greek.

The most easily explained is the secondary -αν (σαν) of the aorist (ἐπαν, ἐλυσαν) which is -α (from -ατι) representing IE -νι (see above, 3) with ν added after the analogy of all the other types with ν from -ντι. After the spread of the α to most of the forms, so that the aorist stem was apparently -ατι, -αυ (see 396), the -αν would be felt as -αντι with the usual -ν ending. In several dialects this -αν spread to other aorist types at the expense of -ν, e.g. Boeot. ἄνθεαν, Arc. συνθεαν—just as in Attic-Ionic the full -σαν spread to ἔθεσαν, etc.

In the perfect the old -ατι (see above, 3) was generally replaced by -αντι (whence Att.-Ion. -άσι) after the analogy of the more common ending -ντι.
The spread of -āσι to present forms occurs only in Attic-Ionic and is mostly Attic only. Thus Hom. ἵππι (beside εἰσὶ) and ἵππι (to εἰμι), in Attic not only ἵππι, but also ταῦτα, διδάσκε, ἵστασι (from *ιστά-άσι), δεικνύσι, etc.

a. The precise stages in the evolution of this -αντα, -ασι are variously stated. The view taken here is that it first displaced -αντα in the perfect, and from there spread to the present. Att. ταῦτα is then analogous to Ion. 3 pl. mid. tiβασα with -ασι from the perfect (314.6).

341. Dual.—The Greek secondary endings -τον, -ταν (Att.-Ion. -την) correspond exactly to the Sanskrit secondary endings -लम, -लाम, on the basis of IE -लोम, -लाम. In the primary tenses there is no trace of the original primary endings. Instead, the secondary -τον is used, and serving here for the third as well as the second person. Even in the secondary tenses the distribution of -τον, -την is not fully maintained, e.g. sometimes 3 pers. -τον in Homer, or 2 pers. -την in Attic.

PERSONAL ENDINGS OF THE MIDDLE

342. Table of middle personal endings.

<table>
<thead>
<tr>
<th></th>
<th>IE</th>
<th>Sanskrit</th>
<th>Greek</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary</td>
<td>Secondary</td>
<td>Primary</td>
</tr>
<tr>
<td>Singular</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>-αι (?)</td>
<td>-ι (?)</td>
<td>-ε</td>
</tr>
<tr>
<td></td>
<td>-ασι</td>
<td>-σο, -θεσ (?)</td>
<td>-σε (Av. -νθα) -θασ</td>
</tr>
<tr>
<td></td>
<td>-λαι</td>
<td>-λο</td>
<td>-λε</td>
</tr>
<tr>
<td>Plural</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>-μεδχαι</td>
<td>-μεδχα</td>
<td>-μαχε</td>
</tr>
<tr>
<td></td>
<td>-μακα</td>
<td>-δχε</td>
<td>-δχαμ</td>
</tr>
<tr>
<td>2</td>
<td>-λαι</td>
<td>-λο</td>
<td>-λε</td>
</tr>
<tr>
<td>3</td>
<td>-ηλαι</td>
<td>-ηλο</td>
<td>-ατε</td>
</tr>
</tbody>
</table>
### 343. Table of the present and imperfect indicative middle.

<table>
<thead>
<tr>
<th>Sanskrit</th>
<th>Greek</th>
<th>Sanskrit</th>
<th>Greek</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present</strong></td>
<td><strong>Thematic</strong></td>
<td><strong>Imperfect</strong></td>
<td></td>
</tr>
<tr>
<td>Sing.: 1 bhāre</td>
<td>φερομαι</td>
<td>abhare</td>
<td>ΚΦΕΡΟΜΗΡ</td>
</tr>
<tr>
<td>2 bhārāse</td>
<td>φερει, -η</td>
<td>abharathās</td>
<td>ΚΦΕΡΟ, -ΟΥ</td>
</tr>
<tr>
<td>3 bhārāte</td>
<td>φερει</td>
<td>abharāsa</td>
<td>ΚΦΕΡΟ</td>
</tr>
<tr>
<td>Plur.: 1 bhārāmako</td>
<td>φερόμεθα</td>
<td>abhāramahī</td>
<td>ΚΦΕΡΟΜΕΘΑ</td>
</tr>
<tr>
<td>2 bhārāikhve</td>
<td>φεροει, -ε</td>
<td>abharadhamām</td>
<td>ΚΦΕΡΕΘΕ</td>
</tr>
<tr>
<td>3 bhārānte</td>
<td>φεροναι</td>
<td>abharānta</td>
<td>ΚΦΕΡΟΝΤΟ</td>
</tr>
</tbody>
</table>

**Unthematic**

<table>
<thead>
<tr>
<th>Sanskrit</th>
<th>Greek</th>
<th>Sanskrit</th>
<th>Greek</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sing.: 1 ḍse</td>
<td>ημαι</td>
<td>ḍsi</td>
<td>ημην</td>
</tr>
<tr>
<td>2 ḍśe</td>
<td>ησαι</td>
<td>ḍsthās</td>
<td>ησο</td>
</tr>
<tr>
<td>3 ḍśie</td>
<td>ησαι</td>
<td>ḍsia</td>
<td>ησο</td>
</tr>
<tr>
<td>Plur.: 1 ḍsmako</td>
<td>ημεθα</td>
<td>ḍsmahī</td>
<td>ημεθα</td>
</tr>
<tr>
<td>2 ḍddhve</td>
<td>ηθε</td>
<td>ḍddham</td>
<td>ηθε</td>
</tr>
<tr>
<td>3 ḍddłe</td>
<td>Hom. elara</td>
<td>ḍsawa</td>
<td>Hom. elaro</td>
</tr>
</tbody>
</table>

### 344. 1. First singular.—G. "-μαι, in contrast to Skt. -e from -αι, may owe its μ to the influence of the active -μ. But it is also possible that the parent speech had -μαι in unthematic presents, -αι in thematic, the Greek and Sanskrit forms resulting from leveling in opposite directions. The secondary -μᾶν, Att.-Ion. -μην, is without parallel and nothing can be said as to its origin.

2. Second singular.—G. "-σαι, -σο represent the IE endings as do the corresponding pairs 3 sg. "-ται, -το and 3 pl. "-νται, -ντο. Only in this case Sanskrit has a different secondary ending, "-θᾶς, instead of -σα, for which, however, we have the Iranian equivalent in the Av. -γha.

a. Under normal phonetic development the -σαι, -σο, would remain unchanged after a consonant (γέγραψαι, κγέγραψο), while after a vowel, with the regular loss of intervocalic ς (164) they would appear as -αι, -ο. This distribution is more nearly maintained in Homer than in Attic, where there is an extensive analogical restoration of -σαι, -σο, of which only the beginnings are seen in Homer. Thus Attic has -σαι, -σο, regularly in the present and imperfect indicative and present imperative of unthematic verbs, as τιθεσαι, κτιςεσο, τιθεσο (but subj. τιθη, opt. τιθειο); likewise in the perfect and plu-
perfect, as δόδοσαι, ἐδόδοσο. Homer has such forms as δίξηαι, ἐμάρναο, βέβληαι, beside others like the Attic, as παρίστασαι, παρίστασο.

The forms resulting from the loss of intervocalic σ prevail in the present and imperfect of the thematic verbs and in the aorist. Thus, with uncontracted forms usually in Homer, contraction in Attic, φέρεαι, φέρῃ, ἐφέρεο, ἐφέρον, θεο, θον, ἐλύσαι, ἐλύσω.

In the 2 sg. pres. indic. the later Attic spelling -ει (95) persisted in the tradition in certain words, as βούλει, οἶει, ὅφει.

In Hellenistic Greek -σαι, -σο spread from the unthematic verbs to the contract verbs (cf. ἀκροᾶσαι NT) and eventually to all the thematic verbs. So Mod.G. φέρεσαι, κάθεσαι, etc.

3. Third singular.—G. -ται, -το represent the IE endings without change.

4. First plural.—G. -μέθα agrees with the Sanskrit secondary ending -mahi (Av. -madī) on the basis of an IE -medhə.

The -μέθα of poetry is a convenient metrical variant, with θ for θ after the analogy of 2 pl. -σθε.

5. Second plural.—G. -σθε is without parallel elsewhere and of obscure origin. According to one view it rests on the infinitive in -σθαι, this being used as an imperative and becoming -σθε after the analogy of the active -τε.

6. Third plural.—G. -νται, -ντο represent the IE endings in their postvocalic form; while -σται, -στο, like Skt. -ate, -ata, represent the form taken after consonants, IE -ήται, -ήτο.

a. The forms -σται, -στο occur in only a few present stems, as Hom. εἰσται, εἰστο (for ἱσται, ἱστο; cf. Skt. āsate, āsata), but regularly in Homer and Herodotus in the optative and in the perfect and pluperfect. Thus Hom. γενόθατο, τετεύχαται, ἐτεύχατο, and, with extension to vowel stems, βεβλήσται, βεβλήσατο. From forms like the last with vowel shortening come the later Ionic -εται, -ετο in Herodotus, as κεκλέσται, etc., and with further extension to the present even τιθέται, etc.

Similar perfect and pluperfect forms occur in other dialects, and in Attic inscriptions down to about the end of the 5th cent. B.C., when they are replaced by the periphrastic forms.

345. Dual.—The Greek dual endings are obviously formed after the analogy of the active endings, -σθον, -σθον after -τον, -τον, and -σθον, -σθᾶν (Att.-Ion. -σθην) after -τον, -τᾶν (Att.-Ion. -την). The θ is the same element as in 2 pl. -σθε, 3 sg. imperat. -σθω, etc.
The 1 dual -μεθον, quotable only in three poetic forms, is formed from 1 pl. -μεθα with -ον from -αθων.

THE ENDINGS OF THE LATIN DEONENT-PASSIVE

346. The Latin deponent-passive represents a type which is unknown in Greek, Sanskrit, and most of the IE languages, but is common to the Italic and Celtic branches and is now attested also in Tocharian and Hittite, with traces in Phrygian and Armenian. It is in origin a medio-passive of a different formal type from that discussed in 342 ff., though partly dependent upon the latter, and appears to have developed in part at least in the parent speech. It is characterized by an r-element, which was combined partly with active, partly with middle forms. Its history in detail is somewhat obscure. The following analysis is based upon the Latin forms, but is applicable to several of those in other languages.

The Latin 2 sg. and 2 pl. forms are not of the r-type seen in the other persons, and the same is true of the Celtic 2d pl. form.

347. 1. First singular. L. -r added to the active -ō or substituted for the active -m. Thus legōr (morōr, etc., in Plautus), whence regularly (101) legor; legār (ūlār in Plautus) beside act. *legām, whence legar beside act. legam; similarly legēbar, legerer, etc.

2. Second singular.—L. -re from 2 sg. mid. -so, with rhotacism and change of final o to e (83.3). Hence also -ris from -re-s with -s after the analogy of the 2 sg. active. The imperative has only -re, as legere parallel to active lege. The -ris of other forms represents a differentiation after the analogy of pres. indic. legis to imperat. lege. But even in the non-imperative forms -re prevails in early Latin (Terence has only -re, Plautus has mostly -re, but occasionally -ris) and also in Cicero except in the present indicative of passives. In the Augustan period -ris is the more usual form.

a. Some inscriptional forms, as ālārus, seem to reflect a similar but earlier extension of -so to -so-s.

3. Third singular.—L. -tur from -to-r, formed by the addition of r to the secondary middle ending -to. The imperat. -tor is
from -lōr, with substitution of r for the final of the active -lōd (429).

4. First plural.—L. -mur from -mor, with substitution of r for the final of the active -mos.

5. Second plural.—L. -mini is best regarded as nom. pl. of a middle participle = G. -μενοι, used with omission of the copula to supply the second plural lacking in the r-type. According to another view it is an infinitive = G. -μεναι, used first in the imperative.

6. Third plural.—L. -ntur from -nto-r, with the addition of r to the secondary ending -nto, the formation being parallel to that of the third singular. The imperat. -ntor is from -ntōr, parallel to the 3 sg. -tor (see above, 3).

348. In the Italic dialects only 3 sg. and 3 pl. forms are quotable. Umbrian has 3 pl. -ntur, like the Latin, in secondary tenses, 3 sg. -ter in primary tenses. Oscan has 3 sg. -ter, 3 pl. -nter, e.g. uincter 'convincitur', k a r a n t e r 'vescuntur'. So Marruc. fereintur 'feruntur'. The 3 pl. -nter is probably from -nto, a blend of -nto and -ro.

There are also forms of a different type in which r alone appears as the ending, as Umbr. ferar 'feratur', Osc. 3 sg. perf. subj. s a k r a f f r 'one shall consecrate'. There are similar forms in Celtic, and also in Hittite.

These forms and the whole medio-passive r-type were formerly thought to have been built up in Italic and Celtic upon a series of 3 pl. r-endings which will be discussed in connection with L. 3 pl. perf. -ere (417.6). The discovery of the r-type in Tocharian and Hittite, pointing to its development in the parent speech, alters the situation. But it does not make any less probable an ultimate connection between the medio-passive r-type and the 3 pl. r-endings. It merely sets it back to a remote period.

TREATMENT OF THE STEM BEFORE THE ENDINGS

349. Certain matters that pertain to the stem to which the endings are added and affect several of the various tense formations may be considered here.

1. In the forms known as thematic the endings are added to the thematic vowel, e or o. The distribution was that observed in Greek, namely o in the first singular, first and third plural, otherwise e.
In Latin, owing to the regular changes in medial and final syllables, the thematic vowel is represented by \( i \) or \( u \). Thus *legis*, *legit* (112), *legimus*, *legitiss*, *legitur* (110.2, 3), *legunt*, *leguntur* (82.2, 3). Only before \( r \) does \( e \) remain unchanged (110.3), as 2 sg. *legeris*. In the first plural the weakening of -o-*mos* would yield partly *-imus*, partly *-umus* (110.2, 4). But the former, supported by 2 pl. *-itis*, prevails except in a few verbs in which there is no 2 pl. *-itis*, as *sumus, possimus, volumus, nodumus, malumus, quaeumus*.

\[ \text{a. The term "thematic vowel" means strictly nothing more than stem vowel, but in practice it is applied to the e/o stem vowel, which plays the most significant rôle. Unthematic forms are those in which the endings are added directly to the root or to a suffix not containing the e/o vowel. The distinction corresponds to the familiar Greek classification of verbs in } \omega \text{ and those in } \mu. \text{ In Latin there are only relics of unthematic forms, mainly among the irregular verbs.} \]

\[ \text{2. Most unthematic forms show gradation of either the root or the suffix in the same tense. The strong grade appears in the singular, the weak in the dual and plural.} \]

\[ \text{Thus G. } ειμι \text{ but } ιμεν (cf. Skt. } ειμί \text{ but } imás), τίθημι \text{ but } τίθεμεν, διδομι \text{ but } διδομεν, ἵσταμι (Att. } ἵστημι) \text{ but } ἵσταμεν, δαμαμι (Att. } δαμαμι) \text{ but } δαμαμεν, δεικνυμι \text{ but } δεικνυμεν, etc. \text{ So in the optative (suffix } γε/ι) \text{ } εἰν not } ειμεν, τίθειν not } τίθεμεν, etc. \]

\[ \text{So also originally in the perfect, only that here the singular had the } o \text{-grade, as } oδιά \text{ but Hom. } oδεμεν (cf. Skt. } vedá \text{ but } vidmá). \]

\[ \text{In the present of } ειμι (333) \text{ the strong grade is extended to the first and second plural, as } ειμεν, εστε \text{ in contrast to Skt. } smás, sthá.} \]

\[ \text{a. But monosyllabic forms of dissyllabic stems (128, 127.2) commonly appear without gradation in the same tense. Thus Skt. 3 sg. } γáti, 1 pl. } yámas, 3 pl. } yánti, \text{ and similarly } práti, dráti, snáti, etc. \text{ In Greek such forms are } ήμι (cf. Skt. } νámi), δίσημι, \text{ and aorists like } ἔδραν, ἔθνη, ἐβλην, ἔγνων, ἐφῶν, ἐδών, etc., \text{ which have the long vowel throughout, except for the regular shortening before } ντ (98.2), \text{ as in the act. pple. (άέντες, γρόντες, etc.) and the old 3 pl. forms like } ἔθαν, ἐγνών, ἐφῶν, etc. \text{ After the analogy of such forms, also } ἵστην, pl. } ἵστημεν \text{ instead of } εισταμεν, εστεμεν. \]

\[ \text{In Latin some few forms of the first and second conjugations may belong here, as (nó) nás, nai, námus, etc. (cf. Skt. } snási, snáti, snámas), or (plea), } piés, plet, piémus (cf. Skt. } práti, prámas). \]
3. In Latin, when the endings were added to a stem ending in a long vowel, this was regularly shortened before the endings -m, -l, -nt, and -r (101). Hence the contrast between long and short vowel in many of the tenses, e.g. imperf. indic. legēbam, -bās, -bāl, -bāmus, -bātis, -bant; pass. -bar, -bāris, etc.; so in the pres. indic. of the first, second, and fourth conjugations, in the fut. indic. of the third and fourth conjugations, in the pluperfect, and in all the tenses of the subjunctive. In all of these the stem vowel was originally long throughout.

THE AUGMENT

350. The augment reflects an IE adverbial particle *e which was frequently prefixed to a past tense of the indicative but was not a fixed and necessary part of the form. In Homeric Greek, as in Vedic Sanskrit, the past tenses appear with or without the augment. In classical Greek, as in classical Sanskrit, the augment has become fixed, and augmentless forms belong only to poetic usage. Its original independence is shown by the rule that the accent cannot precede it, just as it cannot precede the last of two prefixed prepositions, e.g., παρ-έξαε like παρ-ένθες.

The augment is known only in Greek, Indo-Iranian, and Armenian (with Phrygian). In Latin, as in most of the IE languages, there is no trace of it.

In Greek it is the syllabic augment that reflects the original type, e.g. ἐφερε = Skt. ābharet. The temporal augment follows a new principle, which arose by analogical imitation of certain cases in which the augment e contracted with the initial vowel of the root to the corresponding long vowel. Thus from IE *es-the form with the augment *e-es-, contracted to *ēs-, as in Skt. āśam, Hom. ṣa. From the relation observed in such inherited forms (η:ē), one of apparent lengthening, this was extended to all verbs beginning with a vowel, hence ā (Att. η):α, ω:ο, ι:ι, υ:υ, etc.

351. 1. The syllabic augment is sometimes ṣ instead of ē. Most of the examples are from roots beginning with ṣ, and since in Vedic Sanskrit ṣ also occurs, especially before ṅ (āvar, etc.), this may represent an inherited by-
form, IE *ē- beside *e-. Thus Hom. ἤδεις from *ηεδ-, and with quantitative metathesis (98.3) Att. ἥδηγη from *ηεκάγην, ἥδωρ from *ηεδρόων, ἥδλων from *ηεδάλων.

But the later Attic ἡβουλόμην, ἡμελλόν, ἡδυνάμην are probably due to the analogy of ἡθελῶν (from ἥθελω) beside ἥθελον (from ἥθλω).

2. Verbs which originally began with s, y, w, sw had properly the syllabic augment, and if contraction took place this followed the rules of Greek contraction according to the dialect. Thus from ἕχω (*σεχω) imperf. *ἕσεχον, Att. εἰχον, in some dialects ἕχων (96δ), in contrast to ἦν, etc., with η in all dialects representing an IE contraction. Similarly ἐπτον (ἐπτω, *σεπτω), εἰπτόμην (ἐπομαι, *σεπομαι), ἐωνόμην (ἐωνόμαι, *σεωνόμαι), Cret. ἔφαδε, Ion. ἕδαε(ἀνδάω, *σανδάω), etc. The ‘in ἐπτον, etc., may be due to the analogy of the present, or have arisen like that of εἴω (167).

But some take the temporal augment after the analogy of those with original vowel initial. So ἵτον (ἱτω, *σιτω), ἕρισα (ὁρκίζω), Att. ἕκουν (ὁκέω, ὕκεω), ἡλισκόμην (ἀλίσκομαι, ἀλήσκομαι), aor. ἥλων beside ἕλων (above, 1), etc.

3. In prepositional compounds the normal position of the augment is after the preposition, as συνέλεγον, ἐξεβάλλον, etc. But some compounds of which the uncompounded forms were not in common use were treated like simple verbs. So ἐκαθήμην from κάθημαι, ἡμφίεσα from ἀμφιεννύμι, ἡπιστά-μην from ἐπιστάμαι, etc.

**REDUPLICATION**

352. Reduplication is in origin the doubling of a form to indicate repetition or emphasis. A curtailed form of such doubling became a formative element in the parent speech. As a feature of tense formation it appears in certain presents and aorists, but has its chief importance in the perfect.

1. A fuller form of reduplication appears in the Sanskrit intensives, as dar-dar-ti, car-kar-li, etc.; and in G. πορ-φόρω, παμ-φαίνω, L. mur-murdō, etc. From this type comes the so-called Attic reduplication, as in ἀρ-ἀρ-ίσκω, perf. -ἀρ-ἀρα, Hom. ἐδ-ηδώς, etc.


4. In the present and perfect reduplication, if the root begins with a single consonant this is repeated in the reduplication, as above. Skt. da-darça, G. δέ-δόρκα, etc. The dissimilation of aspirates (132) accounts for Skt. dadhāti, G. τίθημι. If the root begins with two or more consonants, it is the first of these that is normally repeated, as in Skt. pa-praccha, G. γρ-γραφα, etc. So from a root beginning with st the normal is s-st, as in L. si-stō, G. ι-στημι, Av. hi-staiti, but we find also t-st in Skt. ti-śḥati, st-st in Goth. stat-stald, and st-t, doubtless by dissimilation from st-st, in L. ste-li (so also spo-pondi, early L. sci-cidi).

5. But in Greek many perfects have only e as reduplication. So regularly from roots beginning with στ, σπ, etc., ζ, ξ, ψ, πτ, γν and in part from those beginning with β (so always in Attic), γλ, βλ, γρ. This type started with perfects from roots beginning with σ+cons. (including ζ, and β from στ), e.g. ἐσταλμαι, ἐσπαρμαι, in which the init. s of the reduplication became / (162) and e became by association with the augment. From such the e spread to words beginning with other combinations. There is fluctuation in several verbs (γλυφω, βλαστάνω, etc.) and sometimes a dialectic difference, as Ion. ἐκτημαι = usual κέκτημαι, Cret., El. ἔγραμμαι = usual γέγραμμαι.

6. The perfects εἰληφα (λαμβάνω) and εἴμαρται (μείρομαι) come regularly from *σέσλαφα, etc. (203.2). From these the e spread to εἰρήκα, εἰληχα (λαγχάνω), and -είλοχα, -εἴλεγμαι (λέγω).

FORMATION OF THE PRESENT STEM

353. The parent speech had a great variety of present formations. It is probable that these originally had some special significance in relation to the kind of action expressed. But for the most part this is obscure, and we have to take them simply as so many formal types.

In the several IE languages some of these types remain productive, while others disappear or are represented only by a few relics. By phonetic changes or otherwise one type may give rise to several, or conversely two or more may be merged in one. New types arise and become productive. The final grouping is so diverse that different classifications impose themselves for the various branches of the IE family. This is markedly true in respect to Greek and Latin. The classification of Latin verbs under
the four conjugations is the one best suited to the actual Latin grouping, but would be quite unsuitable for Greek.

Hence, after a brief survey of the important IE present classes, those of Greek and Latin will be considered separately. Since aorist stems, apart from the s-aorists, are of the same formal type as some of the present stems, they are included in the following survey.

**Survey of IE Present Classes**

354. Parallel unthematic and thematic classes.

   Skt. ṣṭi, G. ἐστι, L. est
   Skt. ēti, G. ἐστι, L. it
   Cf. paradigms in 333, 334
   a. From dissyllabic stems (127) there are forms with
   1) Weak grade of second syllable.
      Skt. svāpi-ti, vāmi-ti. Cf. G. ἔκω for ἐκτεμεν with transfer to thematic type;
      ἐκτεμαί, ἐκτέμαι.
   2) Strong grade of second syllable.
      Skt. yā-ti, snā-ti. G. ἔμω (cf. Skt. tā-ti), aor. ἔπραν, ἐπήν (see 349.20).

   Two types:
   A. Accent on root, strong grade of root.
      Skt. bhāra-ti, stēca-ti, bōdha-ti
      G. φέρω, λεπω, φέργο
      L. legō, dicō, ducō
   B. Accent on thematic vowel, weak grade of root.
      Skt. dičā-ti, tudā-ti, aor. ásica-t
      G. γράφω, aor. ἔλπον, ἐφυγον,
      infin. λιπεῖν, φυγεῖν
      L. rudō (cf. Skt. ruda-ti, besides rodi-ti of 1a)

The separation of these two original types has no importance for the classification of Greek and Latin presents. It is the prevalence of Type B in aorist forms that is significant for the Greek relations.

3. Reduplicating class.
   Skt. dā-dā-ti, dā-dā-ti, bhār-ti
   G. τή-θημι, δί-δω-μι, το-τη-μι
   The prevailing form of the reduplicating syllable is that with the ɛ-vowel.

4. Reduplicating thematic class.
   Skt. ti-ṛha-ti, pi-ba-ti
   G. γί-γνομαι, μί-μω
   L. si-stō, gi-gnō

---

1 Sanskrit forms are here quoted in the third singular, as in some cases showing the stem more clearly than the first singular.
(Nasal Classes)

5. Nasal infix class. Occurs only in Indo-Iranian. Weak grade of root, with insertion of \( na \) in strong forms, \( n \) in weak.
   Skt. \( yu-na-k-li, i \) pl. \( yu-n-j-mas \)

   Skt. \( yu-n-jali \)
   L. \( iu-n-go, ru-m-po \)
   G. \( \lambda-\mu-\betaa-\nuo, \nu-v-\theta-\anomai, \) with nasal suffix also

7. \( na- \) class. Suffix \( -na- \), weak grade \( -n \) or, before a vowel \( -n \).
   Skt. \( ji-n-a-li, i \) pl. \( ji-ni-mas, 3 \) pl. \( ji-n-anli \)
   G. \( da-\mu-v-a-mu \) (Att. \( da-mu-mu \)), \( i \) pl. \( da-\mu-va-mu \)
   G. \( -va- \) represents the proper weak grade \( -n \), while Skt. \( -n \)- instead of \( -ni- \) is secondary.

8. \( no- \) class. Suffix \( -no-^{2} \) or \( -\sigmao-^{2} \).
   Skt. \( mr-n-d-li \) (beside \( mr-n-d-li \) of \( 7 \))
   G. \( ka-\mu-\nuo, da-\kappa-\nuo, \mu-\muappa-\\nuo \)
   L. \( cer-\nuo, sler-\nuo \)

9. \( nu- \) class. Suffix \( -nu-^{2} \), weak grade \( -nu-^{2} \).
   Skt. \( su-n-o-li, i \) pl. \( su-\nu-mas \)
   G. \( deik-v-o-mu, i \) pl. \( deik-vu-mu \)
   G. \( -v- \) instead of \( -nu- \) may be due to the analogy of \( va/va \) in \( 7 \).

10. \( nu- \) class, thematic. Suffix \( -nuo- \) or \( -nu-^{2} \).
    Skt. \( ci-\nuo-la \) (beside \( ci-n-o-mi, 8 \))
    G. \( ti-\nuo, Hom. ti-\nuo, from *ri-\nuo- \)
    (176.1)
    L. \( mi-\nuo, sternuo \) (but \( nu- \) extended to whole verb stem)

a. Not only \( 5 \), but also \( 7 \) and \( 9 \), were originally formed with a nasal infix, the \( na- \) class from dissyllabic roots ending in a long vowel, the \( nu- \) class from roots ending in \( -eu, weak -u \). Some of the forms may clearly be analyzed in this way. Thus Skt. \( ji-n-a-li \) beside \( yd- \) in fut. \( yd-syati \), G. \( da-\mu-\nu-o-mu \) beside \( da-o- \) in \( \deltaa-masa \), Skt. \( \gammat-o-li, \gammat-\nu-o-mas \) beside \( \gammaro-, \gammaru- \) in \( crb-tum, crb-ta- \). But from such forms were abstracted suffixes which became productive.

355. Other thematic classes.

1. \( sko- \) class. Suffix \( -sko- \). Often called the inchoative class, from the prevailing force in Latin.
   Skt. \( gaccha-li, iccha-li, prachha-li \)
   G. \( \betaa-skwo, \acute{\rho}e-skwo, p\acute{\rho}i-skwo \)
   L. \( cre-skdo, n\acute{\rho}sko, p\acute{\rho}sko \)
   a. Same with reduplication.
   G. \( \gamma\gamma\gammaskwo, \delta\delta\deltaskwo \)
   L. \( disc\betao \).

2. \( yo- \) class. Suffix \( -yo- \), in interchange with \( -ye- \) or in some languages with \( -\ell- \). Two types parallel to those of 354.2.

1 Really \( -\nu \) that is, \( n- \) thematic vowel. But for convenience we shall write \( -no- \) just as for the noun suffix \( -no- \) (which is also really \( -\nu \)). Similarly \( -\nuo- \), \( sko- \), etc.
A. Accent on root, strong grade of root.
   Skt. pācya-ī, ḍhrīya-ī
   G. στέλλω from *στελ-μυ, τείνω from *τεν-μυ
   L. speció (-spiciō), aperió

B. Accent on suffix, weak grade of root.
   Skt. mṛya-ē, kriyā-ē
   G. βάλλω from *βαλ-μυ, βαίνω from *βαν-μυ
   L. morior, veniō

The separation of these two types is necessary in Sanskrit, where the forms of Type B always have intransitive or passive force and are inflected only in the middle. It has no importance for the classification of Greek or Latin presents.

In Greek a new classification is imposed by the variety of phonetic changes resulting from the combinations with γ (182–88). Hence presents in -σω or -ττω, in -ω, in -λω, etc.

In Latin the important distinction is that between presents of the type capió, 1 pl. capimus and those of the type venió, 1 pl. venimus. Such inflection with -I or -I- in interchange with -yo-, instead of the usual -γ τ/α- indicated by the inflection in Greek, Sanskrit, and most of the IE languages, is characteristic of Italic and Balto-Slavic. Cf. Lith. myiu, 1 pl. myime (with short i), ChSl. gorjá, 1 pl. gorimú (i from i). In Balto-Slavic there are also yo-presents with the -γ τ/α- inflection as in Greek, etc. Some scholars regard the -I- of the Italic and Balto-Slavic forms as the result of contraction taking place independently in Italic and Balto-Slavic. But there are such serious obstacles to this view that the assumption of an inherited parallel -I/-yo- type is preferred here. See also 376a.

356. Denominative yo- class.—The usual formation of denominatives is by the addition of the suffix -yo- to the stem of the noun. The formation is most transparent in Sanskrit, where the -ya- is everywhere preserved, while in Greek and Latin it is disguised by the loss of intervocalic γ, contraction, and other phonetic changes.

<table>
<thead>
<tr>
<th>Noun Stem</th>
<th>Denom. Stem</th>
<th>Skt.</th>
<th>G.</th>
<th>L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>á</td>
<td>-d-yo-</td>
<td>ṁrānāyáti (ṁrānā-)</td>
<td>ṭīmāw (ṁrā)</td>
<td>cūrō (cūra)</td>
</tr>
<tr>
<td>o-</td>
<td>-e-yo-</td>
<td>devāyāti (devā-)</td>
<td>φιλέω (φίλος)</td>
<td>albeō (albus)</td>
</tr>
<tr>
<td>i-</td>
<td>-i-yo-</td>
<td>Ved. janīyāti (jīnī-)</td>
<td>μηνίω (μηνις)</td>
<td>finiō (finis)</td>
</tr>
<tr>
<td>u-</td>
<td>-u-yo-</td>
<td>Ved. gālūyāti (gālū-)</td>
<td>μεθέω (μεθην)</td>
<td>meluō (metus)</td>
</tr>
<tr>
<td>s-</td>
<td>-s-yo-</td>
<td>rajasīyāti (rājās-)</td>
<td>τεθεία, -έω (τέθεος)</td>
<td>fulguriō (fulgur)</td>
</tr>
<tr>
<td>n-</td>
<td>-n-yo-</td>
<td>uksanyāti (ukṣān-)</td>
<td>δοσμαίνω (δοσμα)</td>
<td>custōdīō (custōs, -ōdis)</td>
</tr>
<tr>
<td>d- etc.</td>
<td>-d-yo- etc.</td>
<td>bhīsajāyāti (bhīsāj-)</td>
<td>ἐκπυτζω, (ἐκπύς, -ός)</td>
<td></td>
</tr>
</tbody>
</table>
While this shows the original relation between noun stem and
denominative stem, the various forms of the latter become inde-
dependently productive and occur in derivatives of noun stems
other than those to which they belong in origin. Especially -āyo-
is freely used for denominatives of o-stems (the frequency of parallel
ā-stem collectives is doubtless a factor in this) in most IE lan-
guages, and its Latin representative is by far the commonest
denominative type, regardless of the noun stem (370.1).

357. Causative -éyo- class.—This is formally distinguished from
the denominatives of o-stems by the difference of accent as shown
in Sanskrit (caus. -āya-, denom. -ayā-). The root normally has
the o-grade. The meaning is very commonly, though not exclu-
sively, causative, hence the usual name. This type is most con-
spicuous in Sanskrit, important also in Germanic. In Greek and
Latin, where the criterion of accent is no longer available, it is
formally indistinguishable from denominatives in -ēo, -ēo, and
only a few verbs are clearly to be reckoned here on account of
their meaning.
Skt. sādāyati ‘cause to sit, set’ from sad- ‘sit’
Goth. satjan ‘set’ (NE sel) beside sitan ‘sit’
G. φοβέω ‘frighten’ beside φεβόμαι ‘be afraid’
L. moneō ‘remind, admonish’ from men- of memini ‘remember’

THE PRESENT CLASSES IN GREEK

THE THEMATIC CLASSES, EXCLUSIVE OF THE CONTRACT VERBS

358. Simple thematic class (354.2).—The great majority are
from roots of the e-series and in the e-grade. Thus φέρω, λέγω,
μένω, ἔχω, λείπω, φεύγω, τρέπω, etc. So also ῥέω from *ῥέω, πλέω
from *πλέω, etc.

With other grades or from roots of other series, γράφω, γλύφω,
ἀγω, αἴθω, λήγω, etc.

a. With reduplication (354.4). So γι-γυμναι, μι-μνω, πτ-πτω (i due to
the analogy of ῥι-πτω?), ἵνα (from *σι-σχω, to ἵχω), τί-κτω from *τί-κτω,
210).

359. Tau-class. Presents in -ττω.—These belong in origin to the
gο-class, starting with forms like κόπτω from *κοπτω (186). Hence
by analogy similar forms from roots ending in any labial, as καλύπτω (cf. καλύβη), κρύπτω (cf. κρύφα), including some in which the labial comes from a labiovelar, as πέπτω beside normal πέσω, πέττω (182). This was favored by their many common forms, as the aorists in -ψα.

This class is then properly co-ordinate with the subdivisions of the iota class, that is, presents in -πτω with those in -σω, -ξω, -λλω, etc.

360. Iota or υο- class (355.2).—The different phonetic changes that attend the combination of γ with a preceding consonant (182-88) result in a variety of distinct types.

1. Presents in -σω, Att. -ττω.—From verb stems ending in a voiceless guttural or dental, namely κ, χ (or in some cases an IE labiovelar), τ, or θ; also from some ending in γ.

ϕυλάσσω, -ττω, from *ϕυλακ-ω. Cf. φύλαξ, φύλακος
δρύσσω, -ττω, from *δρυχ-ω. Cf. δρυχή
πέσω, -ττω, from *πεγ-γυ. Cf. aor. ἐπέψα
ἐρέσσω, -ττω. Cf. ἐρέτης
κορύσσω (poetical; no Att. -ττω). Cf. κόρους, κόρυθος
ἀλλάσσω, -ττω. Cf. ἀλλαγή

a. Only those from a stem ending in a voiceless guttural are the result of regular phonetic development. The others follow their analogy (see 182-84). Stems ending in γ by normal phonetic development of -γ-ω give presents in -ξω, but since in the future, aorist, perfect middle, etc., they have the same forms (-ξω, -ξα, -κται, etc.) as those ending in κ or χ, their presents may follow the analogy of the latter. Hence ἀλλάσσω, -ττω, τάσσω, -ττω (cf. ταγή), etc., or only Att. σφάττω in contrast to the regular Ion. σφάξω from *σφαγ-ω (cf. σφαγή).

2. Presents in -ξω.—From verb stems ending in a voiced guttural or dental, namely γ (or an IE labiovelar γω), or δ (sec 184).

ἀρπάξω from ἀρπαγ-ω. Cf. ἀρπαγή
νιξω from *νιγ-γυ. Cf. fut. νιψω, and χέρ-νιβα
ἐλπίζω from ἐλπιδ-ω. Cf. ἐλπίς, ἐλπίδος

The great majority are from stems ending in δ, or analogical extensions of such. Especially -άξω and -ίξω starting from -αδ-ω and -ιδ-ω, became widely productive, forming denomina
tives from stems of all kinds to the number of several thousands.
In general, -άζω is more common from -ά-stems and neuter π-stems, -ίζω from other stems.

Thus δικάζω (δικη), ἀγοράζω (ἀγορά), θαυμάζω (θαῦμα), ὑβρίζω (ὑβρις), νομίζω (νόμος), τείχιζω (τεῖχος), ἐλληνίζω (Ἑλλην).

a. In the future and aorist the difference between guttural and dental stem normally shows itself (ξ from guttural + σ, Αττ. σ from dental + σ), but owing to the common present there is sometimes confusion. Thus from ἀρπάζω the regular ἡρπαξαί in Ionic, but ἡρπασα in Attic. The great mass of derivatives in -άζω and -ίζω follow the treatment of dental stems, as Αττ. ἐδίκασα, ἐνίμισα. But Homer has πτολεμιζω, and forms like ἐδικαζα are the usual ones in Doric.

3. Presents in -λλω.—From verb stems ending in λ (see 187).

στέλλω from *στελ-ω, ἀγγέλλω from ἀγγελ-ω.

4. Presents in -αιω and -αιρω.—From verb stems ending in αν and αρ (see 188.1).

φαινω from *φαν-ω, χαιρω from *χαρ-ω.

From denominatives like μελαίω (μέλας, μέλανος), πομαίνω (from the weak stem of πομήν), etc., the -αιω spread and forms numerous denominatives from other stems, as λευκαιω (λευκός), θερμαίω (θερμός), etc.

5. Presents in -εινω, -ειρω, -τινω, -τιρω, -θυνω, -θρω.—From verb stems ending in εν, ερ, ιν, ιρ, νν, νρ (see 188.2).

τείνω from *τεν-ω, φθείρω from *φθερ-ω

κρίνω from *κρί-νω, οικτρω, from *οικτρι-ω

πλάνω from *πλαν-ν-ω, μαρτυρομαι from *μαρτυρ-μοι.

Forms like κρίνω, κλίνω, πλάνω differ from the others in that their ν is not a part of the original verb stem, but an added element. They are from *κρί-ν-ω, *κλι-ν-ω, *πλαν-ν-ω, with a combination of two present suffixes, e.g. *κρι-νω then *κρι-ν-ω. From the latter the κρι-, as an apparent verb stem, spread in part to the other tenses. So aor. έκρινα from *έκρινω, έκλινα, έπλινα, but perf. κέκρι-ται, κέκλι-ται, πέπλυ-ται, aor. pass. έκριν-θην beside έκρι-θην, etc.

Like πλάνω in origin is the productive -θυνω in the numerous denominatives from v-stems and from others by analogy, as βαρόνω from *βαρν-ν-ω (βαρός), ήδυνω (ηδύς), παχύνω (παχύς), λεπτόνω (λεπτός).
6. Miscellaneous.—To this class belong also in origin:

Some presents in -αιω, as καίω from *καφ-ιω (cf. ἐκανσα), κλαίω from *κλαφ-ιω (cf. ἐκλανσα). For Att. καω, κλαω, see 179.1.

Those in -εω, from -εφ-ιω. The normal phonetic development would yield -ειω (cf. ἡδεία from ἡδεφ-ια, and καίω above), and this is the actual form in the Elean dialect (φυγαδείω = φυγαδεύω), but elsewhere it was replaced by -ενω with εν from the other tenses.

Denominatives in -ω and -υω, as μηνω (μηνις), μεθιω (μεθυ). See 356. Also some of the primary verbs in -υω, as φυω, Lesb. φυω. Whether λω and others belonged originally to this or to the simple thematic class is impossible to determine. They generally show -ω in Homer, but -υω in Attic.

The great majority of the contract verbs in -αιω, -εω, -υω (363).

361. no-class (354.8, 10).

Presents in -υω, as δάκ-υω, κάμ-υω, τέμ-υω, πτ-υω.

But τίνω, φθάνω, φθινω, Hom. τίνω, φθάνω, φθινω, are from *τι-νυω, etc. (176.1), thematic forms of the νυ-class (354.10). Forms like δεικ-υω are later transfers from δεικ-νυ-μι, etc. Isolated and not certainly explained is ἐλαίω (verb stem ἐλα-).

Presents in -αινω, as αὐτ-αινω, ἀμαρτ-αινω, αἰσθ-αιναι. These have the suffix with syllabification of the n, that is, -ηδ, whence -αινω (115).

Presents in ανω with nasal infix in the verb stem, as λα-μ-β-ανω, λα-ν-θ-ανω, δ-ν-δ-ανω, πυ-ν-θ-αναι. This type is a combination of the preceding with the thematic nasal infix class (L. rumpro, 354.6). Cf. parallel presents like Lith. bundu and budinu, as if G. *πυθνω and *πυθανω.

362. sko-class (355.1).

Presents in -σκω, as βδ-σκω ἀρέ-σκω; with reduplication γι-γνώ-σκω, βι-βρω-σκω; with consonant changes (206.1, 3) λάσκω from *λακ-σκω (ἔλακον), διδάσκω from *διδακ-σκω, πάσκω from *παθ-σκω, μισγω from *μυγ-σκω(?).

a. As ἀρέ-σκω is from a disyllabic stem (cf. ἡρεσα), so also, with reduplication ἀρ-αρι-σκω (cf. ἀριθμω). But -ισκω became productive, and in most cases there is no stem form ending in ι (some think of a relation between the ι and the η of some forms, e.g. ευρι-σκω beside fut. ευρη-σω, but even this is
doubtful). Thus ἐφρίσκω, ἀλισκομαι, στερίσκω, or, with secondary addition to a stem ending in a long vowel, θεήσκω, μιμήσκω, θρίσκω.

A few have inchoative meaning, as γηράσκω 'grow old', ἡβάσκω 'grow young', but this force never became dominant as in the corresponding Latin presents in -scd.

An offshoot of this class, with a specialized use which must have started in some particular forms like φάσκων from φάσκω, is represented by the Ionic iterative imperfects and aorists like φεβγεσκον, φιγεσκον.

THE CONTRACT VERBS

363. The great mass of the contract verbs are denominatives (356).

1. -αω.—Those in -αω represent the IE -ā-γo- type, based on ā-stems. The shortening of the vowel in the present stem is due to the analogy of -ω. The great majority are derived from actual ā-stems, as τίμαω (τίμη), μικάω (νίκη), σιγάω (σιγή).

There are a few primary verbs in -αω, as δράω (verb stem δρα-, and those like σπάω (ἐσπασα, ἐσπασμαι, verb stem σπα- or σπασ-), χαλάω, etc.

2. -εω.—Those in εω represent chiefly the IE -e-γo- type, based on o-stems. They are derived from o-stems, as φιλέω (φίλος), οἰκέω (οίκος), but also frequently from others, as φωνέω (φωνή), μαρτυρέω (μάρτυς).

Some represent the IE -es-γo- type, from s-stems, as τελέω, Ἑλ. τελέω, aor. ἐτέλεσα. But most derivatives of o-stems are completely merged with those from o-stems, as μισέω (μίσος), ἀλγέω (ἀλγος), aor. -ησα.

Some represent the IE -ē-γo- type (357). But they were formally merged with the denominatives of o-stems, taking the same verb stem in η outside the present, and are mostly indistinguishable from them. Thus φοβέω, in origin a causative of φοβομαι, was felt as a derivative of φόβος, like φιλέω from φίλος. An isolated case, without verb stem in η, is δοκέω, aor. ἐδοξα.

There are also a few primary verbs in -εω, mostly presents of the simple thematic class in origin, as ἂω from *ῥεω, πλέω from *πλεεω, ἂω from *τεεω (cf. aor. ἐτέσα from *ἐτέσα; Skt. yas-), τρέω from *τρεσω; but δέω 'bind' from *δε-μω.

3. -οω.—Those in -οω represent a special Greek type of de-
nominatives of o-stems, usually with factitive force, as δηλῶ 'make clear' (δηλός), δουλῶ 'enslave' (δοῦλος) in contrast to δολεῶ 'be a slave'. Beside the inherited type in -ω, this new type grew up as an obvious parallel to that of -αω from α-stems. Some think it started in non-present forms like -ωσα, -ωθην, -ωθεις, -ωτος, which in Homer are more frequent than the present forms.

364. Inflection of the contract verbs.

1. There is great divergence among the dialects in the matter of contracted and uncontracted forms and in the results of contraction (see 104).

In general, uncontracted forms are most frequent in Ionic, while Attic stands at the other extreme, with almost complete contraction.

As between the different classes, uncontracted forms are most frequent from verbs in -ω, less frequent from those in -αω, and least frequent from those in -ω.

Thus Hom. φιλεῖ and φιλεῖ, φιλέωντες and φιλέωντες, always φιλέωσι, φιλέοι, φιλέομεν, etc. (though these are sometimes to be read with synizesis), with a considerable preponderance of uncontracted forms; ὑλέει, ὑλαν, etc., or more frequently forms like ὕπο, ὕπασθαι (with 'distraction', 104.7), beside contracted ὕπα, ὑπκ, ὑπκω, etc.

In Attic, contraction is the rule. Only a few dissyllabic presents in -ω like πλέω, δέω 'need', etc., have uncontracted forms, as πλέω, πλέομεν (but πλεί, πλεῖτε), πλέῃ, πλέοι.

2. In certain dialects, namely Lesbian, Thessalian, Arcadian, and Cypri-an, the contract verbs have unthematic inflection. Thus in Alcaeus and Sappho κάλημ, καταίνοντες (= Att. καταίνοντες), Thess. σταταγέντος (= Att. στατηγούντος), Arc. πολένη (like τίθεναι). In Attic the optative shows a similar transfer (422).

There are also dialectic forms like ἀδικήω, στεφανῶ, with the long-vowel stem of other tenses extended to the present.

3. There are a few contract verbs which differ from the usual type in that they come from -ηω, -άω, -ωω and consequently show different results of contraction. Thus Att. γω, 3 sg. γη, 3 pl. γωνι, infin. γη, from γη, γη, etc. (γη from γη-ω, parallel to Hom. γω from γη-ω). So χρω 'utter an oracle,' 3 sg. χρη, δψη, πεινω infin. δψηγ, πεινη (cf. Hom. δψῶν, πεινῶν), ψω, σω, κω infin. ψη, etc.; χρωμαι 'use,' 3 sg. χρηται, infin. χρησαι, from χρησαι; δηγω, infin. δηγων (also δηγον), ὕδρω, Hom. ὕδρω, from stems δηγοσ-, ὕδρωσ-.
THE UNTHEMATICAL CLASSES

365. Root class (354.1).—Here belong εἰμι (333), εἶμι (334),
φημι, ἤμι, ἄμι (349.2a), ἦμαι (343), κείμαι (3 sg. κεῖται = Skt. cete),
ἐπι-στα-μαι ‘understand’ (from the weak grade of στᾶ- ‘stand’).

Middle forms from dissyllabic stems (354.1a), ἁγα-μαι, κρέμα-
μαι, δέα-μαι, ἔρα-μαι, πέτα-μαι, δύνα-μαι (perhaps originally δύ-να-
μαι of the νά class with extension of να to verb stem), διε-μαι,
τε-μαι, δυν-μαι, εἰρπ-μαι.

Peculiarities of inflection have been mostly covered in 335–40,
349.2.

a. The imperfect of εἰμι (334) shows a great variety of forms, some of
which are not certainly explained. 1 sg. ἦα (IE *έγη would give ἦμα, then
with loss of intervocalic ϛ, *ήα) with η after the analogy of ἦμεν (Skt. aims),
etc.; 2 sg. ἦσσα, 3 sg. ἦς(α), 3 pl. ἦσσαν, like the pluperfect forms (of οἶδα)
ἣσσα, Σδεσσα, ἡδε(ν), ἦσσαν, as also the later 1 sg. ἦσσω like ἦδειν. Hom.
1 sg. ἦσσα, 3 sg. ἦσσε, probably to be read ἦσα, ἦσε like ἦδεα, ἦδεε. Hom. augment-
mentless forms 3 dual ἦττην, 3 pl. ἦσσαν. Hom. thematic forms 1 sg., 1 pl. ἦσσων,
1 pl. ἦσσεν.

The subj., opt., and imperat. forms are all formed from the weak grade
of the root, as ἦω, ἦομι, ἦθι, etc.

366. Reduplicating class (354.3).—τί-θη-μι, τί-στη-μι, δίδω-μι,
τί-η-μι, κί-χρη-μι, δι-ζη-μαι, βί-βη-μι, ὄνι-νη-μι (verb stem ὄνα-),
etc. With inserted nasal (after the type λαμβάνω) πι-μ-πλημι,
πι-μ-πρημι (so dial. κί-γ-χρημι = Att. κί-χρημι).

a. The imperfect of τίθημι, ἦμι, and δίδωμι have some forms that follow
the analogy of the contract verbs. Thus 1 sg. ἦτθην, ἦτν, but 2 sg. ἦτθεις,
ἐσσ, 3 sg. ἦτθε, ἦτε, and from δίδωμι, all three persons of the singular,
ἐδίδον, ἐδίδος, ἐδίδο (for *ἐδίδων, etc.).

367. νῦ-class.—Suffix νῦ, νῦ (354.8).—δεικ-νῦ-μι, ἄγ-νῦ-μι, δρ-νῦ-
μι, δμ-νῦ-μι, στόρ-νῦ-μι, δλλῦμι (*δλ-νῦ-μι).

Forms in -νῦμι from stems ending in σ, as ἔννυμι (from *έσ-νῦ-μι,
with νῦ restored by analogy; the normal phonetic development
appears in Ion. εἰνῦμι), σβέννυμι (cf. σβεστός), ζωννυμι (cf. ζωστός),
gave rise to others in -νῦμι from stems ending in a vowel, as
στρώ-νῦμι, στορέ-νῦμι (cf. aor. ἐ-στόρε-σα), κορέ-νῦμι, κερά-νῦμι,
πετά-νῦμι, etc.

These occur mostly in poetry or in the dialects, and the class is not productive in Greek.

a. The in πίνυμι, σκίδυμι, κίρυμι, πίλυμαι, beside ἐπέτεσα, ἐσκέδασα, ἐκέρασα, ἐκτέλεσα, is generally taken as parallel to that of πίσυρες, etc. (121), but its frequency in this particular type is remarkable.

THE PRESENT CLASSES IN LATIN

369. The familiar classification of Latin verbs in four conjugations is in reality a classification of present stems, applying only to those tenses which make up the present system. Except for most verbs of the first conjugation, there is no uniformity in the perfect system or the perfect passive participle within a given conjugation. Perfects in -st or -st, reduplicated perfects, and those with lengthened vowel occur in all four conjugations, perfects in -st in all but the first.

In general, verbs of the first, second, and fourth conjugation reflect IE yo-presents, either primary or denominative. Those of the first and second correspond in the main to the Greek presents in -αω and -εω; those of the fourth (including the capio-type of the third) to the various types of the Greek iota-class (e.g. venio: βαίνω) with some denominatives in -ω. Those of the third conjugation comprise the simple thematic presents and those formed with other thematic suffixes. The irregular verbs contain relics of unthematic inflection and have other peculiariites.

FIRST CONJUGATION

370. The first conjugation comprises the most productive type of denominatives and a few primary verbs.

1. The great mass are denominatives answering to G. -αω and reflecting the IE -aio- type (356). Though originally based upon ò-stems, they are freely formed from stems of all kinds. Thus cūrō (cūra), plantō (planta), dōnō (dōnum), levō (levis), laudō (laus, laudis), generō, (genus).

2. The frequentatives, ending in -lō, -sō, -lō, -lēlō, and denoting repeated or sometimes mere intensive action, are in origin de-
nominatives formed from the stem of the perf. pass. pple. of the simple verb. Thus dicio from dictus (dicō), versō from versus (vertō), habiō from habitus (habeō). But with the development of a distinctive meaning they came to be felt as formed from the verb stem, and many were actually thus formed with -ilō. Thus agitō (not *actō like trāctō) from agō, rogitō (not *rogālō) from rogō, and so in all frequentatives from verbs of the first conjugations.

Some of the old frequentatives lost their distinctive force and new frequentatives in -ilō were formed from them, the so-called double frequentatives. Thus cantō has the same force as canō (and eventually displaced it, hence It. cantare, Fr. chanter, etc.), and from it was formed cantilō with real frequentative force; similarly dictilō from dictō, etc.

3. There are a few primary verbs from monosyllabic stems ending in -ā, as fā-ri, nō, slō. These belong to the IE root class (354.1), as clearly fārī (cf. G. φημι, Dor. φαμι), or in part to parallel yo-presents (so for nō, nāre, cf. Skt. snā-ya-te beside snā-ti). The 1 sg. slō is probably from *sta-yō (IE *sta-yō) or *sta-yō, like Umbr. stahu ‘sto’, ChSl. stojq, ‘sto’, stajq ‘sisto’, but some of the forms may also be directly from the root like aor. G. ērny, Skt. asthāt.

4. There are also several primary verbs with presents only from dissyllabic stems ending in ā, as secō, secāre (secuī, sectus), iuvō, iuvāre (iuvā, iūtus), domā, domāre (domui, domitus). Even among the verbs which show ā throughout there may be some that were originally primary verbs of this type, as probably amō.

371. Inflection.—The 1 sg. -ō is contracted from -āō, -āyō, parallel to -eō, -iō of the second and fourth conjugations. The ā of the other persons (shortened before -t, -nt, (101) is simply that of the stem in some primary verbs. In the denominatives it may be the result of contraction from ā(y)e in the 2 sg., 3 sg., and 2 pl. forms, whence with the support of the uniform ā of some primary verbs it spread to 1 pl. -ōmus (from -āyomos we should expect -ōmus, 105.2), 3 pl. -ant. See also 373.

SECOND CONJUGATION

372. The second conjugation comprises primary verbs with stems ending in ē, denominatives, and a few causatives.
1. Primary verbs from monosyllabic stems ending in ē, as -pleō, -plēre (cf. G. aor. πλῆ-ro, Skt. aor. aprā-ī and rare pres. prā-ī), neō, sīleō. Like the corresponding forms of the first conjugation, these belong to the IE root class (354.1a), or in part to parallel yo- presents, as sīleō perhaps from *bhle-yō (cf. ChSl. blē-jq 'bleat').

2. Primary verbs with presents only from dissyllabic stems ending in ē, as videō, habeō, tacēō, sedeō, iaceō, etc. This is a large class, in which, with some exceptions like videō, habeō, the intransitive force prevails. Note iaceō, iacēre 'lie' beside iaciō, iacere 'throw', pendēō, pendēre 'be suspended, hang' beside pendō, pendere 'suspend, weigh out'. Similar stems in -ē with distinctive- ly intransitive force are seen in the Greek aorists like ἔχαρν, etc.

   a. The Latin situation, with present stem in -ē, though paralleled in some Germanic forms (Goth. habaiþ, OHG habēt), is the opposite of that observed in other IE languages and is presumably secondary. Elsewhere the stem in -ē is found mostly in non-present forms, and is combined with presents of various classes but especially with those of the yo-class. Thus G. χαίρω, ἔχαρν, φαίνω, μαίνω, μαίάρν, ChSl. mînja, infin. mînecti (ē from IE ē; mîne-: G. μαντ-,) vištq, višeti (=L. videō), sēdq, sedēti, Lith. sēdžu, sedēti (=L. sedeō).

   It is often stated that this combination rests on dissyllabic stems ending in -ēi, whence -ē and -i (with thematic vowel -y-o-) respectively. But it is probably a matter of parallel extensions of the simple root.

3. Denominatives, answering to G. -ēw and reflecting the IE -ē-yo- type (356). They are primarily from o-stems, but also from others. Thus albeō (albus), clαudeo (claudus), flōreō (flōs, flōris), etc. They are not nearly so numerous as the Greek denominatives in -ēw, owing to the greater expansion of the ā-stem denominatives.

4. Causatives, reflecting the IE -ē-yo- type (357). Thus moneō (cf. memini), torreō (cf. Skt. tarśāyati, caus. of trṣ-), doceō (cf. decēi), noceō (cf. necō, necāre), spondeō (cf. G. σπένδω), probably movēō, foveō, and a few others.

373. Inflection.—The 1 sg. -ēō is from -eyō of the denominatives and causatives, followed by the primary verbs, though here it may be in small part from -ē-yō. The ē of the other persons (shortened before -t, -nt, 101) is that of the stem in the primary verbs. In the denominatives and causatives it is the result of regular
contraction in -ēs, -el, -ēlis from -eyesi, etc., whence under the added influence of the primary forms it was extended to -ēmus, -ent (which cannot represent the phonetic development of -eyomos, -eyonii). Thus:

\[
\begin{align*}
\text{videō} & \text{ by analogy} & \text{moneō} & \text{ from } *\text{moneyō} \\
\text{vidēs} & \text{ from } *\text{widē-si} & \text{monēs} & \text{ from } *\text{moneyesi} \\
\text{vidēt} & \text{ from } *\text{widē-li} & \text{monēt} & \text{ from } *\text{moneyeti} \\
\text{vidēmus} & \text{ from } *\text{widē-mos} & \text{monēmus} & \text{ by analogy} \\
\text{vidētis} & \text{ from } *\text{widē-te} & \text{monētis} & \text{ from } *\text{moneyete} \\
\text{vidēnt} & \text{ from } *\text{widē-nti} & \text{monēnt} & \text{ by analogy}
\end{align*}
\]

THIRD CONJUGATION

374. The third conjugation comprises a variety of thematic present formations.

1. Simple thematic class (354.2). Thus legō, tegō, dico, dūcō, rūdō, agō, etc.

2. Reduplicating thematic class (354.4). Thus si-stō, gi-gnō, serō from *si-sō (74a), sidō from *si-sdō, reddō from *re-di-dō (cf. Osc. dīdest 'dabit'). Here also in origin bibō (cf. Skt. pi-ba-ti) from root pō- in pō-tus, though the explanation of the b is uncertain.

3. Nasal infix class, thematic (354.6). Thus rumpō, linquō, findō, fundō, tangō, etc.; with nasal extended to the perfect, fingō (finxi, but fictus), stringō, etc.; with nasal extended to perfect and perf. pass. pple. iungo (iünxi, iünctus), cingō, plangō, unguō, etc.

a. These are to be distinguished from verbs in which the nasal belongs to the root, as pendō (cf. pondus), tendō, etc.

4. no-class (354.8). Thus sper-nō, cer-nō, si-nō, li-nō, tem-nō. Here also in origin some presents in -llō from -l-nō (200.1), as pellō, tollō, -cellō 'rise' (cf. collis from *kol-nis), perhaps fallō (with extension of ll to the perf. fessellī). But ll may come from other combinations than ln (200.1), and per-cellō 'strike down' (perf. per-cultī) is probably from *per-cel-dō with a d-extension of the root (cf. clādēs).

5. sko-class (355.1).—Thus crē-scō, nō-scō, discō from *di-dc-scō
(cf. perf. di-dic-t), poscō from *porc-scō, with extension of posc-to perf. poposct (cf. also Skt. perf. papraccha beside pres. prcchati).

From forms like crēscō the suffix acquired the force of becoming or beginning, and gave rise to the numerous class of inchoatives in -ēscō, -iscō, -āscō, formed from verbs, nouns, and adjectives, as calēscō (caleō), dūrēscō (dūrus), obdormiscō (dormīd), vesperāscō (vesper).

6. yo-class (355.2).—Presents of the type capiū, capere belong historically with the primary verbs of the fourth conjugation like venīō, venire. They are traditionally classed in the third conjugation because of their agreement with it in the infinitive (which was the Roman basis of classification) and other forms. Such agreement is secondary. See 376.

7. Verbs in -uō.—These include:

A few primary verbs from roots ending in u, as suū from *su-yō (Goth. siu-jā), ruō, fluō, struō. Here also solvo from *se-luō (cf. G. λῶ), volvō from *weluō (cf. G. ἐλῶ).

Two primary verbs with thematic forms of nu-suffix (355.10), namely mi-nuō, ster-nuō, with nu extended to the perfect, etc.

Denominatives from u-stems (356), as statuō (status), meluō (melus).

8. Presents in -tō.—Thus pectō (cf. G. πέκω and πεκρέω), plectō (cf. G. πλέκω), flectō, nectō. These have the appearance of containing a present suffix -tō, parallel to -no-, -yo-, etc. But there is little evidence for such an IE present suffix, since the Greek forms in π-tō are derived from -π-ω. Elsewhere we find rather a t-extension of the root which is generally not confined to the present stem but may be common to the whole verb system and derivatives, so that the form with added t is really a new verb stem. So OE fleohian, OHG flehtan, cognate with L. pectō, OE feohtan, OHG fehtan, probably cognate with L. pecō, and many others in Germanic. The same may be true of the Latin forms, for example, piec-t- not only in pectō but also in plexi (*plexe-sī) and plexus (*plect-los, 190), similarly pec-t- in pectō, pexi, pexus, as also in pecten.

9. There are other similar root extensions (or root increments, as they are sometimes called) that are generally characteristic of verb stems, rather than of present stems, e.g. IE d or dh and s. Thus L. tendō, tēndiō from ten-d-beside ten- (G. τεν- in telvā, Skt. tan-) in ten-iūs (later lēnsus); L. visīō, visīt, visus from *weid-s-, beside videō, vidi; quaeō, earlier quaes-sō, beside quaerō from *quaisō.
With such an s-extension are in some way connected, though their precise development is obscure, the intensives in -essō, like capessō, petessō, and also the forms like indicassō (394). The s-element very commonly has a desiderative or intensive force, notably in the Sanskrit desiderative class (see 388).

FOURTH CONJUGATION

375. The fourth conjugation comprises primary verbs with presents of the yo-class and denominatives.

1. Primary verbs with yo-presents (355.2), with which belong those of the third conjugation like capiō.

THIRD CONJ.: capiō, faciō, iaciō, rapiō, sapiō, fugiō, fodiō, -spiciō, etc.

FOURTH CONJ: veniō, saliō, operiō and aperiō (from *-weryō), re-periō, sepeliō,vinciō, fariō, etc.

There is some fluctuation, especially in morior (moritur, but early L. moriri, morimur), orior (oritur, but oriri), potiō (potitūr, but potiri).

2. Denominatives from i-stems and consonant stems (356) and by analogy from some others. Thus finiō (finis), partior (pars, partis), custodiō (custōs, custōdis), serviō (servus).

376. Inflection.—The 1 sg. -iō is from -yō (180) or, in the denominatives of i-stems, from -i-yō; likewise the 3 pl. -iunt from -yonii or -i-yonii. The i of the other persons (shortened before -t, -nt, 101) is inherited in the primary verbs like veniō, agreeing with that of the corresponding Slavic inflection (355). The denominatives follow the analogy of the primary inflection.

In the capiō type the stem in short i is also inherited, agreeing with that of the corresponding Lithuanian inflection (355). There is then only a secondary agreement between capi-s, capi-t, capi-mus, capi-tis, with orig. i, and legis from *lege-si, etc. In capere, caperem, etc., the e may reflect a phonetic change (74a), though also easily explained as due to the analogy of legere, etc.

a. According to the view preferred here (it is disputed by some), both the i of the veniō type and the i of the capiō type are inherited. But there are doubtless special factors in the distribution of the two types in Latin. It is observed that the capiō type is followed by most verbs with a short root syllable (veniō being one of the exceptions), while the veniō type is followed
by one with a long root syllable or with two short syllables preceding the -iō. This may be in part connected with the IE distribution of i and i and their relation to -yo- and -iyo- respectively. But it also suggests that iambic shortening in the second and third singular (e.g. capis, capit from *capīs, *capit) may have been a factor in spreading the i-type at the expense of the i-type. In the Italic dialects the latter prevails, though Osc factud from *faji-tōd is clear evidence of the i-type.

**IRREGULAR VERBS**

377. The irregular verbs of Latin grammar are so classed because in one or another respect they do not conform to any of the four conjugations. The chief irregularity is the survival of some un thematic forms of the root class, like est, together with the present subjunctive in -im which is in origin an optative of the type which goes with the un thematic indicative (419). Another is the composite character of some of them, the combination of different roots making up the verb system, as sum, fui, or ferō, tuli. Cf. the similar composite feature in some of the Greek verbs and in the comparison of adjectives (216 with a).

It is only the first of these irregularities that applies to inflection proper and is entirely within the present system. But the other peculiarities are also considered here for convenience.

378. sum: present indicative.—Cf. the table of cognate forms in 333. The analysis is plain for 2 sg. es; in Plautus ess, from *es-sti; 3 sg. est from *es-li; 2 pl. es-tis like G. ió-ré with strong grade of the root carried over from the singular (in contrast to Skt. s-thā), and with ending -tis for -te as usual (339). More difficult are 1 sg. sum from *som (cf. Osc. súm), 1 pl. sumus from *somos, and 3 pl. sunt from *sonti, which have the appearance of thematic forms. The most probable starting-point (despite the fact that Oscan-Umbrian has 3 pl. sent, yet 1 sg. Osc. súm) is a 3 pl. *sonti, to be recognized as an Italic or perhaps even IE (cf. ChSl. sqtt) thematic by-form of the usual *sentī (340.2), like pres. pple. *sont- beside sent- (Att. óvres, Dor. óvres). From this might be formed 1 sg. *som (with secondary ending, or after some form with -m from -mi) and 1 pl. *somos. But neither this nor any other explanation is entirely satisfactory.
Beside the usual sumus, the form simus after the usual type legimus, etc., came into partial use.

For imperf. indic. eram from *esā-, see 387; for fut. erō from *esē, 393.3; for pres. subj. sim, 425.3. Beside imperf. subj. essēm from *es-sē- (426), also forem from *fu-sē- (76a), like Osc. 3 sg. fusēd (cf. also Ostr. imperat. futu in contrast to L. estō).

The perf. fui, early fāi, is probably based on the aorist stem seen in G. ἔφυν, Skt. 1 sg. abhuvam, 3 sg. abhist.

The two roots that make up the Latin verb are IE *es- and *bheu-, just as in NE is and be.

379. possum.—The present system is based on a union of potel ‘able’ and the regular forms of sum, as possum from pote sum with syncope and assimilation of ts to ss (193), potest from pote est with elision. In early Latin the uncompounded forms are still in use, with either potis or potel. The former is the inherited nom. sg. masc., originally a noun =G. πόσις, Skt. patis ‘lord, master’, while potel is a nom.-acc. sg. neut. formed to this. But both are used indeclinably without regard to gender or number, as potis est or potel est ‘it is possible’, and potel sunt ‘they can’.

The imperf. subj. possem, in place of the rare polesium, is due to the influence of possum, possim; so also the infin. posse in place of potesse (both forms in early Latin).

The perf. potui belongs to a pres. potelō, of which the only relic in Latin is the pple. polēns used as an adjective, but which appears in Osc. pūtīa d ‘possit’.

380. volō and compounds.—1 sg. volō from *velō (80.6), thematic form of *wel-mi (cf. Lith. pa-velm); thematic also 1 pl. volumus (for u, see 349), 3 pl. volunt. Unthematic 3 sg. vult, earlier volt (82.5), from *wel-ti (80.6; cf. Lith. pa-velt), similarly 2 pl. vultis, voltis.

The 2 sg. vis (the connection of vois in the Duenos inscription is altogether doubtful) cannot be derived from *wel-si, which would give vell, vel and probably is actually represented by the adverb vel. It is rather an isolated relic of another root of similar meaning, namely *wei-, Skt. vi- (2 sg. vesī) ‘approach, seek, follow’, Av. vayeiti ‘pursues’.
To the un thematic type belong pres. subj. velim, imperf. subj. vellem from *vel-se-, infin. velle from *vel-se.

For si vis ‘if you please, please’ the contracted sis (cf. 171) is common. After the analogy of this relation arose also *sollis, early sullis beside si voltis.

Noló is from *ne-volō (probably through *novolō by 92.2, 171, though there are certain chronological complications), whence nōl- spread to nearly all the other forms, nōlumus, nōlunt, nōlim, nōlūt, etc. But uncontracted forms prevailed in the second and third singular and second plural of the present indicative, with either the old ne or its substitute nōn, as early nevis, nevolt beside nōn vis, nōn volt, nōn vultis.

mālō is from māvolō (105.2), this from *mag(i)s-volō (cf. sēvirī from sex virī, 207). Early Latin has māvolō, māvelim, though more commonly mālō, mālim, and regularly māllem. Uncontracted māvis, māvol, māvolīs, like the corresponding forms of nolō.

381. ferō.—In the present system, fers, fert, feris, fertō, ferre, etc., have the appearance of being un thematic forms like Vedic bhārti beside usual Skt. bhārati. Yet the present of this root is normally thematic in the other IE languages, and even in Latin the pres. subj. feram (in contrast to sim, velim) is that which belongs to the thematic type. Hence, since vowel syncope is especially common after r (cf. vir, ager, ācer, etc., 109), one suspects that the forms in question may after all be thematic in origin, e.g. fers, fert from *feris, *ferit (in spite of geris, gerit, etc., without such syncope).

The perfect is supplied by tulī, earlier tetulī (the reduplication was lost first in the compounds, then in the simplex), this from *tetolī from the root of tollō. From another grade of the same root comes lātus from *llātos (116, 126).

382. eō.—Un thematic ı̆s from *ei-si, ı̆t, early ı̆t, from *ei-ti, and, with extension of the strong grade to the plural, imus (in contrast to G. iūer, Skt. imās), itis. Similarly with ı̆ from ei, ibam, ibō, imperat. ı, ı̆lō, imperfect subj. irem, infin. ire.

Pres. sub. eam of the thematic type. Forms parallel to sim,
velim would be in part identical with indicative forms, as r pl.
imus.

The perfect is ii (ivi rare until late), probably from *iyai (as if
Skt. i sg. mid. *iye; cf. 3 pl. act. iyur), though there are various
possibilities of analysis. 2 sg. iištī or contracted ištī.

383. edō.—Un thematic ēs, ēst, ēstis, imperat. ēs, ēstō, etc., im-
perf. subj. ēśem, infin. ēsse, 3 sg. pres. indic. pass. ēstur. All these
are from ēd-, the lengthened grade of the root, which is also found
in the present in Balto-Slavic. The differentiation from the forms
of the verb ‘to be’ was doubtless a factor in the preference for
these forms. The evidence for the long vowel is beyond reasonable
question.

In ēst, ēstīs, etc., with st, for which the normal phonetic de-
velopment of dental+dental would give ss (190), the t is kept
or restored under the influence of the usual endings. The perf.
passe. pple. ēsus shows the normal phonetic development, but here
also comēstus beside comēssus.

Pres. subj. edim of the un thematic type. Forms of the the-
matic type, edam, etc., are late, and still later thematic forms of
the present indicative, as edis, edit.

384. dō.—From the Latin point of view the irregularity lies
in the short a of most of the forms, as damus, datis, dabam, darem,
dare, etc., by which they differ from those of stāre and the first
conjugation in general. From the comparative point of view, on
the contrary, the irregularity lies in the ā of dās, dā. For the root
is *dō-, as in G. ḍōwā and L. dōnum, with weak grade *dā- from
which come L. damus, etc. The total loss of dō- in the verb and
the substitution of dā- in dā, dās is not fully explained. Perhaps
it is nothing more than an assimilation of ō in quality only to
that of the a in damus, etc.

Early L. pres. subj. duim, rarely duam, are from a collateral
form of the root, namely *dū-, *dō- (cf. Umbr. pur-dūitu
‘porricito’, Lith. daviau ‘I gave’), whence du- (110.5) first in
compounds like perduim.

385. fiō.—From *bhuiyō, a yo- present from the weak grade of
the root *bheu- (L. fui, etc.), like OIr. -būu, OE bēo ‘am’, etc. It
belongs with the primary verbs of the fourth conjugation, like *venio, but differs from them in having ı before a vowel (*fiō, *fiunt, *fiēbam, *fiām), except in fieri, fierem (and even here sometimes fieri, fierem in early Latin), and in the ie of these last forms as compared with venire, venirem. The ı of fiō, etc., is probably an extension of that in fis, etc., such extension and also the persistence of the ı in contrast to the general rule (103) being favored by the fact that this was the only verb in -iō with accent on the i. That is, we may assume fiō for *fiō after fis, likewise fiunt, fiām, etc., then by further extension fiēbam, etc. Why there was only a restricted extension of ı to fieri, fierem in early Latin (where fieri, fierem are usual) is not clear. But for the later period it is significant that fieri, fieris, fieremus, etc., could not stand in dactylic verse.

While fiō serves as the passive of faciō, it retains its active inflection except in the infin. fieri, which prevails already in early Latin, though the active form fiere is also attested. Early L. fiitur, fiēbartur are quoted from Cato.

Only forms of the present system occur, the perfect being formed regularly from faciō, as factus sum, etc.

386. ı. aiō.—Pronounced aiyō and sometimes written aiiō (179.2). From *agyō (cf. ad-agium, prōd-igium) like maior from *magyō (180). Its early inflection was that of the fourth conjugation. So early L. ais, ait, and aibam from *aibam beside aībam, like audībam (387). Later ais, ait, sometimes in two syllables, but usually in one syllable (with retention of the spelling, never aes, aet).

2. inquam.—inquit is from *in-squit, with the weak grade of the root seen in inseque ‘say’, OE secgan ‘say’, etc. Most of the forms are of the simple thematic type, as inquis, inquit, inquimus, inque, etc. But some, as inquiunt, inquiēbat, etc., follow the verbs in -iō, perhaps influenced by aiunt, etc. The ı sg. inquam is best explained as originally subjunctive, ‘let me say’, hence ‘I assert’.

THE IMPERFECT

387. The Greek imperfect agrees with the Sanskrit and reflects the IE imperfect. This was formed from the present stem with
secondary endings, and with or without the augment, which finally became fixed in Greek as in Sanskrit. Thus G. ἔφερον = Skt. ābharam. Cf. paradigms 332–33, and for the augment 350–51.

In Italic there is no trace of this formation. The isolated L. eram is from *esā-, the root es- with an ā which sometimes occurs elsewhere in past tenses, as in Lith. buvo ‘was’ from *bhuāt (as if L. *fual instead of erat).

Otherwise the tense sign is L. -bā- (with regular shortening before -m, -l, -nt, -r, 101), from Italic -fā-, as shown by Osc. fūfāns ‘erant’, which happens to be the sole example of the imperfect indicative in the Italic dialects. This Italic -fā- is probably from *-bhūwā-, with the weak grade of the same root as L. fuit and the same ā as in L. eram and Lith. buvo (see above).

a. Upon this basis the whole Latin formation has generally been regarded as one of periphrastic origin. This is still the most attractive view, despite the fact that there is no entirely satisfactory explanation of the part preceding the -bam. It cannot be merely the present stem, for, aside from the fact that this does not agree in the third conjugation (legēbam, but present stem leg*o-), the present stem is only an abstraction, whereas periphrastic formations are combinations of actual words having an independent existence. Such a proposed derivation as legēbam from *legens-fām, that is, a combination with the pres. act. pple., is ideal from every point of view except the phonetic, but in that respect is too improbable. With this support for -ēbam, one may regard the other forms as analogical extensions, namely -ābam, -ibam (in early Latin more frequent than -ēbām, as audēbām beside veniēbām), and those that are apparently from the root as ibam, dabam, and Osc. fūfāns. The problem is similar in the case of the future in -bō (393.1).

THE FUTURE

388. The existence of a distinctive future tense in the parent speech is doubtful. Future time might be expressed by the present indicative (as G. εἰμι ‘I am going’), by the subjunctive (as G. ἔδομαι, πέτομαι, are short-vowel subjunctives to unthematic ἔδομαι, πέτομαι), or by certain s-formations with desiderative and future force. A suffix -syo- is common to the futures of Indo-
Iranian and Lithuanian, as Skt. dāsyāmi, Lith. duosiu; a suffix -so- to those of Greek and the Italic dialects, as δέιξω, Osc.-Umbr. fust 'erit' (from *fūseti), and to the early Latin forms like faxō; while both of these are related to the reduplicated s-formations of the Sanskrit desideratives, as pi-pā-sāmi 'I wish to drink', and certain Irish futures.

GREEK

389. The future in -σω is formed with the suffix -so-, and is allied to the other future and desiderative s-formations mentioned in 388. This analysis is preferable to that according to which the future is the short-vowel subjunctive of an σ-aorist (420). For the agreement with the latter, while frequent, is only partial and accidental. There are many futures in -σω without corresponding σ-aorists, and even among verbs which have both tenses formed with σ there is a significant difference in the case of the stems ending in a liquid or nasal, as Att. ῥενῶ from *τενεσω, but ἕτενα from *ἑτενσα.

a. The consonant changes, the interchange of -ξω and -σω from verbs in -ξω, the analogical retention of σ in λῶσω, the usually long vowel before -σω, are parallel to the situation in the σ-aorist, and will be discussed in that connection.

390. But the future of most verb stems ending in a liquid or nasal is formed with -εσω and here the regular loss of intervocalic σ is effective, hence -εω, Att. -ω, as τενεω, τενω, βαλεω, βαλω, etc. The ε of this type belongs in origin to certain disyllabic stems (127) from which it was generalized. Similarly in Sanskrit all roots ending in r or r, whether or not they show a disyllabic stem in other forms, have the future in -iṣya-, as karisyaṃi from kr, and the desiderative in -iṛṣa- or -iṛṣa- (with the iṛ, ār which belong to disyllabic stems, 126). One may also compare the fact that in Latin most of the verbs that have perf. -ui (from -eawai) and pple. -ius (from -etos) are from roots ending in a liquid or nasal, as molō, molui, molitus, gignō, genui, genus, domō, domui, domitus.

391. The so-called Attic futures are of similar character to the preceding, in that they also are formed from disyllabic stems end-
ing in a short vowel and have lost the σ. They differ from them in that they are formed from a greater variety of verb-stems and on the other hand are mainly characteristic of Attic, though some of them occur in Homer and elsewhere. In general they are Attic futures in -ω from verbs which in other dialects have the future in -σω. Thus τελω (also Hom. τελω beside τελεσω), καλω (also Hom. καλεω), έλω (also Hom. έλαω; pres. έλαύω), σκεδω from -αω (pres. σκεδα-ννυμι, aor. σκεδα-σα; so from all in -αννυμι and some in -εννυμι), κομω (pres. κομιξω; so from most in -ισω). These may all be regarded as analogical extensions of the type which is general Greek in the case of βαλω, etc.

392. The "Doric future" in -σω is the regular form in the West Greek dialects, as Delph. κλεψω, etc. But some middle forms of this type occur also in Attic-Ionic. Thus Hom. ἵσσεσται (beside ἵσσεται, ἤσσεται, ἤσται), Πεσώνται; Att. πεσοῦμαι, πλεύσομαι beside πλέονται, φεύξομαι beside φεύξομαι, etc.

This type appears to be a blend of those in -σω and -σω (r and 2), and that may be a sufficient explanation. In Attic-Ionic it was limited to a few middle forms influenced by the type Att. φανοῦμαι, while in West Greek it prevailed in the whole future system.

a. But a more specific source has been suggested, namely Hom. ἵσσεσται, which is then explained as a blend of ἵσσεται and an *εῖσται (from *ἐσται, a 3 sg. subj. like L. erit) reflected by ἤσται with ἵσ- restored by analogy.

b. Hom. Πεσώνται, Att. πεσοῦμαι are separated by some from this type and derived from *πεσέομαι (cf. 391). But there is nothing against the derivation from *πεσέομαι, since for metrical reasons σσ could not stand in the quotable Homeric forms.

LATIN

393. 1. The future in -bō, of the first and second conjugations and occurring sometimes in the fourth in early Latin in the form -ibō (dormibil, etc.), parallel to the imperfect in -ibam (387), is from an Italic -fō. It occurs in Faliscan (pīpāfo 'bibam'), but not in Oscan-Umbrian, where the future is formed with -so- like the Greek (388). This Italic -fō is probably from *bhẉ/*o-, with the weak grade of the same root as L. fuil and the thematic vowel, perhaps here the short-vowel subjunctive, like erō (3). That is, the
origin of the formation is similar to that of the imperfect in -bam, with the same problem (387).

2. The future of the third and fourth conjugations is formed with the two Latin mood signs of the subjunctive (425), namely ā in the first person, ē in the other persons, as legam, legēs, etc., veniam, veniēs, etc.

3. The isolated erō, eris, etc., is from *esō, etc., a present subjunctive of the short-vowel type (419).

394. Early L. faxō, capsō, etc., though commonly called future perfects, are simple futures formed with -so-, like the future in Greek and in Oscar-Umbrian (388). With them belong the subjunctives faxīm, axīm, ausīm (with optative suffix, 425.3).

In the forms like indicāssō, negāssim, etc., the precise source of the ss is uncertain, but they have some connection with the intensives like capēssō and other s-formations like quaesō from *quaes-so (374.9).

That all these have nothing to do with the perfect system is shown by the passive forms like faxitūr, iussitūr, turbāssitūr, also infin. impetrāssere, reconciliāssere.

THE AORIST

395. The distinctive IE aorist is the s-aorist formed from the root by the addition of s and the secondary endings. In Sanskrit there is gradation of the root syllable between the lengthened grade in the active and strong or weak grade (according to certain rules) in the middle. But it is unlikely that this reflects the original distribution. There is no gradation in Greek, the root keeping the same form throughout, usually the e-grade or the same grade as the present.

The other types of aorist have no positive characteristics distinguishing them from some imperfects belonging to the present stem. For a particular verb they are distinguished by a difference in the grade of the root or by the absence of the special suffix or other characteristic which marks its present stem. Thus in Sanskrit asīcam is aorist, distinguished from imperf. asiṇcam (present stem with nasal infix), while the similar adiṣcam is imperfect;
abudham is aorist (imperf. abodham), while atudam is imperfect. So in Greek aor. ἔτραπων but imperf. ἔγραψαν, aor. ἔβην but imperf. ἔφην, aor. ἔγένετο but imperf. ἔλεγετο.

That is, in these types the aorist stem is distinguished from the present stem by contrast in a given verb, rather than by the presence of any formative element peculiar to the aorist as such.

It remains true, however, that the thematic formation with weak grade of the root and accent on the thematic vowel (354.2B), while occurring as a present stem, is much more commonly an aorist stem, and nearly always so in Greek.

In Latin the aorist was lost as a distinct tense. Such aorist forms as survived in the perfect will be discussed in that connection.

THE GREEK SIGMATIC AORIST

396. The Greek sigmatic aorist represents the IE s-aorist, but with an important innovation. Originally the secondary endings were added directly to the s, as 1 sg. -s-ης, 2 sg. -s-s, 3 sg. -s-t, etc. Cf. Skt. 1 sg. anāśam, 2 sg. Vedic anāis, 3 sg. Vedic anāis, 1 pl. anāśma, 2 pl. anāśta, 3 pl. anāśur. For Greek we might expect, e.g. ἔλωσα (-α from -ης), *ἐλῶς, *ἐλῶση, *ἐλω(σ)μεν, *ἐλῶστε, ἔλωσαν (-α from -ης, then -αν after -ον, etc.). From 1 sg. -σα and 3 pl. -σαν the σα spread to all the indicative forms except 3 sg. -σε, which has ε from the perfect or the thematic aorist; and further to the optative, the imperative (except 2 sg. -σον), and participle (though this may partly reflect an IE -ση-) in fact to virtually the whole aorist system except the subjunctive.

397. 1. From roots or verb stems ending in a consonant the usual results of the combinations with σ are observed. Thus ἔγραψα (191), ἔδειξα (192), ἔπεισα from *ἐπειθ-σα (193). For -ξα and -σα from verbs in -ξω, see 360.2a. ἔφησα from *ἐφαν-σα (203.2), ἔστειλα from *ἐστελ-σα, and ἔφθειρα from *ἐφθερ-σα (205.2), but ἔκεισα, ἔρσα (205.1).

2. From verb stems ending in a vowel the retention of the intervocalic σ is due to the analogy of forms like ἔγραψα, etc. (see 165).

3. The great majority of verb stems ending in a vowel have a
long vowel before -σα, as ἔλυσα, ἔτιμησα (Dor. ἔτιμασα), ἐφιλησα, ἐδήλωσα. In some this is the true form of the verb stem, as most obviously in the case of denominatives in -αω, where the short vowel in the present is secondary. But it is largely due to analogical extension from such inherited stem forms as φῦ-, δρᾶ-, πλη-, γνω-. 4. Those that have a short vowel before -σα are from stems ending in σ, as ἔτελεσα (Hom. ἔτελεσα, pres. τελείω from *τελεσ-ω, 179.1, 363.2), ἔσεσα, ἔτρεσα (363.2), ἔσβησα, etc. (367); or from stems, mostly dissyllabic (127), ending in a short vowel, as ἐκάλεσα, ἐδάμασα, ἐστόρεσα, ὤμοσα, etc. (here also Hom. ἐκάλεσα, etc., by analogy of ἔτελεσα). In some verbs there is fluctuation, as, from αἰνεώ, Att. ἱνεσα, but Hom. ἱνησα.

THE GREEK UNSIGMATIC OR "SECOND" AORIST

398. Thematic.—Most of these belong to the type which has the weak grade of the root and the accent originally on the thematic vowel (354.2B). Thus ἔλπον (λιπεῖν, λιπών), ἕφυγον, ἕπραπον, ἕδρακον, ἕσχον, ἕπτόμην, ἕπτομην, ἕλαβον, etc. A few have the e-grade, as ἐτεκον, ἐγενόμην, ἐτεμον beside ἐταμον. The old accent belonging to the former type is preserved in the infinitive and participle (220, end), as λιπεῖν, λιπών, and is extended to the others, as τεκεῖν, τεκών. That is, in Greek it becomes a characteristic of the aorist, without regard to the original distribution.

A few have reduplication, as ἡγαγον (ἀγω), Hom. ἐκέκλετο (κλωμαι), λέλαθον (λῆθω), etc. So, in origin, ἐλπον, Hom. ἐλπον from ἐφείπον (cf. θεῖπ- attested in many dialects, as Cret. 3 pl. subj. θείποντι), this (see 92.1a) from *ἐθενπον, corresponding to Skt. avocam, from IE *e-we-uqʰom (uqʰ the weak grade of *weqʰ, Skt. vač-, G. feĩ- in fépos).

399. Unthematic.—These are mostly forms of the root class without gradation but with shortening of the vowel in the third plural, as ἔσην, ἔβην, ἔγνων, 3 pl. ἔβαν, ἔγνον, etc. (see 349.2a). By analogy of these ἔστην also has ἔστημεν, instead of *ἔσταμεν parallel to ἔθμεν, ἔδομεν (see below).

The aorists of τίθημι, δίδωμι, ἥμι are peculiar in having their
singular, as ἐθηκα, ἐδωκα, ἡκα, formed from an extension of the root, the same that is seen in L. faciō, fēci and in the κ-perfect (see 406). They also preserve the old gradation, with weak grade outside the singular, as 1 pl. ἔθεμεν, ἔδομεν, εἰμεν (from *ἐ-εμεν), 1 sg. mid. ἔθεμν, ἔδομν, εἰμν. The oldest 3 pl. forms are ἔθεν, ἔδων, then Att.-Ion. ἔθεσαν, ἔδοσαν, but also ἐθηκαν, ἐδωκαν formed from the singular.

There is also a series of root aorists occurring only in the middle and mostly Homeric, as λύτο, χύτο, ἀλτο, πάλτο, γέντο, δέκτο, λέκτο.

400. There are several aorists in -a, the history of which is much disputed. Att. ἤνεγκα is in origin a perfect with “Attic reduplication”, that is, Ἑν-γκα, exactly corresponding to Skt. perf. añ-aίça from αίς- ‘attain’. Most dialects have ἤνεικα from a different root. ἤχεα (χέω) is based upon an old root aorist *ἐχερά (a from η), *ἐχεὺς, *ἐχεὺ (cf. Skt. açravam, açros, açrot), that is, the active form to which belongs 3 sg. mid. χύτο. The a was extended from the first singular to the other forms after the analogy of the σ-aorist. Hom. ἤχενα beside ἤχεα is best explained as having ευ from the old *ἐχεὺς, *ἐχευ. Like ἤχεα is Hom. ἤκηα from *ἐκηφα (pres. καίω from *καφω, fut. καίω), and like ἤχενα are Hom. ἅλενα, ἁσσενα. Arc. ἀπυδᾶς = ἀποδόοισ points to an ἐδοφα (cf. L. duim, 383).

ἐλπα beside ἐλπον, rare in Homer (ἐλπας, ἐλπατε), but frequent in Attic, Ionic, and other dialects (cf. Cret. προφεπάτο, Lac. προφεπάθας) is hardly to be explained as an inherited by-form. It seems rather to be formed from ἐλπον after the analogy of other aorists in -a. But the more special source, explaining why the a-form is so early and so widespread in this particular verb is yet to be found. In later times such a shift is frequent, as ἤλθα for ἤλθον, similarly ἐφαν, ἐφαγαν, etc. (as ἐφυγα, ἐφυγαν). (So regularly in Modern Greek, ἐφυγα, ἐφυγαν, etc.)

THE GREEK AORIST PASSIVE

401. The Greek aorist passive has two types, -ην and -θην, both with the active secondary endings.

The type in -ην is in origin simply an active unthematic aorist
from a stem ending in η (IE ē), parallel to ἐβλήν (Hom. ξυμβλήτης) beside mid. βλητο. Such stems very commonly had intransitive force, and frequently appear beside γό- presents which are also largely intransitive and furnished the Sanskrit present passive (355.2B, 372.2а). Many of the Homeric forms might be classed as active (intransitive) forms and so translated, as ἐάγγη ‘broke’, ἐκάη ‘burned’, μιγη ‘mingled’, ἐχάρη ‘rejoiced’, φάνη ‘appeared’. The intransitive force came to be felt as passive only by contrast with active forms of transitive meaning.

The type in -θην is of disputed origin. But the most probable view is that the starting-point was the 2 sg. mid. ending IE -θής, e.g. ὑπ-θης = Skt. ádi-thās from which arose the other forms, 1 sg. ἐδόθην, 3 sg. ἐδόθην, etc., after the analogy of the type in -ν, -ης, -η.

This type was better adapted to verb stems ending in a vowel, especially the great mass of denominative verbs, and already in Homer is many times more frequent than that in -ν. Occasionally both types occur from the same verb, as Hom. μυγήμεναι and μυχήμεναι, ἐφάνη ‘appeared’, but ἐφάνθην ‘was’, ἐγράφην, late ἐγραφθην.

Forms like ἐγνώσθην may be derived from the s-aorist middle, as if ἐγνώσθης = Skt. ajñāsthās. But it is more probable that the σ here, as in ἐγνωσται (407a), γνωστός, belongs with the widespread analogical extension of σ from forms derived from stems ending in σ or a dental.

The inflection of both types is the same as that of ἐβλήν, etc., with η throughout except for the regular shortening before ντ, as in the participle and the old 3 pl. -εν. Hom. 3 pl. ἄγεν, κόσμητεν, etc., beside -ησαν as in Attic.

THE PERFECT

402. The IE perfect was marked by the following characteristics.

1. Certain distinctive personal endings, as 1 sg. -α, 2 sg. -θα, 3 sg. -ε, 2 pl. -ε (probably, as indicated by Skt. -a, but forms of other languages reflect the usual -te), 3 pl. -r (indicated by Skt. -ur, L. -ere, etc.; see 417.6).
2. Shift of accent and gradation of root, with the same distribution as in the present of the root class, but here (from roots of the e-series) with the o-grade in the singular in contrast to the e-grade of the present (349.2). There was also a type with the lengthened grade of the root (ē, ō, or ā), though the original distribution of such forms is uncertain.

3. Reduplication, commonly consisting of the initial consonant of the root followed by e (352.3), was a prevailing, though not a universal, characteristic. The agreement between Skt. vēda, G. oîda, L. vidi, Goth. wait, together with other evidence, shows that there was an IE perfect type without reduplication.

Apart from the matter of reduplication, the main features of the IE perfect are illustrated by the accompanying table.

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<td>vēda</td>
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<td>vidmā</td>
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**The Greek Perfect System**

403. oîda.—This is the one Greek perfect which most faithfully reflects the IE formation in the gradation of the root syllable and in the addition of the endings directly to the root. The regular treatment of two dentals (190) accounts for 2 sg. oîθa, 2 pl. ῤιστε, while 1 pl. Att. ῤiμεν, for earlier ῤiμεν as in Homer, is due to the influence of ῤιστε. But the 3 pl. ῤισάς is a new formation. It is from *ϝίδ-σαντι (cf. also Att. εἰξασι, 3 pl. of ἔικα), whence Hom. ῤισάς beside ῤισάς, Dor. ῤιαντι, formed to 3 pl. pluperf. *ϝίδ-σαν, Hom. ῤιαν, which has-σαν from the σ-aorist. In Doric ῤιαντι gave rise to ῤιάμι, etc., after the analogy of ῤιάμι to ῤιαντι.

The e-grade appears in subj. εἰδῶ (Hom. εἰδέω, 1 pl. εἰδομεν), opt. εἰδεῖν, partic. εἰδός (in Homer also fem. ἤδοε), fut. εἰσομαι, infin. Att. εἰδέναι (but Hom. ῤιμεν, ῤιμεναι), and in the pluperf. ἤδη, Hom. ἤδεα, 3 sg. ἤειδει, from *ἠϝειδ- with η-augment (351.1).
404. The "second perfect", λελοιπα, etc.—The "second perfect" is so called because it is second in frequency to the "first" or κ-perfect; historically it is the earlier. As compared with the primitive οἶδα it shows two important innovations: First, the old gradation is given up, the grade of the singular being generalized in all the active forms. Second, the root syllable is followed by a in all the indicative forms with the exception of the 3 sg. -ε. This is similar to the spread of a in the σ-aorist (396), and probably the two processes went on simultaneously with mutual support. Here the source of the a is to be found, first of all, in the inherited 1 sg. -α, supported by the early 3 pl. -ατι (340.3) and by some forms like ἐσταμεν, τέθναμεν, etc., in which a belongs to the weak grade of the root (IE *e; cf. Skt. tashima and the extension of i to bubudhima, etc.). With the generalization of the a, the old 3 pl. -ατι was mostly replaced by -α-ντι, whence Att.-Ion. -αςι.

Roots of the ε-series regularly show the o-grade, that is, the inherited grade of the singular, generalized. Thus λελοιπα, πέποιθα, γέγονα, τέτροφα, etc. But from roots with ευ the only o-grade perfect form is Hom. εἰλήλουθα (cf. fut. εἰλεύσομαι) beside ειλήλυθα with weak grade as in Attic. All others, as πέφευγα, etc., have the e-grade of the present.

A disguised o-grade form is Hom. δείδω from *δεδροῖα, beside δείδα (Att. δέδα) from *δεδρία with weak grade from pl. δείδιμεν. In the Hom. forms the ε is only an indication of the original syllabic length of δεδή. A parallel gradation, ὁδε (125), is seen in ἔρρωγα (ῥήγωγι), Hom. εἰθωὰ (ἐθω), and (with κ-type) Dor. εἰκα (ἰκα).

Roots which have gradation between α and ἄ, Att.-Ion. η (123α) show the latter in the perfect, as εἰληφα (λαμβάνω), ἔκαγα (ἀγνυμι), πέφημα (φαίνω from *φάνω), Hom. εἶδε (ἀνδάνω).

Many Greek verbs show no gradation of the root, hence also γέγραφα, etc.

a. There are many scattered traces, mainly in Homer, of the earlier system exemplified by the inflection of οἶδα, namely forms with gradation of the root, or with endings added directly to the root, or with both features. Such are the so-called μ-forms of the perfect or pluperfect. Thus έργαμεν, εἴκτην
Sometimes there is gradation of the root in the participle, with weak grade in the feminine. Thus εἰδῶν, ἠδύνα; μεμηκὼς, μεμακυία; ἀρηρὼς, ἀραμυῖα.

405. The aspirated perfect, Att. κέκοφα, etc.—This is mainly Attic, though some examples occur in other dialects. It is unknown in Homer in the active (cf. κεκοψώς) but does occur in some 3 pl. mid. forms, as τετράφαται (τρέπω), ἔρχαται (ἐβργώ), δρωβέχαται (ὅρέγω), and that is clearly its starting-point. If one compares, for example, the perfect middle forms of τρίβω, κόπτω, γράφω, as τέτραμαι, κέκομαι, γέγραμαι, 2 sg.-ψαι, 3 sg.-πται, 2 pl.-φθέ, or a similar series from roots ending in a guttural stop, one observes that owing to the regular changes in consonant combinations the differences in order are eliminated, that all roots ending in a labial stop have the same forms, likewise all ending in a guttural stop, etc.—except in the old 3 pl.-αται, where the original final stop of the root would properly remain unchanged. But the leveling common to all the other forms was, in the case of some roots ending in a labial or guttural, extended to the 3 pl. in -αται, and with generalization of the aspirate belonging to γράφω, τρέχω, etc., this being favored by the uniform 2 pl.-φθέ or -χθε.

This is the situation indicated by Hom. τετράφαται, etc., and by other similar forms in Herodotus and Thucydides. From such forms (prior to their displacement by the periphrastic forms) the aspirate spread to the active, especially in Attic, as τέτροφα (τρέπω), κέκοφα (κόπτω), τέτριφα (τρίβω), πέτρομφα (πέμπω), δέδειχα (δείκνυμι), πεφύλαχα (φυλάττω), etc. The type is rare in the early Attic writers, and spread from word to word without ever becoming universal.

a. In the case of roots ending in a dental stop, the orders were still kept apart in the early period before the endings beginning with μ (cf. κεκαθμένος, κεκορωθμένος, 199) and there was no analogical leveling in the third plural, like that in Hom. τετράφαται, and no aspirated perfect in Attic. But there was a curious extension of 3 pl.-δαται, -δατο from verb stems ending in δ as Hom. ἔρηπδαται, ἔρηπδατο (properly ἔρηπδο- to pres. ἔρειδω), to others as Hom. ἔρραδαται, ἔρράδατο (βαίνομαι), ἀκηχέδαται (τσγ. ἀκάχημαι), ἐληλάδατο (3 sg. ἐληλάτο).
406. The κ-perfect, τέθηκα, etc.—This is a type peculiar to Greek. Its primary evolution must belong to prehistoric Greek, for it is already established, within limits, in Homer and in the earliest records of other dialects. Yet certain stages of its growth are observable in the historical period.

The κ is the same as in three aorists ἔθηκα, ἔθωκα, ἥκα, and is in origin a root "increment" or extension, like that in L. fæciō, fēcī (IE *dhē-, *dhē-, Skt. dha-, G. θη- in τέθημι). Such an extension is a kind of suffix, but one that is not distinctive of any particular tense; it produces another form of the root which may run through all the tenses, as in L. fæciō (and many others). Thus we may analyze ἔθηκα, τέθηκα from this point of view as ἔ-θηκ-α, τέ-θηκ-α, formed from an extended form of the root identical with that seen in L. fēcī; similarly ἥκα like L. iēcī (iaciō). Not necessarily just these forms alone, for which we find convenient parallels in Latin, but at any rate some few forms of this kind furnished the starting-point. In the first and third singular they offered convenient substitutes for forms in which the vowel endings were obscured by contraction with the final long vowel of the root, e.g. 1 and 3 sg. *τεθη, *δεδω (cf. Skt. dadhāu, dadāu with a u-extension; Vedic also -ā).

The κ-perfect started and was first established with stems ending in a long vowel (including forms like πλη-, βλη- from dissyllabic stems), and in the singular of the indicative. This last is indicated by surviving traces of such distribution in Homer and in various dialects. Thus Hom. βέβηκας, βέβηκε, but 3 pl. βεβάσαι, inf. βεβάμεν, part. βεβάως; τεθηκε, but 3 pl. τεθνάσι, inf. τεθνάμεν, part. τεθνώς; κέκμηκας, but part. κεκμήως. Cf. also Boeot. 3 pl. ἀποδε-δόντα, part. δεδώσας, Arch. 3 pl. [φ]δέλεσι, etc. So even in Attic ἐστηκα, but pl. ἐστάμεν, etc., δεδωκα (in contrast to Hom. deίδω from *δείδωμαι, 404), but still pl. δέδωμεν, etc.

From the singular the κ spread to the dual and plural and to all the active forms. From primary verbs the type spread to the denominatives in -ω, -ω, etc., with verb stem ending in a long vowel, and in general to verb stems ending in a vowel. This stage is already reached in Homer and in the early records of other
dialects, except for the occasional survival of forms without κ as shown above.

In later times new κ-perfects were formed by analogy from verbs with stems ending in a consonant, as ἐφθαρκα formed to ἐφθαρμαι in place of ἐφθορα, ἐσταλκα formed to ἐσταλμαι, πέπεκα formed to πέλσω, ἐπεισα (πέλθω) and used in transitive sense in contrast to the older πέποιθα which goes with πείθομαι in meaning.

Many verbs show -ηκα from a secondary stem in η, after the analogy of βέβληκα, etc., as νενέμηκα (νέμω), τετύχηκα (τυγχάνω), μεμάθηκα (μαθάνω), and similarly λελάβηκα (λαμβάνω) in several dialects.

407. The perfect middle.—The endings are added directly to the root or verb stem, as originally in the active also (cf. ὀδύα, 403). In the original gradation, as seen in Sanskrit, the root had the weak grade as in the dual and plural of the active. In Greek this is often preserved in contrast to the generalized o-grade of the active. Thus τέτραμμαί (τρέπω) and τέθραμμαί (τρέφω) in contrast to τέτροφα, ἐφθαρμαι in contrast to ἐφθορα, and so ἐσταλμαι, ἐσταλμαι, τετάται, κέχυται, ἐσουμαι, πέπυμαι, etc. But frequently the grade of the present stem is followed, as λέλευμαι, πέπειμαι, ἔρηγυμαι, in contrast to λέλοιπα, πέποιθα, ἔρρωγα, not to speak of the many cases like λέλεγμαι from verbs which show no gradation.

a. The numerous consonant changes before the endings are partly in accordance with the regularly phonetic processes, but partly due to analogical leveling (see 190, 191–93, 199). Of chief importance is the analogical extension of σ which is regular in the third singular from stems ending in a dental stop or in σ, as πέπειμαι (πείθω), τετέλεσται (τελέω from *τέλεο-μαί), to the forms with μ-endings, as πέπειμαι, τετέλεσμαι, and from these even to some stems ending in ν, as πέφασμαι (but 3 sg. πέφανται), or in a vowel, as τέτευμαι (τένω, fut. τεί-σω), ἔγνωσμαι (γνώσκω), etc. These last were favored by forms like ἔξωσμαι, ἔξωσται beside ἔξωμαι, ἔξωται (ζώνωμι, root ζω-), which show leveling in opposite directions from 1 sg. ἔξωμαι (with regular loss of σ before μ), 3 sg. ἔξωσται.

408. The pluperfect.—This is a Greek formation, based on the inherited perfect, but its history is partly obscure. Some old dual and plural forms like Hom. ἐπετιθομεν, ἐκτην, βέβασαν are simply forms of the perfect stem with augment or with secondary
endings, and in the pluperfect middle these are the only characteristics. But in the active the earliest forms of the singular, namely 1 sg. -ea, 2 sg. -eas, 3 sg. -ee or -ei, as in Hom. ἔδεα, ἔδεε, πεποίθεα, ἐπεποίθει, contain an element e before the endings proper, which are the same as in the perfect. The e appears also before the endings in the usual dual and plural forms, as ἔλεοιπεμεν, etc., and in the perf. inf. λεοπέναι. The source of this apparent stem in e is obscure. The derivation of Hom. ἔδεα from *ἵεῖλέσα and the further comparison of L. pluperf. -eram (from -isā-) is at best only a partial explanation.

The regular contraction of the old singular forms, -ea, etc., gives -η, -ης, -ει, and these, with dual -ετον, -ετη, pl. -εμεν, -ετε, -εσαν, are the proper Attic forms of the best period. In later Attic the ει of the third singular was extended by analogy, giving rise to 1 sg. -ειν, 2 sg. -εις, dual -ετον, -ετη, pl. -εμεν, -ετε, and eventually even -εσαν.

a. Hom. 2 sg. ἴδευσ, ἴδησθα, 3 sg. ἴδη are of different formation, being from a stem ἴδη- seen also in fut. εἰδήσω and parallel to L. vidē-.

409. The future perfect.—This is a Greek formation, simply a future in -σω from the perfect stem. It is rare in the active, mainly ἔστήσω and τεθύσω from the perfects with present meaning ἔστηκα, τεθύκα. Middle forms are common, as λελείψομαι, γεγράψομαι, etc.

THE LATIN PERFECT SYSTEM

410. The Latin perfect is a blend of the IE perfect and aorist, both in form and in function. Apart from the uniformity in the personal endings, it presents a variety of types, partly of perfect and partly of aorist origin, while the commonest type, the vi-perfect is a specifically Latin development.

a. The merging of the perfect and aorist belongs to the Italic period. But Oscan and Umbrian show several formations that are unknown in Latin, and conversely nothing corresponding to the Latin perfect in -vi.

411. The reduplicated perfect.—This represents the IE reduplicated perfect, in a few forms perhaps also the reduplicated aorist (cf. teligi, G. τεταγών). For the consonant of the reduplication in general and for steti, spondi, see 352.4.
The original vowel of the reduplication is preserved in *dedi*, *steti*, *cecinī*, *cecidī*, *pepuli*, *tendī*, etc., But it is replaced by the vowel of the root syllable wherever this is *ī*, *u*, or *ō* in both the present and perfect, as in *didicī* (*discō*), *cucurri* (*currō*), *pupugi* (*pungō*), *momordī* (*mordeo*), *spondī* (*spondeō*), etc.

This is not a matter of phonetic assimilation, but an analogical extension of the relation observed in cases like *tendī* (with inherited *te-*) to *tendō*, after which arose *momordī* to *mordeo* in place of *memordī*, *cucurri* to *currō* in place of *cecurri*, etc. In several cases the older forms with the orig. *e*-reduplication are quoted, as *memordī*, *pepugi*, *peposcī*, etc.

The loss of the reduplication in the majority of compounds is due to the vowel syncope so characteristic of Latin (108). In the few cases where the prefix ends in a short vowel the resulting two double consonants remain, as in *re-tulī* (*tetuli*), *re-perī* (*peperi*). But after a long syllable the double consonants are simplified, so that nothing is left of the reduplication, as in *at-tendī* (*tendī*), *oc-cidī* (*cecidī*), etc. A few perfects of compounds retain the reduplication of the simplex, as those in -*didī* (*dedī*), -*stīti* (*steti*), -*didicī*, -*poposci*, and -*cucurri* beside -*curri*.

The vowel of the root syllable is the same as in the present, or with its regular weakening, as in *cecinī* (*canō*), *cecidī* (*caedo*), *pepuli* (*pellō*), etc. There is no trace of the original gradation.

412. In some verbs the loss of reduplication in compounds led to the use of a perfect without reduplication in the simplex. Thus *tetuli* (ifrequent in Plautus) was gradually replaced by *tuli*, *scidī* by *scidī* (late), similarly *fidi* (late) from the frequent -*fidi*. The same explanation holds for *vertī*, *liqui*, and many others, though these appear thus without reduplication from the earliest period.

413. Perfect with lengthened vowel of the root syllable.—This is only a convenient heading for a series of forms of diverse origin.

In *vēnī*, *sēdī*, *lēgī*, *ēmi*, *ēdi* beside pres. *venō*, etc., we have an inherited type with the *ē*-grade of the *ē*-series, seen also in Goth. *rī* pl. *qēmum*, *sēlum*, etc. (*rī* sg. *qam*, *sat* with the *o*-grade). The original distribution of such forms, and whether they reflect an old perfect or aorist type, is uncertain.
A similar relation in other series (āːa, əːo) is partly inherited, as perhaps in ṣcābī (scabō), fōdi (fodō), and extended by analogy as in čāvi (caveō), lávi (lauō), mōvi (moveō), vōvi (vovēō), iūvi (iuvō), though these last are otherwise analyzed (as belonging to the vi-perfect) by some.

In fēci, ĭēci (cf. G. ἐθηκα, ἤκα) the ē represents the normal grade of the ē-series in contrast to the weak grade of the pres. faciō, iaciō. The same type is followed, but mostly by analogy, in ēgī (agō), cēpī (capīō), early L. co-ēpī (capīō) whence coeptī, frēgī (frango), ṭēgī (pango).

In vīdī (videō), līquī (linquō), vīcī (vincō) the i represents oi (cf. G. oίδα, λελοιπα, and 90). So in fūgī (fugiō), fūdī (fundo), rūpī (rumpo) the ā presumably represents ou (cf. G. πέφυγα for *πέφυγα).

414. The perfect in -ṣi.—This is based on the IE s-aorist. Cf. dīxi, clepșī, like G. ἐδειξα, ἐκλεψα. It occurs only in primary verbs from roots ending in a stop consonant (including the nasals) or in s, or in a few cases has been formed by analogy. For the consonant changes, see 191–93.

Forms in -psī from roots ending in a labial stop, as scripșī (scribō), clepșī (clepō). So from roots ending in m, with the inserted p (195), as sūmpșī (sūmō), -tempsī (temnō).

Forms in -xī, from roots ending in a guttural stop, whether palatal or labiovelar, as dīxī (dico), coxī (coquō), auxī (ugeō), iuñxī (iungō), stinxī (stinguō), vexī (vehō, from *wegh-), cōnixī (cōniveō, from *kneigʷh-, 153), fixī (early L. fīvō, from *dheigʷ; later figō). After the analogy of the relation between fīxī and fīvō, or the like, arose vīxī (vivō) and strūxī (struō), which are not from roots ending in a guttural. But flūxī (fluō) is probably from a parallel form of the root (cf. early L. cōnslugēs and G. φλυγ- in φλυγω, βλυγαι, beside φλυν- in -φλυν).

Forms in -ssī, -ṣi are mostly from roots ending in a dental, as cussī (-cutiō), clausī, early clausī (claudō), etc. So iussī (iubeō, from *yudh-, 140). Others are from roots ending in n, as mānsī (maneō), or in a guttural which is lost in the groups lcs or rcs (207.2), as fulsī, (fulgeō and fulciō), or in s which becomes r in the
present, as gessē (gerō), ussē (ūrō), haustē, early haussē (hauriō), haestē, early haessē (haereō). So pressē (premō) must be from a *pres- beside *prem- (cf. *tres- in Skt. tras-, G. τρέω beside *trem- in L. tremō).

a. The vowel of the root syllable is usually the same as in the present, apart from the regular lengthening before ns or nx (99.2). But there are some differences. Thus ussē with the weak grade, probably under the influence of usus, in contrast to ērō from *eusō; cessē in contrast to cēdō, which is perhaps from *cedō and so with secondary ē. The opposite relation, long vowel in the perfect beside short vowel in the present, appears in two classes of forms.

Those with i, u, from ei, ou (ei?), the strong grade, just as in dīxi, dūxi, but here in contrast to weak grade in the present. Thus di-vīsī (di-vīdō), mīsī, early mēssei (mīlō, but this is probably from *miēsō, *miētō, by 209), strūsī, flūsī (strūō, flūō; see above). So the earliest perfect form of iubēō (once ioubeatis, but probably an error) is 3 sg. ioussī, iūssī (written iousit, etc.), which would have yielded iūssī (cf. mēssei, mīsī), but this was replaced by iussī under the influence of iussus.

Those with ē or ā, representing the lengthened grade and so parallel to forms like lēgī (legō) or scabdī (scabō). Thus rēxi (regō), lēxi (legō), dē-lēxi, etc., beside collēxi, etc. (legō), trāxi (trahō). There is definite evidence for the long vowel in these, but the statement that all perfects in -exī had the long vowel is unwarranted. There is no evidence for the long vowel in vēxi (vehō), though it is often quoted as tēxi on account of Skt. avākṣam, ChSl. vēsū.

Several of the perfects in -st are secondary beside perfects of other types in the same verb. Thus pānxi beside pēpīgī, pēgī (pangō), pārsī beside pēpercī (parcō), -pānxi beside pūpūgī (pungō), sūmpsi (sūmō) beside ēmī (emō) and an old surēmī.

Forms like dixī, dixem, dixe, beside dixissī, dixissem, dixisse, are due to haplography (40.13), by which sis was reduced to s. If it were only a matter of vowel syncope, we should expect similar forms from other than s-perfects.

415. The perfect in -vi or -ūi.—This is a type peculiar to Latin (it is not even Italic), just as the κ-perfect is peculiar to Greek, and its evolution was along similar lines. A w-element which in some few cases belonged to the root or to an extended form of the root spread to other roots ending in a long vowel (cf. fīē-vī, crē-vī, sprē-vī, sē-vī, lē-vī, sī-vī, sci-vī, tri-vī, pā-vī, strā-vī, nō-vī), also to some dissyllabic stems ending in a short vowel (whence monūi, etc.; see below), and to the great mass of verb stems in ā and ī of the first and fourth conjugations.
a. But the more precise starting-point remains uncertain. According to one view the principal rôle was played by early L. *fūi* pronounced, with the natural glide between ū and the following vowel, as *fūi* and occasionally so written. But neither this nor any of the various other possibilities suggested has won general acceptance.

The perfect in -ui is only a variety of that in -vi, being formed from stems ending in a short vowel which appear also in the participles in -itus (437.2), that is, -ui from *-e-wai* with the same weakening as in ēluō, dēnuō, etc. (110.5).

The perfect in -ui is combined with that in -si in messui (metō) for *messi*, perhaps due to the influence of early servui (serō ‘sow’), and in nexui (nectō) for early nexi, like texui (lexō).

416. The shorter forms of the perfect in -vi.—Some of the “contracted” forms are the result of actual contraction, while others arose by analogy. Where ū stood between like vowels, it was subject to loss, with resulting contraction of the vowels, as in divitis beside divitis, etc. (171). Such parallel forms as audīvisti—audīsti, audīvissem—audīssem, audīvisse—audīsse, dēlēvērunt—dēlērunt, dēlēveram—dēlēram, led to others like nōvisti—nōsī, nōvērunt—nōrunt, nōvisse—nōsse, and those of the first conjugation which are naturally the most frequent, amāvisti—amāsti, amāvērunt—amārunt, amāveram—amāram, amāvisse—amāsse, etc.

In perfects in -ivi the contracted forms remain restricted to those which had the sequence īvī. There are no forms in -irunt, -iram, etc., parallel to amārunt, amāram, amārō, amārim, but rather audiērunt, audieram, audierō, audierim, and with these belongs 1 sg. audīi. These are probably not derived from the forms with ū, but arose after the analogy of īi with its compounds, which is earlier than īvī and not originally of the vi-type (381).

The shorter forms, especially those of the first conjugation, are quotable from early Latin (cf. conioura(s)se, 186 B.C.) and are more common than the full forms in the classical period. But the details of relative frequency are too involved to be presented here.

417. The endings of the Latin perfect.

1. First singular.—ī, early -ei (inscr. fecei, etc.), is from a 1 sg, ending IE -ai, represented in Skt. 1 sg. perf. mid. -e, as bubudhe, also in ChSl. vēdē ‘I know’, in form = L. vidi.
2. Second singular.—-iśtī, early -istei, is to be analyzed as -is-tī, as also 2 pl. -is-tis. The first part belongs in origin to an s-aorist stem, the same which underlies the other tenses of the Latin perfect system (418). The second part is from the 2 sg. perf. ending -tha (Skt. -tha, G. -θα, 402), remade into -lei, -tī after the analogy of the first singular.

3. Third singular.—The earliest forms have -ed, as inscr. fhefshaked, feced, like Osc. d e d e t, etc., with the secondary ending -d from -t (337), which belonged to such forms as were thematic aorists in origin, like Osc. kůmbenėd, and was added by analogy to the original perfect ending -e.

The -it in Plautus and Terence (also inscr. -eit) has (besides the generalized -t for earlier -d) the long vowel after the analogy of the first singular.

Since we cannot determine whether this -it displaced the form with short vowel or was only one preferred by the early poets, it is uncertain whether the later -it comes from -il with the regular shortening (101), or represents the old -ed.

4. First plural.—-imus has the same -mus from -mos as the other tenses (338), while the preceding i may be explained in various ways and is very likely of various sources. It may be in part the weakening of a = IE ā belonging to the weak grade of certain roots, and correspond to the i of Skt. -ima, for example, in dedimus = Skt. dadima.

5. Second plural.—-istis is -is-tis, with the same -is- as in the second singular (above, 2), and with the same -tis as in other tenses (339).

6. Third plural—Three forms, -ēre, -ĕrunt, and -ĕrunt. The -ĕrunt, frequent in poetry and also reflected in the Romance forms, is probably from -is-ont, with the same is as in 2 sg. -is-tī, etc.

Of the other two forms it is clear that -ēre cannot come from -ĕrunt, but that -ĕrunt may easily be explained as formed from -ēre after the analogy of the frequent 3 pl. -unt (or more specifically after -ĕrunt).

In fact, -ēre contains an inherited ending belonging to a group
of 3 pl. r-endings (parallel to the 3 pl. nt-endings) which are common in Indo-Iranian and are now attested also for Tocharian and Hittite. So, in the perfect, Skt. 3 pl. act. -ur, 3 pl. mid. -ire (where -re is parallel to -nte from -ntai), Toch. weñär, Hitt. kuennir. In the L. -ère the re may be from -ro, parallel to the secondary middle ending -nlo, and the preceding ë may belong in origin to verb stems ending in ë. But such details are uncertain.

418. The other tenses of the Latin perfect system.—These are all based upon a combination of the Latin perfect stem with an is-element (the same as in -is-ti, -is-tis of the perf. indic.), which represents a variety of the s-aorist stem, similar to the Skt. iṣ-aorist, as abodhiṣam, etc. (But the latter comparison is less perfect than it looks, for the Skt. forms contain in part IE -as-, like G. ὑδάμασα. Cf. also ἐκάλεσα. There were types with different vowels originally belonging to the verb stem, and of these Latin reflects that in -is-.)

1. Pluperfect indicative.—-eram from -isā- (74a), with the same preterite ā as in eram (387) or perhaps formed after the analogy of the latter.

2. Future perfect indicative.—-erō from -isī/o-, with the same short-vowel subjunctive as in erō (419), or perhaps formed after the analogy of the latter. The 3 pl. -int instead of -unt is from the perfect subjunctive.

3. Perfect subjunctive.—-erim from -isī-, with the optative ī (425.3). In early Latin the forms -is-, -īl-, -imus, -ītis prevail, as against -is, -īt, -imus, -ītis in the future perfect. But later there was much confusion, forms with ī in the future perfect and conversely with i in the perfect subjunctive. For faxim, etc., see 394.

4. Pluperfect subjunctive.—-issem from -is-sē- with the same sē as in the imperfect subjunctive (426).
THE SUBJUNCTIVE AND OPTATIVE

419. Survey of the mood signs.

<table>
<thead>
<tr>
<th></th>
<th>Subjunctive</th>
<th>Optative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. From thematic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>stems</td>
<td>IE ε/ώ (?)</td>
<td>IE oi</td>
</tr>
<tr>
<td>Skt ā</td>
<td></td>
<td>Skt. e, Goth. ai</td>
</tr>
<tr>
<td>G. η/ɵ</td>
<td></td>
<td>G. ai</td>
</tr>
<tr>
<td>L. ē, ē</td>
<td></td>
<td>L.</td>
</tr>
<tr>
<td>Cf. 3 sg. Skt. bhāret,</td>
<td></td>
<td>Cf. 3 sg. Skt. bhāret, Goth.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>bhāret, G. φέου</td>
</tr>
<tr>
<td><strong>B. From unthetic</strong></td>
<td>IE ε/ο</td>
<td>IE γε/இ (γε in sg., ᴍ in dual, pl.)</td>
</tr>
<tr>
<td>matic stems</td>
<td>Skt. a</td>
<td>Skt. γά/இ (γά in act., ᴍ in mid.)</td>
</tr>
<tr>
<td>G. ε/ο, later η/ɵ</td>
<td></td>
<td>G. ᴍ/ι</td>
</tr>
<tr>
<td>L. -ē, -ἰ, etc.</td>
<td></td>
<td>L. (ἰē), ᴍ</td>
</tr>
<tr>
<td>Cf. Skt. 3 sg. asat to indic. asti</td>
<td>Cf. Skt. 3 sg. act. syd, 3 sg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>mid. duhād</td>
</tr>
<tr>
<td>G. Hom. ἱομεν, ὑσομεν,</td>
<td></td>
<td>G. εἶν from *-*οιν, εἶν</td>
</tr>
<tr>
<td>dial. νοῦσει, etc.</td>
<td></td>
<td>from *-*οιν.</td>
</tr>
<tr>
<td>L. fut. σρδ, and fut. perf. in</td>
<td>Early L. siem, siēs, etc., later</td>
<td></td>
</tr>
<tr>
<td>-σρδ</td>
<td></td>
<td>sim, sīs, etc.</td>
</tr>
</tbody>
</table>

α. For the subjunctive of Type A, owing to the difference between Greek and Latin and the ambiguity of the Skt. ā, the IE type is somewhat uncertain. But probably it was a combination of the stem vowel e/o with the e/o of the subj. of unthetic stems, hence with contraction e/o, as in G. η/ɵ, but with generalization of the e in Latin. The ā, common to Italic and Celtic is a different element, identical with the ā which appears in past tenses of the indicative, as L. eram (387). It was originally employed with the verb stem. Cf. early L. aderam, adiēsā, obsūlāsā, which are properly aorist subjunctives.

β. The IE oi in the optative of Type A is from o-ι, made up of the stem vowel o and the weak grade of the suffix γε/இ of Type B.

THE GREEK SUBJUNCTIVE

420. From unthetic stems.—The original type is that with ε/ο, which was generally replaced by the more distinctive η/ɵ belonging to the thematic stems. Many of the old “short-vowel subjunctive” forms occur in Homer and various dialects, especially in the σ-aorist. Thus, in Homer, ἰομεν (ἰομεν), φθειταί (ἐφθητα), ἀλεταί (ἀλταί), εἴδομεν (οἶδα), πεποίθομεν (πέποιθα), and from σ-aorists, βῆσομεν, ἀλγήσεται, ἀμείψτηαι, etc.; in inscriptions, Ion. ποιήσει, Cret. ἀδικήσει, etc. (-σει was doubtless Homeric also, but was not saved by metrical difference from correction to the later -ση).

So also from stems ending in a long vowel, as Hom. γνώσομεν, στήσομεν (στείομεν), θῆσομεν (θείομεν), whence with quantitative

Attic has δύνωμαι, ἐπίστωμαι, κρέμωμαι, from δύναμαι, etc., as if thematic stems.

a. A different formation, with long vowel corresponding to a short vowel in the indicative, occurs in some dialects, as Mess. τίθητι beside indic. τίθεντι, Cret. δύναμαι beside indic. δύναμαι, etc.

421. From thematic stems.—Formed with η/ω corresponding to ε/ο of the indicative. The 2 sg. -γς and 3 sg. -η are formed to the indic. -ές, -ει (336-37), parallel to the relation of 2 pl. -ητε to indic. -ετε. In Homer there are also forms of the singular with μι-endings added, θελωμι, θελησθα (cf. τίθησα, etc. 336), θεληση. In the 3 pl. -ωντι (Att. -σοι) and mid. -ωνται, the ω is preserved by the analogy of -ωμεν, -ωμεθα from the usual shortening before ντ.

a. There is no sufficient evidence for the survival of a more original 3 sg. -η from -ητ, with the ending added directly to η (cf. Skt. -āt). The dialect forms in -η may stand for the usual -η.

THE GREEK OPTATIVE

422. From unthematic stems.—Formed with η/ι from IE ye/i. Thus εἰην from *εσιην, είμεν from *εσίμεν, είν from *εσίεν (ending -ειν, 340.2), all with the strong grade of the root in contrast to Skt. syām, early L. siem, siēs, etc. From stems ending in a vowel, τιθείην, ισταίην, διδοίην, pl. τιθείμεν, ισταίμεν, διδοίμεν. The retention of ι in εἰην, τιθείην, etc., is due to the analogy of είμεν, τιθείμεν, etc.

The inherited distribution of strong forms in the singular and weak forms in the dual and plural is maintained in Homer with only one exception, σταίησαν = σταίεν. But in Attic the singular stem form is often carried over into the plural, as είμεν, είητε, less often είησαν; θείμεν, δοίμεν, etc.

By analogy of διδοίην, διδοίμεν were formed φιλοίην, μισθοίην to φιλοίμεν (from φιλέ-ωμεν), μισθοίμεν, and further τιμών (from *τιμαούην). For the singular of contract verbs this is the usual Attic type, though forms in -οίμι, -οῖς and especially -οί also
occur. In Homer only φιλοίη, φοροίη. Attic has also σχοίην to pl. σχοίμεν, which in contrast to the corresponding form of all other thematic aorists, as λίπομεν, agrees in accent with δοίμεν, etc. Conversely sometimes 3 sg. mid. τιθοίτο, θοίτο (for τιθείτο, θείτο) after φιλοίτο.

Presents in -νύμι regularly follow the thematic type, as δείκνυ- νομι. But there are a few forms with ι, from υ, as Hom. 3 sg. δαυνύτο, 3 pl. δαυνύσατο.

423. From thematic stems.—Formed with -οι-, IE -οι-, as φέροις, φέροι = Skt. bhāres, bhāret, Goth. batrais, batrai.

The earliest 1 sg. form was -οία (from *-ούμι or *-ούμη, see below), as long since assumed and now attested by Arc. έξελα- νοία. This was replaced by -ομι, as φέρομι, with the substitution of the familiar ending of είμι, etc. The 3 pl. φέρουμεν, etc., is parallel to είν, etc., with -εν from -έντ (422). In 3 pl. mid. Hom. γενοίατο, but Att. φέρουντο, like -νται for earlier -αται (344.6).

a. There is no evidence to show whether 3 pl. -εν is inherited from *-έντ only in είν, etc., and is analogical in φέρουμεν, etc. (in place of an *-α from *-γι), or whether *-έντ belonged to both classes. Sanskrit has an r-ending, namely -ur, in both.

b. The apparent retention of intervocalic γ as ι in -οία, -οιν, -οιατο may be easily explained as due to the analogy of οι in the other forms, φέρουμεν, etc.; similarly τεθείν after τεθείμεν, etc. So also in Skt. 1 sg. bhāreyam, 3 pl. bhāreyur, instead of -ayam, etc., the e may be from bhāret, bhārema, etc. But taken together (cf. also θείν, Skt. dhéyam), they seem to point to IE -οίη, -οίη, etc., as if after vowel stems the y of the suffix was pronounced in both syllables.

424. From the σ-aorist.—The usual type, λόγαιν, λόγαις, λόγαι, etc., is obviously formed from the stem in -οί- (after its spread at the expense of -ο-, 396) after the analogy of the thematic forms φέρομι, λίπομι, etc.

An earlier type is represented by the forms in -ειας, -εις, -ειαν, which are common in Homer and in Attic, with traces in other dialects. The corresponding 1 sg. -εια, 1 pl. -ειμεν, 2 pl. -ειτε are quoted by grammarians. The source of this type is much disputed, but it appears to reflect an old formation in -σει- from -σε-ί-, parallel to the usual thematic -οι- from -ο-ί-. The 1 sg. -εια would
then be parallel to -ota (423), and from this the -etas, -ete would be formed with the endings of the indicative.

THE LATIN SUBJUNCTIVE

425. The Latin subjunctive is a blend of the IE subjunctive and optative, both in form and in its uses. The distribution of the mood signs (all of which are long vowels, with the regular shortening before -m, -t, -nt, -r, 101) is as follows:

1. -ā- in the present subjunctive of the second, third, and fourth conjugations.

2. -ē- in the present subjunctive of the first conjugation, and in the imperfect and pluperfect subjunctive of all conjugations.

In the present subjunctive of the first conjugation the -ē- is from -āyē, that is, -āy-ē- from the stem -ayō- (not -āyē- as an optative). This became first (with loss of intervocalic y, 178) -āē-, seen in Osc. deiwaid, etc., then with contraction L. -ē-.

3. -ī- of the IE optative in the present subjunctive of several irregular verbs, as sim, velim, edim, and in the perfect subjunctive of all conjugations.

a. The only trace of the old gradation yē/i is in the early L. siem, siēs, siet, simus, siitis, sient. The singular forms contain the orig. -yē-, like G. eiṇu, Skt. syām, while the 3 pl. sient is not from *s-yē-nt but from *s-y-ent with ending -ent as in G. elēv (cf. also Skt. s-y-ur). Even early Latin has also sim, sis, sit, simus, siitis, sint, with generalized i and in other verbs only such forms. The generalization of the i probably began in the plural, sient yielding to sint, and then extended from the whole plural to the singular.

426. The imperfect subjunctive is formed with -sē-, as essem from es-sē-, vellem from *vel-sē-, ferrem from *fer-sē-, amārem from *amā-sē- and so, with rhotacism, in all four conjugations.

The further analysis of this -sē- has been much disputed. But the simplest view, and one to which there is no valid objection, is that it is an ē-subjunctive of an s-aorist stem. If we understand the latter in its function as a past tense (in the indicative) and the former in its future value, we have a future of the past, which is a rational basis for the actual uses of the tense.

For the perfect and pluperfect subjunctive, see 418.3, 4.
THE IMPERATIVE

427. The imperative has no special mood sign like the subjunctive and optative. Some of the endings are the same as the secondary endings of the indicative, so that the forms are of the so-called injunctive type (326a). So some 2 sg. forms (428.2) and the 2 pl. forms like G. φέρετε, L. legite, Skt. bhárata, with the regular secondary ending IE -le (339). There are no proper imperative forms of the first person.

428. The second singular active.

1. The bare stem, the commonest type. So regularly from thematic stems, as IE *bhore, G. φέρε, Skt. bhára, G. λέγε, L. lege, etc. Here also, with loss of final vowel, L. díc, dúc, fac (beside dícē, dúce, face in early Latin), and fer.

From unthematic stems, G. ἵσῃ (but τίθει, δίδους from *τιθε-ε, *δίδο-ε after thematic type), δείκνυ, Dor. ἄντα, etc., L. es, i from *ei.

The L. -ā, -ē, -ī of the first, second, and fourth conjugations are likewise forms of the bare stem, but, like other forms of these conjugations, partly thematic and partly unthematic, e.g. vidē with inherited ē, but monē from *moneyē.

2. With secondary ending -s. G. òés, òös, òs, σχές.

3. With special ending, G. -θι, Skt. -dhī, -hi, IE -dhī. This belongs only to unthematic stems.

G. ἵσθι 'be', with prothetic vowel (106) from *σ-θι (cf. Av. ədi, but Skt. edhi from *aas-dhi), ἵσθι 'know' (cf. Skt. viddhi), ὦ (cf. Skt. əhi), φαθι, στήθι, γνώθι, Hom. κλοθι (cf. Skt. grudhi), δίδωθι, ὁρνιθ (beside δείκνυ; cf. Ved. sunuh and sunū), etc.

This remains the regular ending in the aorist passive, as φάνηθι, etc., or, with dissimilation of aspirates (132), λάθης, etc.

4. The rare πει, ἀγει, δίδου are probably nothing more than the stem forms with an added particle i. But some regard the first two as relics of an IE 2 sg. -ei and forerunners of the 2 sg. -eus (otherwise 336).

5. The ov in the σ-aorist, λύσου, etc., is of obscure origin.

429. Forms with G. -τω, L. -lō (early L. -lōd, Osc. -tud = -lōd), Skt. (mostly Vedic) -tād, IE -lōd. This ending is probably in
origin the ablative singular of the pronominal stem *lo-, used adverbially and attached to the verb stem in its imperative use (428.1), *bhere *lod, *bheretod—the result being a form which had the force of a future imperative and was not restricted in person or number. The Sanskrit forms are used mainly with future force, like the Latin, and most commonly as second singular but also not infrequently as third singular and as second plural.

In Greek the inherited -τω is restricted to the third singular. From it were formed the 3 dual -τῶ (in place of the secondary ending τᾶν, -τῆν), and the 3 pl. -ντῶν, etc.

There are various 3 pl. formations, namely:
-τῶν, with added secondary ending, as Att.-Ion. ἐστῶν
-ντῶ, after the analogy of -ντί, in many dialects, as φερόντω, τιθέντω, ἓντω
-ντῶν, with double pluralization, a combination of the two preceding types, in Attic-Ionic and several other dialects, as φερόντων, τιθέντων, etc.
-τωσαν, with the same expansion of -σαν from the σ-aorist as elsewhere (340.4), in late Attic, as φερέτωσαν, ἐστωσαν

In Latin the -lō serves as second and third singular of the future imperative, and new plurals are formed from it, 2 pl. -lōle with the inherited ending -te as in the present imperative, 3 pl. -ntō after the analogy of -nt, as feruntō from *ferontōd, like G. dial. φερόντω.

430. The Greek middle and the Latin passive endings.—In the second singular both Greek and Latin (in the present) reflect the IE secondary ending -so, as G. τίθεσο, φέρου from *φερεσο (see 344.2a), L. sequere (347.2). In the second plural the endings are the same as in the other moods, G. -σθε, L. -mini. Likewise the Greek 2 dual -σθων.

In Greek, after the analogy of the relation of -σθε to act. -τε, was formed 3 sg. -σθω to act. -τω, and from this again 3 dual -σθων, parallel to act. -των, and 3 pl. -σθῶν, etc.

There are various 3 pl. formations, as in the active.
-σθων, parallel to -των in Att.-Ion. ἐστῶν, but here the commonest type, as φερέσθων, etc.
-(v)σθω, parallel to -ντω, in Arg. ποιγραφάνσθο, Epid. ἕροδοθο.
-(v)σθων, parallel to -ντων, in early Att. ἐπιμελδόθον
-σθωσαν, parallel to -τωσαν, in late Attic

For L. -lor, -nor, see 347.3, 6. Beside -lor, also early L. -minō, as fruiminō, formed from the same stem as 2 pl. -mini (347.5) after the analogy of act. -lō.

THE INFINITIVE

431. As already stated in 329.1, the infinitive is in origin a case form which has become attached to the verb system, and, while the use of such verbal nouns had doubtless begun in the parent speech, no particular set of forms was yet stabilized as infinitives. In Vedic Sanskrit the forms that may be classed as infinitives (thirty-five different types in the Rigveda) include a great variety of noun stems and of cases, but conspicuous among the former are root nouns, stems in -lu-, s-stems, and n-stems, and among the latter the dative and locative singular.

Just as there is great diversity in the infinitive forms among the IE languages in general, so there is no agreement between Greek and Latin, or between Latin and Oscan-Umbrian, and even within Greek there is much diversity among the dialects.

Owing to this diversity, the variety of possibilities, and the lack for the most part of cogent equations, the analysis of the Greek and Latin infinitives is difficult and can hardly go beyond certain probabilities.

432. The Greek infinitives.—The infinitive middle has uniformly -σθαι. But the infinitive active has different endings for thematic and unthematic stems, and dialectic variety within each class.

1. From thematic stems.—Att.-Ion. -εν (ευ = ε, 96), in some dialects -ην, both by contraction from -εν (to be understood in Hom. ἰδεν before consonants). This may be from either *-εσεν or *-επεν (hardly *-εφεν which would have left some trace of the f in the dialects). If we choose the former, we may call it a locative singular without ending (230.9) of a stem in -sen- (a combination of s- and n-stem), and compare Vedic -sani (nuṣanti, from ni-, etc.).
But many dialects have simply -en, as φέρεν, ἀγεν and some of these even from verbs in -ων, as Arg. πωλέν.

2. From unthematic stems.—Att.-Ion. (also Arc.-Cypr.) -ναι, in part -ναι and -φεναι(?). Thus τιθεναι, διδοναι, perf. εἰδεναι, aor. θειναι from *θεεναι, δοναι from *δοεναι, Cypr. δοεναι. This last (cf. Vedic dāvāne) is probably to be analyzed as δο-φεναι, but possibly as δοφ-εναι (cf. L. duim, etc., 383). Att.-Ion. εἰναι, Arc. ἣναι may be from *ἐν-ναι or from *ἴσεναι.

The type rests on an n-stem case form parallel to that of Hom., Lesb. -μεναι (cf. Vedic -mane) and to the s-stem form of the aor. infin. -σαι (cf. Vedic -ase), and the ending in all these is probably an old dative. For this is the natural analysis of the Vedic forms and it is unlikely that the Greek forms are different, despite the evidence that points also to an IE dat. ending -ei (230.6).

-μεν in Homer and many dialects is a locative singular without ending, like Vedic loc. sg. karman, etc. (230.9). Cret. -μην and Rhod. -μεν are blends of -μεν with thematic -ην or -εν.

Hom. -μεν and -μεναι are sometimes extended to thematic stems, as εἰπεμεν, εἰπεμεναι beside εἰπείν. Similarly Boeot. φε-ρεμεν, Thess. ὑπαρχεμεν.

3. For -σαι of the σ-aorist see above, 2. By analogy also εἰπαι to εἰπα, etc.

4. The infin. mid. in. -σθαι.—Probably related in some way to the frequent Vedic -dhyāi, though all details are uncertain. According to a possible analysis the σ belongs to a nominal σ-stem, while -θαι answers to Skt. -dhe in θρα-δhé, dat. sg. of a noun in -dh-, the weak form of IE *dhē—for example, εἰδεο-θαι (εἰδος), then felt as εἰδε-σθαι.

433. The Latin infinitives and supine.

1. The present infinitive active.—The ending is -se, as in es-se, ferre from *fer-se, velle from *vel-se, amāre from *amā-se and so with rhotacism in all four conjugations. This -se is from *-si (74b), loc. sg. of an s-stem.

Perf. infin. -isse, that is, -is-se with the same is as in -isti, -issem, etc. (418).

2. The present infinitive passive.—The -i of the third conjuga-
tion may be regarded as a dat. sg. of a root noun, and the -ri of
the other three conjugations as a dat. sg. of an s-stem, like G. aor.
infin. -σαυ.

Early L. laudārier, dicier, etc., appear to be formed from the
-ri, -i with the addition of -er and regular shortening of the vowel
(103). But while one could readily understand the addition of an
-r after the analogy of other passive forms, an -er is difficult to
explain. The true analysis remains doubtful.

3. The other infinitives are periphrastic. In the future active
the simple -tūrum is more common than the -tūrum esse, and is
thought by some to be the earlier and itself an infinitive (derived
from supine in -tū + *erom = Osc. ezum ‘esse’). But this view is
not followed here.

The future passive -tum īri is based on an active -tum īre (the
supine with īre, cf. eo quaeestum ‘I am going to cry’, Plautus), which
was made passive by converting īre into the (otherwise unknown)
passive form īri.

4. The supine is formed with the suffix -tu-, the same that ap-
ppears in nouns of action like cantus, adventus, etc. Acc. sg. -tum,
corresponding to the regular infinitive of classical Sanskrit, abl.
sg. or dat. sg. -tū (there is no early inscriptionsal example to show
whether the form was -tūd or -tou), and rarely dat. sg. -tū.

THE PARTICIPLES

434. The active participles in -nt.– The IE active participle of
all tenses except the perfect was formed from the tense stem with
the suffix -nt-. Thus, from the thematic stem, G. φεύγω-, L.
ferent-, Skt. bhārant-, Goth. batrand-, Lith. vežant-, etc. Most of
the forms point to -ont- (just as in 3 pl. -onti), but in Latin this
appears only in the oblique cases of iēns, euntis, etc., otherwise
-ent-. Whether this latter reflects an inherited thematic -ent-
beside -o-nt- or has been taken over from an unthematic -ent-, -nt-
(see following) is uncertain. That the participles of the thematic
type had -nt- originally is, despite the situation in Sanskrit, the
most unlikely view.
437] VERBS

a. After unthematic stems ending in a consonant there was gradation of the suffix, as IE *s-ent- (cf. 3 pl. *sēnti), weak *s-yī, Skt. acc. sg. sāntam, gen. sg. sālās, nom. sg. fem. sāf. There are traces of this in a few G. dialect forms. Thus, nom. pl. Dor. eunēs (for *eunēs, like 3 pl. eunī for *eunī, 340.2), fem. tāsarā, tātra (from *ārā=Skt. saī, with e from other forms). But the usual forms are of the thematic type, as ēnō, ēnōtos, fem. ēnōsa, or Att. ἐν, ἔνος, ὅνσα.

435. The Greek perfect active participle.—The IE suffix was -wes- with gradation. Cf. Av. nom. sg. vidvā, acc. sg. vidvān̄ham (from -vās-), Skt. nom. sg. vidvān, acc. sg. vidvān̄sam (both with secondary n, from another class), voc. sg. Vedic vidvās, gen. sg. vidvās, nom. sg. fem. vidvāṣi.

So in Greek nom. sg. masc. -wos from *-wos, nom.-acc. sg. neut. -os from *-wos, and fem. -wia from *-wia=Skt. -usti, Lith -usi.

The other masc. and neut. forms are from a stem -(f)or-. This may reflect a parallel IE suffix -wet- (cf. Goth. weidwōps ‘witness’; but the Skt. -val- forms appear to be late and to be explained otherwise), but its large rôle in the inflection of the pple. is peculiar to Greek and probably connected with the otherwise observed spread of τ-stems, especially in neuters (250–52).

a. In the Aeolic dialects the perfect participle follows the thematic μτ-type, as Lesb. kateklesthōntos, Thess. pefeirakontes, Boeot. eφukonomeibontos. So Hom. κεκλήγοντες.

436. The Latin future active participle in -tūrus.—The suffix is formally identical with that in the adjective mātūrus, and related to that in feminines like nātūra, cultūra, also to that in the desiderative verbs like par tugio. These rest on a combination of the suffix -tu- (cf. the supine) with -ro-, -ra-, etc., giving a -tuo- as indicated by par tugio as well as -tūro-, -tūrā-. Cf. G. γλαφυρός, λοχύρος, L. fidūra (470.5). The future force develops from the notion of ‘what is to be’ (futūrus), ‘to do’ (factūrus), etc. Likewise the allied desiderative force of the verbs.

437. The Latin perfect passive participle and the Greek verbal adjective in -ros.

1. These are formally identical with each other and with the Sanskrit passive participle in -tā-. They reflect an IE verbal adjective formed with -to- from the root or verb stem, rather than
from a tense stem like the regular participles, and not belonging
to any tense system or strictly to any voice. It indicated the
object or person as being in a situation resulting from the action
expressed by the verb. From transitive verbs it would usually
have passive force, but it might also be formed from intransitive
verbs.

In Sanskrit and Latin the force is usually passive, but not
always. Thus Skt. *gatās* ‘gone’, *bhūtās* ‘been’, *sthitiās* ‘standing’,
*pattās* ‘fallen’, L. *pōlus* ‘having drunk’, *cēnātus* ‘having dined’,
*iūrātās* ‘having sworn’.

The Greek verbal adjectives in *-ros* may have passive force,
as *γραπτός* ‘written’ just like L. *scripētus*, or active force, as *pūtōs*
‘flowing’, or may indicate possibility, as *δράτος* ‘to be seen,
visible’.

2. The formation originally had accented suffix and, from primary verbs,
the weak grade of the root, as regularly in Sanskrit. In Greek and Latin
many forms show the inherited weak grade, as G. *κλαρός*, L. *inclusus* (Skt.
*krūkās*), G. *στάτος*, L. *status* (Skt. *shtiśās*), L. *dicitus* (Skt. *dīśās*), *ductus*, *usius*,
etc.; or, from disyllabic stems, G. *τιλτός*, Dor. *tλατός*, L. *lātus*, etc. (126).
But many show a different grade, mostly conforming to that of the present,
or in Latin sometimes to that of the perfect. Thus G. *γενέτορ* (but L. *gustō*,
*-āre, Skt. *jusṭās*), *ζεκτός*, L. *scripētus*, *fīsus*, etc., or *ēsus*, *emptōs, lēctus*, with
the same grade as the perf. *ēdi, ēmi, lēgi*. For *lēctus, lēctus, lāctus*, etc., see
also 99.2d. For L. *ānōtus*, with nasal from the present stem, see 374.3.

The Latin forms in *-ītus* are mostly from roots ending in a liquid or nasal,
or rather from their disyllabic stems which appear also in the perfect in *-ī* (415) and the Greek futures in *-ew* (390). In *mutōtus* from the causative
*moneō* (372.4) the *ī* may represent IE *i* as the weak grade of the causative
suffix (so Skt. *-īa*- in causatives). But in most cases it is the weakening of
an earlier *e*, though this may stand in the place of an IE *a*. Thus for *genētus*
the immediate source is *genetōs* (cf. Osc. *genētās*, G. *γενέτερον*) though in
theory we should assume an IE *genetōs* (126). So *tacītus* (cf. Umbr. *tašēs*),
*molītus, domītus*, etc.

L. *-ātus* regularly from verbs in *-uō*, as *tribūtus*, *minūtus*. So *solūtus*,
*volūtus* to *solviō, volviō* from *se-luō*, *we-luō* (G. *λέω*), and by analogy *secūtus*,
*locūtus* to *sequor, locuor*. In vulgar Latin this spread to many other verbs,
hence It. *veduto, venuto*, Fr. *vu, venu*, etc.

3. In forms from roots ending in a consonant the usual changes in consonant
groups (190) are observed. Thus, from roots ending in a dental, G.
*pīstōs* (πίθω), L. *fīssus* (*fīndo*), *clausus* (*claudō*), etc.
In Greek, from forms like πιστός, ἰωστός (cf. Av. γάστα-), the σ spread to some stems ending in a vowel, as γνωστός, etc., just as in the aor. pass. (401) and perf. mid. (407).

In Latin the great majority of the forms in -sus are thus derived from roots ending in a dental. From these the -sus spread by analogy to others. In verbs having an s-perfect this was especially favored by pairs like clausit, claussus, hence fixus (fīgo, fissi), fluxus (fluō, flūxi), mulsus (mulgeō, mulsi), mānsus (maneō, mānsi), etc. But also in others, as cēnsus (censeō, cēnsui; but Osc. ancensor incensa'), lāpsus (labōr; here perhaps special influence of cāsus 'fallen'), pulsus (pellō; cf. early L. pullo, -āre, from *pullus), falsus (fallo), etc. The s may come from a dental combination in percussus (if percellō is from *celdō, 374.4), pelexus (plexō, 374.8), amplexus (amplēctor).

438. The middle participle.—IE -meno- with gradation, G. -μενο-, Skt. -māna- (from thematic stems; otherwise -āna-), Av. -mano-, -mna-, etc. Cf. G. φερέμενος, Skt. bhāramānas. For the accent, see 219. In the perfect, -μενος from -μενός (cf. Skt. -ānā-), regularly in forms of dactylic ending (219) like γεγραμμένος, and by analogy in λευμένος, etc.

439. The Latin gerundive.—This is a formation peculiar to Italic. It occurs in Oscan-Umbrian (with nn from nd), e.g. Osc. úpsannam 'operandam', Umbr. pihaner 'piandi'. It cannot be identified with any productive category in the other IE languages. One can only compare certain scattered forms showing an nd-suffix without well-defined value, as L. glāns, glandis 'acorn' (*glā-nd-, cf. G. βάλα-νος), ChSl. želqāt 'acorn' (*gela-nd-i-), Lith. balandis 'dove' (:bal-tas 'white'), valanda 'while' (from the same root as L. volvō), rakanda 'a kind of basket' (:renku, renkti 'collect'), etc., also the verb ChSl. bdq 'become' formed from a *bhu-ndo- (cf. L. -bundus).

Similar forms in -ndo-, with adjectival-participial value, must have furnished the starting-point of the type which became so productive in Latin. Its earliest force was substantially that of a simple active or middle participle, as it appears in oriundus 'rising', volvendus 'rolling' (volvenda diēs 'time rolling on'), lábundus 'slipping', etc., and similarly in secundus (lit. 'following': sequor), rotundus (lit. 'rolling': rota 'wheel').

This developed along two lines into the more distinctive uses which came to prevail. From transitive verbs it was used with
retention of the active force, but in agreement with the logical object (or better, both in the same construction), as in cupiditās belli gerendi ‘desire of war, of the carrying on’ = ‘desire of carrying on war’. Or it was used with the force of ‘that which is to do, to be done’, as in bellum gerendum est ‘war is to carry on, to be carried on’. This use as a "future passive participle" or "participle of necessity" is a secondary one, just as the corresponding use of the Sanskrit gerundives in -ya- is only a specialized use of the same suffix as employed in adjectives.

a. In the third and fourth conjugations the original type is that in -undus from -ondo-s, as dicundus, faciundus. That in -endus, as dicendus, faciendus, which also occurs even in early Latin (exdeicendum, faciendum in SC de Bacch.), and in Umbrian (anfererēn ‘circumferendi’), and which eventually prevails, is due to the influence of the pres. act. pple. in -ent-. But always eundum, just as euntis. And secundus, rotundus, not being felt as participles, were unaffected.

440. The Latin gerund.—This consists simply of certain case forms (gen., dat., acc., abl., sg.) of the gerundive, in its earlier active value, used as verbal nouns. Such use is perhaps a purely Latin development, although the absence of examples in Oscan-Umbrian may easily be accidental.

a. In late Latin the gerund, in the ablative form, came to be used freely as an indeclinable present participle, and is the source of the present participle in the Romance languages (It., Sp. amando, Fr. amant).
WORD FORMATION

441. By word formation is meant the formation of the word as a unit as distinct from its inflectional variations. For nouns and adjectives the unit is the stem, so that here word formation is equivalent to stem formation. In the case of the verb, the formation of tense stems is always treated as a part of inflection, and even the formation of secondary verb stems (denominatives, etc.) has been given above in that connection. Several other matters belonging to word formation have also been discussed already, such as the comparison of adjectives, and the formation of certain noun or adjective stems which constitute distinct declensional types.

It remains to consider the formation of nouns, adjectives, and adverbs, and the principles of composition. But the subject is so complex and involved in detail that nothing more can be attempted here than a skeleton survey with a few illustrative examples.

DERIVATION OF NOUNS AND ADJECTIVES

442. Some nouns and adjectives have stems that are identical with verbal roots. But the great majority are formed by means of added suffixes of derivation.

Some suffixes can be shown to be in origin independent words forming the second member of compounds. Thus NE -ly comes from a word lic ‘body, form’, as in OE eorb-lic ‘having the form of the earth, earthly’. Similarly the suffixes in NE wis-dom, child-hood, up-ward, etc. So in the temporal adjectives formed from adverbs, like L. diútinus ‘long’, Skt. nātana-1 ‘present’ (464.12), the suffix is probably from the root *ten- ‘stretch’. Cf. also G. -ωδης, 497.

But the great majority of the suffixes which are common to the IE languages were already in the parent speech mere formative elements, the remotest origin of which is entirely beyond our reach.

1 In this chapter Sanskrit nouns and adjectives are quoted mostly in their stem forms (with hyphen; some nom. sg. forms without hyphen).
443. 1. One distinguishes primary derivatives or primary suffixes, when the derivation is from a root or verb stem, and secondary derivation or secondary suffixes, when the derivation is from another noun or adjective stem. Many suffixes are used prevalingly in one way or the other, but there is no hard-and-fast line, and some are common as both primary and secondary suffixes.

2. One may also distinguish between productive and unproductive (or living and dead) suffixes. Thus in English abstracts derived from adjectives the suffix -ness in darkness, happiness, etc., is very productive, while warmth, depth, etc., are formed with an old inherited suffix which is no longer productive. An IE suffix -ti- is very productive in Greek, where it is represented by some five thousand words in -tis, whereas in Latin it is inherited in some words like pars, gens, but as a productive suffix is replaced by its extension -tiōn-, as actio, etc. (486).

444. It is a frequent phenomenon that an element which belongs to the stem to which the suffix is added becomes attached to the latter in analogical formations, so that a new form of the suffix, independently productive, is created. Thus in Latin after forms like silvā-nus 'of the forest' (silva), were formed others like urbānus 'of the city' (urbs), with a new suffix -āno-, under which we now, for convenience, group also silvānus. Similarly, or starting in part from verbal ā-stems, L. -āris, -ālis, -ābilis, etc.

Similarly in composition. After G. kako-ργος 'evildoing' from kako-(f)ργος was formed παρ-οργος 'villainous'.

In this way arose many suffixes that are compounded of others, as L. -tiōn (actio, etc.) originating in the addition of an n-suffix to words formed with the -ti- suffix. In the following such compounded suffixes are generally grouped according to the final element, but sometimes according to the first, when this brings out the more important relationship, as that between L. -tiōn- and -ti-, or between G. -τριον and -τρι, L. -tōrium and -tor.

445. Back-formations.—Ordinarily one word is formed from another by the addition of a suffix. This from L. cura 'care' is formed (with the suffix -yo-, 356) the verb curd, and from the
verb stem cūrā- again curātor, cūrātio. But L. pugna 'fight', instead of being the source of the verb pugnō 'fight', is rather formed from it after the analogy of cūra beside cūrō, etc., while pugnō is a denominative from pugnus 'fist', the sequence being pugnus 'fist', pugnō ('use the fist') 'fight', pugna 'fight'.

Ordinarily the feminine is formed to the masculine, and the plural to the singular. But G. ērapōs 'companion' in place of earlier ērapos is formed from the more important ērapā 'female companion' (orig. *ērap-ia), just as NE widower from the inherited widow. L. decemvir from pl. decemviri the official 'ten men', like NE tenpin from tenpins. L. duumvir, triumvir from pl. duumviri, triumviri, these from gen. pl. duumvirum, triumvirum.

Such cases where the usual relation is reversed are conveniently known as back-formations. Those like L. pugna from the verb are also called postverbal formations or postverbs.

446. In describing the semantic character of derivatives, the following classes are of especial importance.

Nouns of agency, or agent nouns for short, denoting the doer of the action expressed by the verb, as NE maker, L. victor, etc. While these generally denote persons or at least living beings, they may also come to be applied to inanimate objects, for example, utensils, as G. κρατήρ 'mixer, mixing bowl', ῥαυστήρ 'hammer' (cf. NE boiler, strainer, etc.).

Nouns of action, action nouns, or verbal abstracts, denoting the action expressed by the verb, like the English verbal nouns doing, singing, etc. But such verbal abstracts are very frequently employed in a concrete sense, as in NE a (newspaper) clipping, or L. cantus, orig. 'the act of singing', but commonly 'song'. Of the many suffixes that may form verbal abstracts, some keep closer than others to the original force and form the more distinctively abstract classes.

Qualitative abstracts, nouns derived from adjectives and denoting the quality expressed by the adjective, as NE goodness, L. bonitās 'goodness', G. vebrns 'youth'. These may also be used concretely, as NE a youth, many kindnesses.

Diminutives, secondary nouns or adjectives denoting some-
thing smaller than what is expressed by the word from which they are derived. Words of this type are often used without reference to actual size, as terms of affection or ridicule. Sometimes they lose all distinctive force, are equivalent in meaning to their source words, and even displace the latter in common use.

Other more specific classes which may be indicated by special suffixes are:

Patronymics, denoting a person’s family descent
Words denoting a person’s country, nationality, or native town
Words denoting a person’s trade or occupation
Words denoting means or instrument, or place

447. In the following the derivative suffixes will be classified by form, but with an indication of their uses, so far as these are at all distinctive. Frequently the uses of a suffix are so various that no statement regarding them is worth while, and the examples are left to speak for themselves.

ROOT STEMS

448. Root stems, with or without gradation.

G. πούς, ποδός ‘foot’, L. pēs, pedis, Skt. pāl, padās
G. ὁψ, ὄψ ‘voice’, L. vōx, vōcis, Skt. vāk, vācās
G. κλων, κλωνός ‘thief’ (κλέπ-rw ‘steal’) φλόξ, φλογός ‘flame’
(φλέγω ‘burn’)
θηρ, θηρός ‘wild beast’ θρίξ, τριχός ‘hair’
L. dux, ducis ‘leader’ (dūco ‘lead’) lex, légis ‘law’
lūx, lūcis ‘light’ pāx, pācis ‘peace’

Often as the second part of compounds.

G. σύ-γε, σύ-γογος ‘spouse’, L. con-ux, con-iugs (iungō ‘join’)
G. χέρν-ψ, χέρμβος ‘water for washing the hands’ (νιξ-ω ‘wash’)
L. in-dex, in-dicis ‘informer, sign’, iū-dex, iūdicis ‘judge’ (*in-dic-, iīs-dic-, from the root of dicō orig. ‘point out’)
aux-spex, aux-spicis ‘observer of omens’ (avis ‘bird’, speciō ‘watch’)
aux-ceps, aux-cupis ‘fowler’ (avis ‘bird’, capiō ‘seize’)


VOWEL SUFFIXES

449. -ο- and -ἀ-.  

1. In Greek the derivatives with -ο- comprise mainly action nouns with accent on the root syllable and agent nouns with accent on the suffix, while the derivatives with -ἀ- are mostly action nouns with accent on the suffix. A similar relation is observed in Sanskrit, as ṣaṣa- ‘order’, ṣaṣā- ‘orderer’. But there are many exceptions in both Greek and Sanskrit.

From roots of the e-series the o-grade is most common, but other grades also occur, as in στέγη ‘roof’, λῶπη ‘covering’, δίκη ‘right’, φυγή ‘flight’, ξυγν ‘yoke’.

<table>
<thead>
<tr>
<th>τρόχος 'wheel'</th>
<th>τρόχος 'course'</th>
<th>τροφή 'nourishment'</th>
</tr>
</thead>
<tbody>
<tr>
<td>(trékho 'run')</td>
<td>(trékho 'run')</td>
<td>(trékho 'nourish')</td>
</tr>
<tr>
<td>τροφής 'nurse'</td>
<td>φόρος 'tribute'</td>
<td>φωρά 'crop'</td>
</tr>
<tr>
<td>(trékho 'nourish')</td>
<td>(φέρω 'bring')</td>
<td>(φέρω 'bring')</td>
</tr>
<tr>
<td>τροπής 'thong'</td>
<td>τρόπος 'turn'</td>
<td>τροπή 'turning'</td>
</tr>
<tr>
<td>(trékho 'thong')</td>
<td>(trékho 'turn')</td>
<td>(trékho 'turn')</td>
</tr>
<tr>
<td>δοίξ 'singer'</td>
<td>δοίξ 'singer'</td>
<td>δοίξ 'song'</td>
</tr>
<tr>
<td>(áieíp 'sing')</td>
<td>(áieíp 'sing')</td>
<td>(áieíp 'song')</td>
</tr>
<tr>
<td>ἀρχή 'leader'</td>
<td>ἀρχή 'leader'</td>
<td>ἀρχή 'beginning'</td>
</tr>
<tr>
<td>(ἀρχω 'lead, begin')</td>
<td>(ἀρχω 'lead, begin')</td>
<td>(ἀρχω 'lead, begin')</td>
</tr>
<tr>
<td>στόλος 'equipment, expedition' (στέλλω 'send')</td>
<td>στολή 'equipment, garment'</td>
<td>στολή 'haste' (στελέ 'hasten')</td>
</tr>
<tr>
<td>λόγος 'speech'</td>
<td>λόγος 'speech'</td>
<td>λόγος 'speech'</td>
</tr>
<tr>
<td>(λέγω 'speak')</td>
<td>(λέγω 'speak')</td>
<td>(λέγω 'speak')</td>
</tr>
</tbody>
</table>

2. In Latin the type occurs in a number of words, but is not productive as in Greek.

coquus 'cook' (coquō 'cook')  proculus 'suitor' (procor 'ask')
dolus 'deceit' (cf. G. δόλος)  yugum 'yoke' (iungō 'join', cf. G. ξυγν)
fuga 'flight' (fugiō 'flee', cf. G. φυγή)  toga 'cloak' (legō 'cover')

There are also some masculine agent nouns formed with -ā-, mostly compounds like agricola 'farmer', but also scriba 'writer', etc.
3. The most widespread use of the suffixes -o- and -ā- is in combination, in the common type of adjectives, like G. σοφός, σοφή, σοφώς, L. bonus, bona, bonum (280).

450. -i-. G. τρόχις 'runner' (τρέχω 'run').
δῆπις 'fight' (δέρω 'flay') ὁφις 'serpent' (Skt. aḥi-)
ὄφις (Att. ὄός) 'sheep', L. avis (Skt. avi-) L. anguis 'serpent'
AVIS 'bird' neut. mare 'sea'

Adjectives.—Rare in Greek, common in Latin (see 283)
G. τρόφις 'stout' L. dulcis 'sweet' turpis 'base'

451. i. -u-. G. πῆχυς 'forearm' (Skt. bāhu-).
γένος 'chin', γόνο 'knee' (Skt. jānu) δορυ 'beam, spear'
(Skt. dāru 'wood')
L. manus 'hand' acus 'needle' genu 'knee' pecu 'cattle'
(Skt. paçu)

Adjectives.—Greek only. ἡδός 'sweet, pleasant' (Skt. svādu-'sweet') γλυκός 'sweet' ταχύς 'swift'.

2. -ū-. G. νεῖκος 'corpse' ἵσχυς 'strength' πληθύς 'crowd'.
Cf. the root stems ὄφρος 'brow' (Skt. bhūrus, bhūrvas), σῶς, ὅς, L. sūs.

452. G. -eus. For stem and declension, see 269. Very productive type, partly primary agent nouns, but especially secondary derivatives denoting one's office, occupation, home. The ultimate source of this type is obscure.

βασιλεύς 'king' ἱερεύς 'priest' γραμματεύς 'secretary'
iπιεύς 'horseman, knight' (beside ἵπποτης) φωνεύς 'murderer'

Μεγαρεύς 'Megarian'

453. Suffix -i/-yā, G. -iā/-iā-. Forms feminine nouns and especially the feminine of participles and adjectives, from cons. stems and u-stems (see 237).

-yo-

454. -yo- furnishes the most productive type of IE adjectives, some primary (cf. G. ἄγιος 'holy' to ἄγιομαι 'worship', Skt. yajya-
'to be worshiped' to yaj- 'worship'), but mostly secondary derivatives from nouns and denoting any sort of relationship to the

¹ That is, -yo- (or -io-) and -yā (or -iā). So in the succeeding captions, like -mo-, -no-, etc., the corresponding a-stem forms are to be understood as included.
latter. In derivatives from o-stems the o is dropped before the suffix. There are also many nouns, which are in part only the adjective forms in substantive use.

This suffix is one most frequently combined with others, giving rise to a great variety of compound suffixes. Some of these will be mentioned here, others in connection with their first element.

455. 1. Adjectives.—G. πάτριος, L. patrius, Skt. pitriya- ‘ paternal’ (πατήρ, etc.).
G. φίλος ‘friendly’ (φίλος ‘dear’) ῥήμος ‘honored’ (ῥήμη ‘honor’)
πλοῦτος ‘rich’ (πλοῦτος ‘wealth’) L. rēgius ‘royal’ (rēx ‘king’)
noxius ‘harmful’ (nox ‘harm’)

Patronymic use in Hom. Τελαμώνιος (and frequently in the Aeolic dialects), and in the Latin gentile names Claudius, Tullius, etc.

2. Nouns.—Neuter and feminine abstracts.
G. σφάγιον ‘victim’ (σφάζω ‘slaughter’) ἐρείπια ‘ruins’ (ἐρείπω ‘throw down’)
L. studium ‘zeal’ (studeō ‘be zealous’) gaudium ‘joy’ (gaudeō ‘rejoice’) coniugium ‘wedlock’ (coniux ‘spouse’)

But G. -ιον is most common in diminutives, as παιδίον ‘small child’ (παῖς, παιδός), ἀσπίδιον ‘small shield’ (ἀσπίς, -ιός). From forms like the last arose -ιον, as ξυφίδιον ‘dagger’ (ξίφος ‘sword’).
G. σοφία ‘wisdom’ (σοφός ‘wise’) μανία ‘madness’ (μαίνομαι ‘rage’)

γεμονία ‘sovereignty’ (γεμων ‘leader’) L. invidia ‘grudge’
(İNVIDEō ‘grudge’)
audacia ‘boldness’ (audax ‘bold’) misery ‘misery’ (miser ‘wretched’)

In Latin also -īès in similar abstracts, as faciēs ‘form, face’ (faciō ‘make’), speciēs ‘look’ (speciō ‘look’). For the relation to yā-stems, see 273a.

Greek masculines in -iās are formed on the basis of feminine abstracts like the above, as νεαρίας ‘a youth’ from *νεαρία ‘youth’.
G. χρύσεος ‘golden’ (χρυσός ‘gold’) Hom. λίθεος ‘of stone’ (λίθος ‘stone’)
L. aureus ‘golden’ (aurum ‘gold’) ferreus ‘of iron’ (ferrum ‘iron’)
Cf. Skt. hiranyayā ‘golden’ (hiranya- ‘gold’)
The suffix -no- is also used in the same way, as Att. λίθων ‘of stone’, L. fæginus ‘of beech’ (fægus ‘beech’). Hence, by combination with the preceding, G. -νεος, L. -neus, as:
Hom. ἐλαίνεος ‘of olive wood’ (ἐλαία ‘olive tree’)
L. eburneus ‘of ivory’ (ebur ‘ivory’)
Among other Latin combinations with -eus are -āceus (502.2), āneus (464.9). For G. -λεος see 472.4.

457. Greek adjectives in -aιος, -ειος, -οιος.
-αιος. Mostly from a-stems, but extended by analogy to others.
Probably from loc. sg. -αι + ιο-.
dίκαιος ‘just’ (δίκη ‘right’) ἀγόραιος belonging to the ἀγοράς ‘earnest’ (ἀγορά ‘zeal’) νησαίος ‘insular’ (νῆσος ‘island’) Ἀθηναῖος ‘Athenian’ (Ἀθῆνα)
-ειος. From o-stems, cons. stems, and nouns in -eis.
oἰκεῖος ‘of the house’ (οἶκος ‘house’) ἀνδρεῖος ‘manly’ (ἀνήρ ‘man’)
bασιλεῖος ‘royal’, neut. βασιλείων ‘palace’ (βασιλεῖς ‘king’)
From -ηος, as in Ionic and other dialects (οἰκήος, ἀνδρῆος, βασιλήος), and this in part at least from -ηειος (cf. Boeot. καρυκεῖος), that is, -ηειος from nouns in -εις
-οιος. αἰδοῖος ‘venerable’ (αἰδώς ‘shame’), but mostly in the pronominal derivatives denoting kind, as οἶος, ποιος, ἀλλοῖος, etc. These latter are probably from loc. sg. -οι + ιο-.

-wο-

458. -wο- forms adjectives, including a considerable group denoting color, and some nouns. G. -fος or -fά are directly attested only for words that occur in early dialect inscriptions, but are to be assumed for many others (176).
DERIVATION OF NOUNS AND ADJECTIVES

G. ἁλὸς ‘life’, L. vivus, Skt. jīva-, Lith. gyvas ‘living’, from IE *gewt-wo- (152)
Boot. καλὸς, Hom. καλός, Att. καλὸς ‘beautiful’
Cor. ἔνθος, Hom. ἐνθος, Att. ἔνθος ‘stranger’
Arc. κόρφα, Hom. κούρη, Att. κόρη ‘maiden’
*μονός, Hom. μοῖνος, Att. μόνος ‘alone’
*ὁλός, Hom. ὅλος, Att. ὅλος ‘whole’, L. salvus ‘well, safe’
λαι(f)ός, σκαι(f)ός, L. laenus, scaenus ‘left’
L. parvus ‘small’ calvus ‘bald’ helvus ‘yellow’ flāvus ‘golden’
L. fulvus ‘tawny’ rivus ‘stream’ clīvus ‘slope’ silva ‘forest’ arvum ‘field’
469. L. -tūs, -tīvus. nocīvus ‘harmful’ (noceō ‘harm’), aēstīvus ‘of summer’ (aēstus ‘heat’). Mostly -tīvus, formed from the perf. pass. pple., and then independently productive.
captīvus ‘captive’ (capio ‘take’) fugītīvus ‘fugitive’ (fugiō ‘flee’) stātīvus ‘stationary’ (stā ‘stand’)
So the names of the cases, nōminātīvus, genetīvus, etc. (which are translations, partly mistranslations, of the Greek), and other grammatical terms.

NASAL SUFFIXES

460. -mo-.
1. Adjectives.—G. θερμὸς ‘warm’ (cf. ἔτερος ‘summer’) L. formus ‘warm’ (cf. Skt. gharma- ‘heat’).
G. ἐτυμος ‘true’ (cf. ἔτερος ‘real’) φαιδίμος ‘shining’ beside φαιδρός κόδιμος ‘glorious’ beside κόδρος (-r- beside -ro- as in cpd. κόδι-άνειρα)
μάχιμος ‘warlike’ (μάχη ‘battle’)
G. -σιμος, from abstracts in -σις, as χρησιμος ‘useful’ (χρησις ‘use’), στάσιμος ‘stationary’ (στάσις ‘standing’)
L. almus ‘nourishing, kind’ (alō ‘nourish’) firmus ‘firm’, limus ‘sideways’
a. For L. -mus, -imus, -imus, -simus in superlatives, see 295; for -mus in ordinals, 318.

G. ἀνέμος ‘wind’, L. animus ‘soul’ (cf. anima ‘wind, breath, life’)
G. ἀρμός ‘joint’ (ἀραφίσκω ‘join, fasten’), L. armus ‘shoulder,’
neut. pl. arma ‘fittings, arms’
G. φήμη, L. fīma ‘report’ (φημί, fārī ‘say’)
G. γνώμη ‘intelligence, opinion’ (γιγνώσκω ‘know’)
μνήμη ‘memory’ (μνημεῖκος ‘remind’) L. forma ‘shape’ flamma ‘flame’ gemma ‘bud, gem’
G. -ημος, -θμος, -σμος (fem. -τημ, -θμη, -σμη), starting from verb stems
ending in a dental or with dental increment, and with analogical
extension of σ as in perf. mid. πέπεισμαι, etc. (407)
ἐρέμου ‘oar’ (cf. ἔρητης ‘rower’) σταθμός ‘station’ (ἰστημι ‘stand’) δασμός ‘division, tribute’ (δατέωμαι ‘divide’)
ρυθμός ‘rhythm’ (ῥω ‘flow’) θεσμός ‘law’, Dor. τεθμός (τίθημι ‘set’) ὁσμή ‘smell’, Hom. ὁδή (δώ ‘smell’)

461. -men-

1. Masculines.—G. -μην and -μων, L. -mō, gen. -mōnis. Agent
nouns and action nouns.
G. ποιμήν ‘shepherd’ λιμήν ‘harbor’
ἀκμῶν ‘anvil’ τέρμων ‘boundary’ ἡγεμών ‘leader’ (ἡγέομαι ‘lead’)
τελαμῶν ‘strap for carrying’ (ἐτλην, ἔταλασα ‘bear’)
L. sermō ‘discourse’ pulmo ‘lung’

action nouns, but most frequently denoting the result of the
action. One of the most productive types in Greek, the number
running to several thousands.
G. ὄνομα, L. nōmen, Skt. nāma ‘name’ G. τέρμα ‘goal’, L.
lermen ‘boundary’
G. πράγμα ‘act’ (πράσσω ‘do’) ποίημα ‘a work, poem’ (ποιέω ‘make’)
G. μνήμα ‘monument’ (contrast μνήμη ‘memory’) δέρμα ‘skin’
(δέρω ‘flay’)
L. flūmen ‘stream’ (fluō ‘flow’) fragmen ‘fragment’ (frangō
‘break’)
sēmen ‘seed’ (serō ‘sow’, root sē-)

fragmentum ‘fragment’ beside fragmen alimentum ‘nourishment’ (alô ‘nourish’)

ornamentiun ‘ornament’ (ôrnâre ‘adorn’) testamentiun ‘testament, will’ (lesor ‘testify’)  
Here perhaps also G. -muãr in plural of -mu (250a).


alimôniun ‘nourishment’ (alô ‘nourish’) mâtrimôniun ‘marriage state’ (mâler ‘mother’)

So fem. -mônià, as parsimônia ‘thriftiness’ (parcô ‘spare’)


A few nouns, as:

G. στάμνοs ‘jar’ (στημι) βῆλεμνον ‘missile’

λιμνη ‘lake’ (cf. λιμῆν ‘harbor’) ποιμην ‘herd’ (cf. ποιμην ‘shepherd’)

L. fêmina ‘a female, woman’ (lit. ‘one who gives suck’, cf. G. θῆλιν ‘female’, θησαβ ‘suck, suckle’)

463. -en- and -yen-.

1. G. -ην (-enos or -ênos) and -ων (-enos or -ônos), L. -ð (inis or ônis).

G. ἀπρην, -enos ‘male’ τέρην, -enos ‘tender’

άυχην, -enos ‘neck’ πευθην, -ynos ‘inquirer, spy’ (πεύθομαι ‘learn’)

têktôn, -enos ‘craftsman, carpenter’ (Skt. takṣan-, 160) eikôn, -enos ‘image’ (εἶκα, eik- ‘be like’)

άγων, -enos ‘assembly, contest’ (άγω ‘bring’) L. carô, carnis, ‘flesh’ homô, -inis ‘man’

G. -ôn, -enos and L. -ð, -ônis are productive in designations of persons, especially derogatory epithets.

G. γάστρων ‘glutton’ (γαστῆρ ‘belly’) φύσκων ‘fat-belly’ (φυσκη ‘sausage’)

L. comeðó ‘glutton’ (comedô ‘eat up’) labeð ‘big-lip’ (labium ‘lip’) praêðô ‘robber’ (praêda ‘booty’)

leôd ‘pander’ cauðô ‘taVERN-KEEPER’

G. -ôn, -enos, earlier -eôn, in words denoting place.

ândrôn ‘men’s apartment’ (ânír ‘man’) παρθενών ‘maids’ apartment’ (παρθένων ‘maid’)

iπôw ‘stable’ (iπος ‘horse’) oîwôn ‘wine-cellar’ (oivos ‘wine’)

.
ἀμπελόν 'vineyard' (ἄμπελος 'vine') δαφνόν 'laurel-grove'
(δάφνη 'laurel')
centuriō, decurio 'head of a centuria, decuria'
histriō 'actor' ludō 'stage-player'
legiō 'body of soldiers, legion' (legō 'gather, select')
regiō 'direction, region' (regnō 'direct')
occidiō 'slaughter' (occidō 'slay')


For neuters formed with an n-suffix (apart from -men-, 461.2), mostly with nom.-acc. sg. in -r, see 251.

464. -no-. This furnishes one of the most productive types of adjectives (in Sanskrit they serve mostly as passive participles), also many nouns of all genders. From combinations with the preceding stem arise many varieties, of which the most productive types are G. -νός, L. -ānus and -īnus.
1. G. δεμός 'fearful' (δέιδοξα 'fear').
σεμνός 'revered' (σέδομαι 'revere') στυγνός 'abhorred' (στυγνέω 'abhor')
L. dignus 'worthy' (decet 'is fitting') magnus 'great' (cf. G. μέγας 'great')
plēnus 'full' (-πλεό 'fill'; cf. Skt. pūrna-, Lith. pilnas, but G. πλήρης 'full')
G. ἰππός, L. somnus 'sleep' (cf. Skt. svārṇa- and see 80.2, 119.3)
G. τέκνον 'child' (τίκτω 'bear', ἔτεκον) ποιή 'punishment'
(cf. Slov. čéna 'reward')
L. dōnum 'gift' (dare 'give', orig. root *dō- as in G. δίῳμι; cf. δῶρον 'gift')
lāna 'wool' (cf. Skt. ṝṇā- 'wool')
2. G. -anōs (from -no-, beside -no-).
πιθανός 'probable' (πείθω 'persuade') στεγανός 'covered' (στέγω 'cover')
στέφανος 'crown' (στέφω 'put round') κτέανος 'property'
(κτάομαι 'possess')
δαπάνη 'expense' (δάπτω 'devour')

3. G. -άνος, -ήνος in derivatives of place names in Asia Minor, as Σαρδιάνος 'of Sardis', Περγαμήνος 'of Pergamum', and of non-Greek origin.

4. G. -ίνος. πεδίνος 'level' (πεδιόν 'plain').
   ἀνθρώπινος 'human' (ἀνθρώπος 'man')

Adjectives of time, as:
χθεσινός 'of yesterday' (χθές 'yesterday') περυσινός 'of last year' (πέρυσι 'last year')

Adjectives of material (with recessive accent), as:
λίθινος 'of stone' (λίθος 'stone') ξύλινος 'wooden' (ξύλον 'wood')

5. G. -ίνος, mostly in derivatives of place names, as:
Βυζαντίνος 'of Byzantium', Ταραντίνος 'of Tarentum' (but this probably from L. -ινός)

6. G. -ενός (orig. -εν- from σ-terms). ἀλγενός 'painful' (ἀλγός 'pain').
   ὀρεινός 'mountainous' (ὁρός 'mountain') ταπεινός ('low')

7. G. -ῦνος, -ύνη. κυνόνος 'danger' αἰσχύνη 'shame' (αἰσχος 'shame').

8. G. -συνός, -σύνη. δουλόσυνος 'enslaved', δουλόσυνη 'slavery' (δοῦλος 'slave').
   εὐφροσύνη 'mirth' (εὐφρων 'merry') δικαιοσύνη 'justice' (δίκαιος 'just')

Those in -σύνη are feminine abstracts from adjectives or nouns, denoting quality or condition, like those in -της, -της. Probably from -τυνός (cf. 1411b), with -νο- added to the abstract suffix -νο-, and parallel to the Sanskrit neuter abstracts in -वन- besides -वन-, as पतिवन 'wedlock' (पति- 'husband').

9. L. -ānus. Adjectives originally formed from ā-stem nouns, then from others.
Rōmānus 'Roman' (Rōma) silvānus 'of the forest' (silva)
urbānus 'of the city' (urbs)
mundānus 'of the world' (mundus) montānus 'of the mountains' (mons)
Also -äneus, as subterrâneus ‘underground’ (sub terrâ, 526), medi-
terrâneus ‘inland’ (medius, terra)
10. L. -inus (adj.) and -ina.
caninus ‘of a dog’ (canis) equinus ‘of a horse’ (equus), marinus
‘of the sea’ (mare)
femíninus ‘of a woman’ (fémëna) latinus ‘Latin’ (Latium)
рëgina ‘queen’ (rëx ‘king’) gallina ‘hen’ (gallus ‘cock’) ruína
‘fall, ruin’ (ruô ‘fall down’)
opiscína, officína ‘workshop’ (opífex ‘artisan’) medicína ‘heal-
ing’ (medicus ‘physician’)
discíplína ‘instruction’ (discípulus ‘pupil’) doctriña ‘teaching’
(doctor ‘teacher’)
11. L. -ündus and -ûna.
tríbúnus ‘head of a tribe, tribune’ (tribus ‘tribe’) fortúna
‘chance, fortune’ (fors ‘chance’)
12. L. -(l)ernus, -(l)urnus, -linus. Mostly adjectives denoting
time.
hodiernus ‘of today’ (hodie), hesternus ‘of yesterday’ (heri)
diurnus ‘daily’ (díês)
diúturnus, diúlinus ‘long-continued’ (díâ) crástinus ‘of to-
morrow’ (crâs)
For those in -tinus cf. Skt. hyastana- ‘of yesterday’ (hyas ‘yes-
terday’), Lith. dabartinas ‘of the present’ (dabar ‘now’).
465. -ni- and -nu-. L. ignis, Skt. agh, Lith. ugnis ‘fire’.
L. collis ‘hill’ from *col-ni-s (Lith. kalnas ‘mountain’ with -no-)
cpd. adj. commúnis ‘common’, immánis ‘huge’
G. λυγνός ‘smoky flame’ θρήνος ‘footstool’
L. sinus ‘fold’ πínus ‘pine’

r-suffixes

466. -ter-, -tor- (or sometimes -er-, -or-). Agent nouns and
nouns of relationship. For gradation and inflectional types, see
249.
1. G. δορὴπ, L. dator, Skt. dātar- ‘giver’ (dēdōmu, etc. ‘give’).
G. σωτὴρ ‘savior’ (σωτερ ‘save’) ἰητωρ ‘speaker’ (ἐρέω, ἐρρῆθην
‘say’)
L. amātor ‘lover’ (amō ‘love’) victor ‘victor’ (vincō ‘conquer’) scriptor ‘writer’ (scribō ‘write’); with -sor from roots ending in a dental (190), défensor ‘defender’ (défendō ‘ward off, defend’) lōnsor ‘barber’ (londēō ‘shear’) 

By analogy formed also from nouns: iānīlor ‘one who keeps the door’ (iānua) gladiātor ‘one who uses the sword’ (gladius)

In Latin this is the most productive suffix of agent nouns. But not in Greek, where it comes to be replaced by -της, Dor. -τάς (484). Forms in -τηρ occur in poetry, and the dialects, where Attic has -της, as Hom. ἰθελοντήρ ‘volunteer’ = Att. ἰθελοντής, dial. δικαστήρ, κριτήρ = Att. δικαστής, κριτής. The older type appears also indirectly in the derivatives like ψάλτρια fem. of ψάλτης ‘harper’, or δικαστήριον ‘court’ beside δικαστής ‘judge’.

In Attic, -τηρ survives in σωτήρ, as a fixed epithet, otherwise in names of implements or utensils, which were agent nouns in origin but no longer felt as such (like the personal agent nouns), as κρατήρ ‘masher, mixing-bowl’ (κεράννυμι ‘mix’), ραυστήρ ‘hammer’ (ραίω ‘smash’).


G. θυγάτηρ, Skt. duhilār- ‘daughter’ L. soror, Skt. svasar- ‘sister’

So G. ἄνήρ, Skt. nar- ‘man’

For neuters formed with an r-suffix in nom.-acc. sg., beside n-suffix in the other cases, see 251.


Adjectives.—G. σωτήριος ‘preserving’ (σωτήρ ‘savior’).
θελκτήριος ‘charming’ (θελκτήρ ‘charmer’) L. imperātōrius ‘of a general’ (imperātor)
dictātōrius ‘of a dictator’ (dictātor)

Nouns.—Denoting especially place, but also means, etc.
G. δικαστήριον ‘court’ (δικαστήριον, δικαστής ‘judge’, cf. above),
    ἔργαστήριον ‘workshop’ (ἔργαζομαι ‘work’)
θελκτήριον ‘a charm’ (θελεγω ‘charm’)    L. auditorium ‘lecture-
hall’ (auditor ‘hearer’)
praetorium ‘tent or house of the praetor’

468. -tro- and -dhro-. Mostly neuter nouns (with some masc.
    and fem.), denoting the action, or especially, means, instrument,
or place.
 i. -tro-.    G. ἄροιρον L. arātrum ‘plow’ (ἀρόω, arō, -āre ‘plow’).
G. λοντρόν ‘bath’ (λούω ‘wash’)    λύτρον ‘ransom’ (λύω ‘release’)
    θέατρον ‘theater’ (θέαμα ‘look on’)
φέρετρον ‘quiver’ (φέρω ‘bear’)    L. seretrum ‘bier’ (serō ‘bear’)
rāstrum ‘rake’ (rādō ‘scrape’)    rōstrum ‘beak’ (rōdō ‘gnaw’)
χύτρα ‘pot’ (χέω ‘pour’)    παλαιστρά ‘wrestling place’ (παλαιω
    ‘wrestle’)
ρητρά ‘compact’ (ρέω, ἐρρηθνύ ‘say’)    L. multītra ‘milk-pail
    (mulgeo ‘milk’)    fenestra ‘window’
    A few masculines, partly agent nouns, formed from the neuter
    type.
G. ἱάτρος ‘physician’ beside dial. ἱατρί (ἱαομαι ‘heal’)    δαιτρός
    ‘carver’ (δαιω ‘divide’)
L. culler ‘knife’
 ii. -dhro-.    G. -θρων, L. -brum (134, but see 473.2a). For L.
    -brum (from -clo-, -ilo-), see 473.1.
G. βάθρων ‘base’ (βαίνω ‘step’)    ἄξθρων ‘joint’ (ἀραξίσκω ‘fit’)
βάραθρων ‘pit’ (βαζρώσκω ‘swallow’)    cribrum ‘sieve’ (cernō ‘sep-
    arate’)
G. κρεμάθρα ‘basket for hanging things’ (κρεμάννμι ‘hang’)
G. δλέθρος ‘destruction’ (δλλυμι ‘destroy’)

469. -tero-. In words of contrasted relations and (Greek and
    Sanskrit) comparatives (see 294).

470. -ro-. Mostly adjectives, with a few nouns of all genders.
 i. G. ἐρυθρός, L. ruber ‘red’ (cf. Skt. rudhira-).
G. λαμπρός ‘bright’ (λάμπω ‘shine’)    μακρός ‘long’ (cf. μῆκος
    ‘length’)    υγρός ‘wet’
L. niger ‘black’ integer ‘whole’ (tangō ‘touch’)
G. ἀγρός, L. ager, Skt. ajra- ‘field’
L. vir ‘man’ (cf. Skt. vīra-, IE *wē-ro-) G. νεκρός ‘corpse’ (cf. νεκρός ‘corpse’) L. mūrus ‘wall’ G. δῶρον ‘gift’ (δίωμι ‘give’)
2. G. -αρος (from -γο-, like -ανος from -ης-, 464.2; cf. Skt. rudhira- ‘red’).
λάπαρος ‘oily, shiny’ (cf. λιπός ‘fat’) στυβάρος ‘sturdy’ (στείβω ‘tread on’) βλέφαρον ‘eyelid’ (βλέπω ‘look’)
a. From -αρος derivatives of such forms (cf. ταλάριον beside τάλαρος ‘basket’) arose the dimin. -αρον, παιδάριον ‘little child’ (παις ‘child’), κυνάριον ‘puppy’ (κύων ‘dog’).
3. -ερο-. G. ἔλειθερος, L. liber ‘free’.
G. φανερός ‘visible, manifest’ (φαίνω ‘show’) φοβερός ‘terrible’ (φόβος ‘terror’)
L. miser ‘wretched’ tener ‘delicate’
a. Interchange of ερος, -αρος in Att. λερός, Dor. ἱαρός ‘holy’; μερός, μαρός ‘defiled’, σκερός, σκαρός ‘shady’.
4. G. -ηρος (or -αιρος). ἀνιαρός ‘grievous’ (ἀνιάω ‘grieve’).
πονηρός ‘toilsome’ πονέω ‘toil’ λυπηρός ‘painful’ (λύπεω ‘pain’)
5. G. -υρος and -υρος. λυγυρός ‘shrill’ (λυγύς ‘shrill’).
φλεγυρός ‘burning’ (φλέγω ‘burn’) ἰχυρός ‘strong’ (ἰχύς ‘strength’)
Cf. L. satur ‘full’ (satis ‘enough’), sustura ‘mixture’; figūra ‘form’ (fingō ‘form’). Cf. also L. -tūrus and -tūra (489).
Conversely L. sacer, stem sacrō-, in early Latin also sacrī- (both stems in Oscan-Umbrian)
L. celer ‘swift’, pauper ‘poor’ imber ‘shower’ febris ‘fever’
L. fūnebris ‘of a funeral’ from *fūnes-ri- (fūnus ‘funeral’, fūnestus ‘fateful’) muliebris ‘of a woman’ from *mulies-ri- (mulier ‘woman’; see 202.2)
For L. -āris from -ālis, see 474.3
G. δάκρυ ‘tear’; cf. L. lacrima ‘tear’, early lacruma, dacruma, that
is, dacrum-α

1-SUFFIXES

472. -lo-. Adjectives, and nouns of all genders. Diminutive
force is very common in Latin, but only occasional in Greek.
1. G. τυφλός ‘blind’ (τύφω ‘raise a smoke’).
στρεβλός ‘twisted’ (στρέφω ‘turn’) τύλος, τύλη ‘swelling, lump’
(cf. L. tumeō ‘swell’)
φῶλον ‘race’, φῶλη ‘tribe’ (φῶ ‘produce’)
L. pendulus ‘hanging’ (pendeō ‘hang’) crēdulus ‘credulous
(cf. crēdo ‘believe’) bibulus ‘fond of drink’ (bibō ‘drink’)
figulus ‘potter’ (singō ‘fashion’) angulus ‘corner’ famulus
‘servant’
vinculum ‘bond’ (vincō ‘bind’)

a. These Latin forms, and the diminutives in -ulus (2), are in part from
-lo- (80.6, 82.3), belonging with G. -los (5).

2. Diminutives.—L. albulus ‘whitish’ (albus ‘white’).
longulus ‘longish’ (longus ‘long’) filiolus ‘small son’ (filius
‘son’)
regulus ‘chieftain’ (rex ‘king’) agellus ‘small field’ (ager ‘field’)
tabella ‘tablet’ (tabula ‘tablet’) homullus ‘manakin’ (*homon-
lo-, homō ‘man’)
Also, from combination with -ko- suffix, -culus, etc. (to be dis-
tinguished from -culum in primary derivations denoting instru-
ment or place, 473.1).
articulus ‘joint’ (artus ‘joint’) aedicula ‘chapel’ (aedēs) ‘tem-
ple’
ösculum ‘kiss’ (ös ‘mouth’)
G. (Boeot. inscr.) παίλλος ‘little boy’ (*παῖδ-λος, παῖς, παιδός
‘boy’), after which was formed also κόριλλα ‘little girl’ (κόρη ‘girl’).
3. G. -αλος (from -lo-, parallel to -anos, -aanos, 464.2, 470.2.)
troχαλός ‘running’ (τρέχω ‘run’) ὀμαλός ‘level’ (ὁμός ‘same’)
dιδάκταλός ‘teacher’ (διδάσκω ‘teach’) κεφαλή ‘head’
pέταλον ‘leaf’ (πετάνυμι ‘spread out’)

θαρσαλέος 'bold' (θάρσος 'boldness')
κερδαλέος 'crafty (κέρδος 'gain')

άργαλέος 'painful' (by dissim. from *άλγαλέος, άλγος 'pain')

5. G. -ελος. εἰκελος 'like' (εἶοικα 'am like').

εὐτράπελος 'easily turning' (τρέπω 'turn')
νεφέλη 'cloud' (νέφος 'cloud'; cf. L. nebulæ 'mist')

6. G. -ηλος (or -άλος). σιγηλός, Dor. σιγάλος 'silent' (σιγάω 'be silent', σιγή 'silence').

ψηλός 'high' (ψῆ 'high')
κάπηλος 'huckster'

θυτή 'offering' (θῦω 'offer')
Cf. L. -άλις and -έλις (474.3, 4)

7. G. -λος, -λος. ποικίλος 'many-colored'
στρόβιλος 'top'.

8. G. -λος. ἀγκύλος 'curved' (ἀγκος 'bend').

δάκτυλος 'finger'
σταφυλή 'bunch of grapes'

With diminutive force, ἀρκτύλος 'young bear'
(ἀρκτός 'bear')

μικκύλος (μικκός 'small')

παχυλός in adv. παχυλῶς 'roughly' (παχύς 'thick')

a. Hence also in combination with -ω- and with hypocoristic doubling (209α), the diminutives in -κλιον, as εἰδούλιον 'idyl' (εἶδος 'form'), ἐπουλλιον 'scrap of poetry' (ἐπος 'poetry').

9. G. -ώλος. φειδωλός 'thrifty, a miser' (φειδώ 'thrift', φείδομαι 'spare').

εὐχωλή 'prayer' (εὐχομαι 'pray')
eἰδωλόν 'image' (εἰδομαι 'resemble')

473. -ιλο- and -δχλο-. Parallel to -τρο- and -δχρο- (468).

i. -ιλο-, Italic -κλο- (200.3); cf. Osc. pu kul um 'filium', Pael.

puclois: Skt. putras 'son'), whence L. -culum, or, by dissimilation
when added to words containing l, L. -culum.

L. pōsum 'cup' (pō-'drink' in pōlvs 'drunk')
piaculum 'expiation' (pía 'expiate')

vehiculum 'carriage' (vehō 'carry')
periculum 'trial, danger'
(cfr. peritus 'experienced')

lucrum 'gain' (luō 'pay')
simulacrum 'likeness, image' (simulō
'make like')
sepulcrum 'tomb' (sepelīō 'bury')
a. Although the anaptyxis is attested from a very early period, as in *pōcolom, where Plautus also has *pōculum, yet in most words Plautus has usually forms without anaptyxis, as *peridēlum, saeculum. This in contrast to dimin. -culus, always dissyllabic, the vowel here not being anaptyctic (472.2).

2. -dhlo-, G. -θλo-, L. -bulum, -bula.
G. γένεθλον, γενεθλία 'race' (γίγνομαι 'be born', cf. γένεσις, γένετης) θέμεθλα (pl.) 'foundations' (cf. θεμέλιος, θέμις); here also by dissimilation G. φύτλον 'plant', φύτλη 'race' (φύω 'produce') χύτλα (pl.) 'water for bathing, libations' (χέω 'pour')
L. fābula 'narrative' (fārī 'speak') fībula 'clasp, pin' (fīgō 'fix') stabulum 'stall' (stō 'stand') vocābulum 'name' ( vocō 'call') pābulum 'fodder' (pāsco 'feed')

a. Some of the forms in -brum, -bra probably also belong here (rather than from -dhrō, 468.2), by dissimilation as in -crum beside -culum. Thus dolābra 'mattock' (dolō 'hew'), candēlābrum 'candlestick' (candēla 'candle'), vēlābrum 'name of a street in Rome', lābrum 'basin' (from *lāvābrum, lāvō 'wash'). The fact that so many of the forms in -brum have l in a preceding syllable (cf. also flābra, dēlābrum, pollubrum, etc.) makes this probable.

474. L. -ī-. Adjectives, with some used as nouns. From IE -lo-, with transfer to i-declension (283).
1. -īlis. similis 'like' (G. δυάλος 'level'), humilīs 'low' (humus 'ground', G. χθαμαλός 'low', χθων 'ground').

gracīlis 'thin' agīlis 'active' (aggō 'move') facīlis 'do-able, easy' (facciō 'do')

fragīlis 'breakable, frail' (frangō 'break')

Hence also -īlis, -silis, formed from the perf. pass. pple., as:
coctīlis 'baked' (coquō 'cook, bake') fīctīlis 'made of clay' (fīngō 'fashion') missīlis 'missile' (mittō 'send, throw')

2. -bilis. From -bī-, Italic -bī-, with transfer from -flo-, IE -dhlo-, seen in nouns in -bulum (473.2). Cf. stabīlis 'steady' (stō 'stand') beside stabulum 'stall'. Primary derivatives, and mostly with distinctive passive force (quality of being loved, lovable, etc.), as also some of those in -ilis (agīlis, etc., above).
credībilis 'credible' (credō 'believe') mōbilis 'movable' (moveō 'move')
amābilis ‘lovable’ (amo ‘love’) dūrābilis ‘lasting’ (dūrō ‘last’) lāudābilis ‘praiseworthy’ (laudō ‘praise’) -ābilis very productive, and the source of NE -able in lovable, etc.

3. -ālis. Secondary derivatives, originally from ā-stems, but widely productive.

animālis ‘having life’ (anima ‘life’), neut. animal (101) ‘living thing, animal’
mortālis ‘subject to death, mortal’ (mors ‘death’) rēgālis ‘royal’ (rēx ‘king’)

Neut. pl. in names of festivals, as Baccānālia, Saturnālia, Vestālia, etc.

Here also -āris, by dissimilation.

populāris ‘of the people, popular’ (populus ‘people’) militāris ‘of soldiers, military’ (miles ‘soldier’)
cōnsulāris ‘of a consul’ (cōnsul) familiāris ‘of the family, intimate’ (familia ‘family’)
exemplar (101) ‘pattern, copy’ (exemplum)


fidēlis ‘faithful’ (fidēs ‘faith’) crūdēlis ‘cruel’ (crūdus ‘bloody, raw’)
cīvilis ‘of a citizen’ (cīvis ‘citizen) hostilis ‘of an enemy’ (hostis ‘enemy’) servilis ‘slavish’ (servus ‘slave’)

Neut. -īle, mostly in words denoting place (some of these from verbs) sedile ‘seat’ (sedeō ‘sit’) cubīle ‘bed’ (cubō ‘lie down’)

ovile ‘sheep-fold’ (ovis ‘sheep’) bovile ‘ox-stall’ (bōs ‘ox’)
equile ‘horse-stall’ (equus ‘horse’)
tribulīs ‘fellow tribesman’ (tribus ‘tribe’) cu(r)rūlīs ‘of a chariot’ (currus ‘chariot’; 208.4)

a. The long vowel is peculiar in -ēlis, -īle from i-stems (cīvilis, ovīle) where we should expect -īlis, and in -ālis from u-stems (tribulīs) where we should expect -u-lus. The situation is the same as in -ānus, -ānus (canīnus, tribūnus, etc., 464.10, 11) and some others. Such forms of the suffix may owe their long vowel to the influence of the productive -ālis, -ānus, etc.—or perhaps rather, since there are some such forms in other languages (cf. Lith. akylas ‘sharp-sighted’ from akis ‘eye’), to a similar influence of IE -ālo-, -āno- beginning in the parent speech.
DENTAL SUFFIXES

T-SUFFIXES

475. -t-

1. Added to roots ending in a vowel in the type corresponding to root stems from roots ending in a consonant (448) and likewise most common in compounds. Cf. Skt. viʃva-ji-t- ‘all conquering’ (ji- ‘conquer’), madhu-kr-t- ‘honey-making’ (kr- ‘make’).

G. verbal adjectives in -ās, -ēs, -ōs, gen. -ātōs, etc. Some with active, but most with passive force. Mainly confined to poetry. neokrās ‘newly mixed’ (κεράννυμι ‘mix’) proβλής ‘jutting out’ (προβάλλω ‘put forth’)

ωμοβρώς ‘eating raw flesh’ (βιβρόσκω ‘devour’)

L. sacerđōs ‘priest’ (dō- ‘give’) locuples ‘rich’ (πλεο ‘fill’)

supersies ‘surviving’ (stō- ‘stand’) comes ‘companion’ (eō ‘go’)

pedes ‘one who goes on foot’

2. G. -ēs, -ētōs, mostly agent nouns.

cēλēs ‘courser’ (κέλλω ‘drive’) γόης ‘sorcerer’ (γοάω ‘howl’)

λέβης ‘basin’

L. -ēs, gen. -etis or -etis. tēges ‘mat’ (tēgo ‘cover’) equēs ‘horseman’ (equus ‘horse’, cf. G. ἵππος)

miles ‘soldier’ (but this type not always to be distinguished from compounds like comes, pedes, above, 1).

3. L. -ās, -ātis in words denoting rank or origin.

optimās ‘aristocrat’ (optimus ‘best’) cuiās ‘of what country?’ (cuius ‘whose?’) Arpinās ‘of Arpinum’

a This belongs here, though the gen. pl. is usually -ium. Cf. -āt-, following. The origin of the type is obscure, but it probably started from some primary derivatives.

4. For G. secondary -r- in neuters and elsewhere, see 250–52.

476. -lāl-. G. -rēs, -rētōs, Dor. -rās, -rātōs, L. -lās, -lātīs (gen. pl. -um and -ium), Skt. -lāl- (and -lāti-). The most productive type of qualitative abstracts derived from adjectives or nouns.

G. vebrēs ‘youth’ (νέος ‘young’) L. novilās ‘newness’ (novus ‘new’)
G. φιλότης ‘friendship’ (φιλός ‘friend’) κακότης ‘badness’ (κακός ‘bad’)
γλυκότης ‘sweetness’ (γλυκός ‘sweet’) Ἰ. δονιάς ‘goodness’ (δονός ‘good’)
civitas ‘citizenship’ (civis ‘citizen’) libertas ‘freedom’ (liber ‘free’)
iuventās ‘youth’ (iuvenis ‘young’) tempestās ‘time, storm’ (tempus ‘time’)

Cf. Ἰ. -tās, -tātis and -tūdo, -tūdinis, with same force (488)

477. -nt-. Regularly in active participles (434). A few nouns of participial origin, as the inherited G. ἰδέως, Ἰ. δένσις, Skt. danta—
‘tooth’ (from *ed- ‘eat’), G. γέρων ‘old man’ = Skt. Jarant- ‘infirm, old’ (from jar- ‘waste away’). Others of obscure history, as ἴματσ
‘strap’, ἀνδριάς ‘statue’.

λέων ‘lion’, δράκων ‘dragon’, ἠκών ‘javelin’, ἑράκτων ‘attendant’
are orig. n-stems (cf. fem. λεοντα, δράκαινα, etc.) with transfer to
ντ-declension.

478. Ἰ. -antia, -entia. Abstracts formed with -tā- from partici-
ples in -ant-, -ent-, like similar abstracts from other adjectives
(as audacia from audax, 455.2).

ignorantia ‘ignorance’ (ignorāns ‘ignorant’) elegantia ‘refine-
ment’ (elegāns ‘fastidious’)

intellegentia ‘intelligence’ (intellegēns ‘discerning’) sapientia
‘wisdom’ (sapiēns ‘knowing’)

patientia ‘patience’ (patiens ‘enduring’) sententia ‘opinion’
(*sentēns, cf. sentiēns ‘feeling, thinking’

479. -wnt-, G. -wer-, Skt. -vnt-. Added to noun stems, for-
ing adjectives meaning ‘possessed of, abounding in’. Skt. rūpa-
vant- ‘beautiful’ (rūpa- ‘form, beauty’), G. χαριέω ‘graceful’
(χάρις ‘grace’). For inflection, see 286.

-ātēs, Att.-Ion. -nēs, mostly from ē-stems, but by analogy from
others

τιμήτες ‘honored’ (τιμή ‘honor’) κόθείτες ‘wrathful’ (κότος
‘wrath’)
telhēs ‘perfect’ (telos ‘end, completion’)
-ētēs, only χαριέτες ‘graceful’ (χάρις ‘grace’).
-οεις, originally from ο-stems, but by analogy from others.

Most productive type
δολεῖς ‘wily’ (δόλος ‘wile’) μελιτθέις ‘sweet’ (μέλι, μελιτός ‘honey’) δακρυεῖς ‘tearful’ (δάκρυ ‘tear’)
-ωεῖς, ευρόεις ‘moldy’ (ευρός ‘mold’), and a few others

Adjectives of this type are almost exclusively poetical, only a few being used in prose, as χάριεις. Hence the retention of the uncontracted forms and of σα in fem. χαρίεσσα even in Attic.

But certain forms, used substantively as technical names or place names, were ordinary prose words and show the normal phonetic development.

πλακοῦσ ‘flat cake’ (πλάκ ‘flat’) τυροῦ ‘cheese-cake’ (τυρός ‘cheese’)
μελιτοῦτα ‘honey-cake’ (μέλι ‘honey’) οἶνοῦτα ‘wine-cake’ (οίνος ‘wine’) ὁμοῦ, Σκοροῦσσα


formōsus (formōnsus also attested) ‘shapely’ (forma ‘shape’) vinōsus ‘wine-bibbing’ (vinum ‘wine’), verbōsus ‘wordy’ (verbum ‘word’)
dolōsus ‘crafty’ (dolus ‘guile’) nivōsus ‘snowy’ (nix ‘snow’) bellicōsus ‘war-loving’ (bellum ‘war’, but in form from adj. bellicus)

a. For ὅ from  özelliği, see 94.2d; for loss of ν, 202.3. But it is strange that the spelling with ν is attested only for formōnsus. The above analysis is doubted by many.

481. L. -ἔνης. Adjectives, many of them also used substantively, derived from nouns denoting place, especially names of towns. History obscure, but probably from a combination -ent-li-. castrēnēs ‘of the camp’ (castra) circēnēs ‘of the circus’ (circus) Cannēnēs ‘of Cannae’ Narbōnēnēs (Narbō, -ῖνις), Hispāni-
-ēnēs (Hispania)
-иēnis (after the analogy of Hispaniēnēs, etc.), Athēniēnēs (Athenae), Carthaginienēs (Carthāgō, -inēs)

2. L. adjectives of participial origin, but not felt as part of the verb system, even if the verb existed.

altus 'high' (alō 'nourish') certus 'sure' (cernō 'distinguish')
laetus 'neat, splendid' (lavō 'wash') grātus 'pleasing'
lātus 'broad' mālus 'dumb'

3. Adjectives formed from nouns, after the analogy of participles of denominative verbs which might be felt in direct relation to the original nouns.

L. barbātus 'bearded' (barba 'beard') hastātus 'armed with a spear' (hastā 'spear')
aurītus 'long-eared' (aurīs 'ear') nāsītus 'with long nose'
(nāsus 'nose')
rōbustus 'hardy' (rōbur 'oak') honestus 'honored' (honōs, honor 'honor')
G. ὀσανωρὸς 'tasseled' (ὀσανός 'tassel') and some others in -ωρὸς

4. Nouns of all genders, mainly verbal abstracts (or with derived concrete sense).

G. κοῖτος, κοῖτη 'couch' (κεῖμαι 'lie') φόρτος 'load' (φέρω 'bear')
θάνατος 'death' (θάνατος 'die') βροντή 'thunder' (βρέω 'roar')
ἀρετή 'excellence' (ἀραπίσκω 'fit') μελέτη 'care' (μελέτη 'is a care')

L. lectus 'couch' hortus 'garden' porta 'gate'

From nouns, iuventa 'youth,' senecta 'old age,' beside more usual iuventās, iuventūs, senectūs. Many are simply the participial forms in substantive use, as fossa 'ditch' (fodiō 'dig'), pūctum 'point' (pungō 'prick').

L. -ētum, originally from verb stems in ē, as acētum 'vinegar' (acēscō 'turn sour'), but productive in nouns of place, especially place where a plant grows.

rosētum 'rose bed' (rosa) vinētum 'vineyard' (vinum), pīnētum 'pinegrove' (pīnus), cupressētum 'cypress grove' (cupressus)

483. L. -ō or u)lentus. Adjectives derived from nouns.

vinōlentus 'drunken' (vinum 'wine') violentus (also violēns) 'violent' (vis 'strength')
opulentus (also opulens) ‘wealthy’ (ops, pl. opēs ‘wealth’)
fraudulentus ‘cheating’ (fraus ‘fraud’) corpulentus ‘fleshy’
(corpus ‘body’)

a. Origin uncertain. Probably extension of nt-stems (cf. violēns, opulēns), and possibly starting from compounds of olēns, pple. of oleō ‘smell’, as vino-

lēns, then with loss of literal meaning, as in G. -ὄδης (497). Or, also through nt-stems, from adjectives of the type bibulus, crēdulus (472.1).

484. G. -της (gen. sg. Att. -του), Dor. -τάς. The most productive type of agent nouns, replacing -τηρ (466). Also secondary
derivatives denoting the person occupied with, etc.

κριτής ‘judge’ (κρίνω ‘decide’) δικαστής ‘judge, juryman’
(dikāζω ‘pass judgment’)
kλέπτης ‘thief’ (kλέπτω ‘steal’) ποιητής ‘maker, poet’ (ποιέω
‘make’)
μαθήτης ‘pupil’ (μαθάνω ‘learn’) ικέτης ‘suppliant’ (ικνέομαι
‘approach’)
ναύτης ‘sailor’ (ναύς ‘ship’) οἰκέτης ‘house-servant’ (οίκος
‘house’)
δημότης (dial. δαμέτας like οἰκέτης) ‘one of the people’ (δῆμος
‘people’)
tοξότης ‘bowman’ (τόξων ‘bow’) πολίτης ‘citizen’ (πόλις ‘city’)
στρατιώτης ‘soldier’ (στρατιά ‘army’)
-άτης, -ήτης, -ίτης, -ώτης in words denoting one’s native place
Τεγεάτης, Αλγινήτης, Αβδηρίτης, Ιταλώτης

a. -τά- is an extension of the -τ- used in verbal adjectives and agent nouns, and especially common in compounds (475.1). For the transfer to ἂ-stem, perhaps due in part to the existence of feminine abstracts in -τά- (cf. L. iuvenia ‘youth,’ 482.4), cf. compounds like παιδοπρίβης (525), and patronymics in - ἰδής (493).

b. The distribution of agent nouns in -της in Homer indicates that their main starting-point was in compounds, whence they spread to derivatives of denominative verbs, and lastly to derivatives of primary verbs, in place of -τηρ. The substitution of -της went farthest in Attic, while -τηρ often sur-

vived in poetry and in dialects (see 466).

c. The agent nouns form their feminine in -τρια or -τρις (-δος), belonging with the older -τηρ.
ψαλτής ‘harper’ fem. ψαλτρια aὐλητής ‘flute-player’s fem. aὐλητρις
μαθήτης ‘pupil’ fem. μαθῆτρια or μαθητρίς
The secondary nouns form their feminine in -τις (-τός). πολίτης ‘citizen’ fem. πολίτις, οἰκέτης ‘house-servant’ fem. οἰκέτις. So also some that are agent nouns in origin. ικέτης ‘suppliant’ fem. ικέτις, ἐργάτης ‘workman’ fem. ἐργάτις.

485. -τι-, Skt. -τि-, G. -τις, -σις, L. vestis, mēns, etc. Mostly verbal abstracts, with a few agent nouns.
G. βάσις ‘slipping, slip’ (βάπω ‘step, walk’), Skt. gati- ‘going, gait’ (gam- ‘go’)
G. ρόσις ‘flowing’ (ῥέω ‘flow’), Skt. sruti- ‘flowing’ (ṣru- ‘flow’)
G. θέας ‘placing’ (τιθήμι ‘place’) πιστις ‘trust’ (πείθομαι ‘trust’)
ζεὺξις ‘yoking’ (ζεύγνυμι ‘yoke’) βλάψις ‘injury’ (βλάπτω ‘injure’)
L. mēns ‘mind’ (memini ‘remember’), Skt. mali- ‘thought, mind’ (man- ‘think’)
L. mors ‘death’ (mōrior ‘die’), Skt. mṛti- ‘death’ (mr- ‘die’)
L. vestis ‘clothing’ (IE *ves- G. ἓνυμι, Skt. vas- ‘clothe’), hostis ‘stranger, enemy’, pars ‘part’, fōns ‘spring’
G. -τις is retained after σ (πιστις, etc.) and in some others, as μάντις ‘seer’, φάρις ‘saying’ (also φάσις). But mostly -σις, (-ξις, -ψις) by phonetic change (141) and analogical extension. This is the most productive type of verbal abstracts in Greek, running to some five thousand words. In Latin the suffix survives as -tis, or more often with syncope, as in mors, etc., but as a productive suffix it is replaced by its extension -tio. Cf. following.

486. L. -τιό, -τιόνις. Combination of the inherited -τι- with an n-suffix, especially -iō, -iōnis (463.2). Productive type of verbal abstracts. Form of verb stem and phonetic changes the same as in the perf. pass. pple.

āctīō ‘action’ (agō ‘do, act’)
lectīō ‘reading’ (legeō ‘read’) mōtiō ‘motion’ (moveō ‘move’)
 sessiō ‘sitting’ (sedeō ‘sit’) ratiō ‘account’ (reor ‘reckon’)
audītiō ‘hearing’ (audiō ‘hear’) accusatiō ‘accusation’ (accūsō ‘accuse’)
probātiō ‘approval’ (probō ‘approve’)

487. -τū-, Skt. -τू-, G. -τος, L. -tus. Like -τι-, mostly in verbal
abstracts. Comparatively rare in Greek, productive in Latin. Originally mostly masculine in contrast to fem. -ũ-, and so regularly in Latin, but feminine in Greek. For -ũs instead of -ũs, see 268.

G. βοητός ‘shouting’ (βοάω ‘shout’) γραπτός ‘scratching’ (γράφω ‘scratch, write’)

ἀδητός ‘food’ (ἀδω ‘eat’) numeral derivatives, τριτρός, etc.

(322), ἡμισ ‘half’, Dor. ἡμις (cf. L. semis- ‘half’) neut. ἀστυ ‘city’ (cf. Skt. neut. vāstu ‘abode’)

L. cantus ‘singing, song’ (candō ‘sing’) adventus ‘arrival’ (adveniō ‘arrive’)

visus ‘sight’ (videō ‘see’) exercitus ‘army’ (exercēō ‘exercise, train’)

fluctus ‘wave’ (flüō ‘flow’) moitus ‘motion’ (moveō ‘move’)

-ātus, originally from denominatives of the first conjugation, became productive in secondary derivatives denoting office or official body.

cōnsulātus ‘consulship’ (cōnsul) iūdicātus ‘office of judge’ (iūdex)

magistrātus ‘magistracy’ (magister) tribūnātus ‘tribuneship’

(tribūnus) senātus ‘senate’ (senex ‘old man’)

equītātus ‘cavalry’ (eques ‘horseman’)

488. L. -ās, -ūtis, and -ādō, -ūdinis. Combination of the inherited -lū- with -l- and with the type -dō, -dinis (496). Since there is no sufficient evidence of a parallel IE -lū-, the ā is probably due to analogy, namely -lūs, -lūtis after -lās, -lātis (476), and -ādō after -ēdō, -īdō, -ūdō. Used, like -lās, in forming qualitative abstracts from adjectives or nouns.

iūventūs ‘youth’ (iuvēnis ‘young’) senectūs ‘old age’ (senex ‘old man’)

virtūs ‘manliness’ (vir ‘man’) servitūs ‘servitude’ (servus ‘slave’)

altītūdō ‘height’ (altus ‘high’) magnītūdō ‘greatness’ (magnus ‘great’)

longītūdō ‘length’ (longus ‘long’) also, by analogy, from verb stems, valētūdō ‘health’ (valeō ‘be strong’)

cōnsuētūdō ‘custom’ (cōnsuēscō ‘accustom’)

338 COMPARATIVE GREEK AND LATIN GRAMMAR [488]
489. L. -tûrus and -tûra. Combination of -tu- with a -ro-
suffix. Cf. especially -âro- (470.5).
-tûrus. Future active participle (436).
-tûra. Verbal abstractions denoting action, often result or occupa-
tion. From the last use, felt in relation to agent nouns in -tor, it
came to be formed directly to nouns in -tor, in the sense of office.
nâtûra 'birth, nature' (nâscor 'be born') cullûra 'cultivation'
(colô 'cultivate')
scriptûra 'writing' (scribô 'write') pictûra 'painting' (pingô
'paint')
mercâtûra 'trade' (mercôr 'trade'; cf. mercâtôr 'trader')
praetûra 'praetorship' (praetor) quaestûra 'quaestorship' (quaes-
tor)
censûra 'censorship' (censor)
490. -tio- (or -tyô-, Skt. -tya-), G. -sios (dial. also -tios, 141a),
-sîon, -sîa, L. -tius, -tium, -tia, and, with transfer to fifth de-
clension, -tîes. Originally adjectives formed with the -yo- (-io-)
suffix from words containing one of the t-suffixes. But substantive
use prevails in Latin.
G. énuâsios (Delph. énuâröos) 'yearly' (énuârōs 'year') ploû-
sios 'wealthy' (ploûtôs 'wealth')
ðêmôtios 'public' (ðêmôtês 'one of the people') sympôsion 'drink-
ing-party' (sympôtês 'fellow-drinker')
ðôsia 'sacrifice' (ðôrés 'sacrificer') prodôsia 'betrayal' (prodô-
tês 'betrayer')
L. propîlius 'favorable' (prope 'near')
comitium 'place of meeting', exitium 'ruin', inîtium 'beginning'
(cpds. of -i-t- 'going', cf. comes 'companion')
nûntium 'news' (*novo-ventiom 'new-coming'), hence nûntius
'messenger'
grâtia 'thanks' (grâtus 'pleasing') molestia 'trouble' (molestus
'troublesome')
Hence -tia and -tîes in qualitative abstractions from adjectives or
nouns.
dūrila, dūrilēs ‘hardness’ (dūrus ‘hard’) mollitia, mollītiēs ‘softness’ (mollis ‘soft’)
amicitia ‘friendship’ (amicus ‘friendly’) pueritia ‘childhood’ (puer ‘boy’)

d-suffixes

491. The d-suffixes play only a small rōle in most of the IE languages, but furnish some very productive types in Greek, as -as, -ados, -is, -idos, and the patronymics in -ados, -idos.

492. -d-. Rare in Latin, productive in Greek.

1. L. lapis, -idis ‘stone’ capis, -idis ‘bowl’
mercēs, -ēdis ‘wages’ pecus, -ūdis ‘head of cattle’
palēs, -ūdis ‘swamp’ custōs, -ōdis ‘guard’

2. G. -as, -ados. A few masc. or fem., as φυγάς ‘exile’ (φεύγω ‘flee’), but mostly feminine.
λαμπάς ‘torch’ (λάμπω ‘shine’) νυφάς ‘snow-flake’ (νεῖφω ‘snow’)
δειράς ‘ridge’ (cf. δειρή ‘neck’) θεστίας ‘daughter of Thestius’

Numeral collectives, τρίας etc. (322), with α from η as in δεκάς (cf. Skt. daça-t-, IE *dekati), and with d as in Skt. pāncad- ‘pentad’.

3. G. -is, -idos. Very productive type, spreading at the expense of orig. i-stems.
ἐρις ‘strife’ (acc. sg. ἔριν) ἐκτίς ‘hope’ ἀκτίς ‘shield’

Territory.—’Αργολίς, Θηβαίς, Μεγαρίς ‘territory of Argos, Thebes, Megara’.

Denoting women’s native place.—Μεγαρίς ‘Megarian woman’ (fem. of Μεγαρεύς).
Θηβαίς ‘Theban woman’ (fem. of Θηβαῖος) Περσίς ‘Persian woman’ (fem. of Πέρσης).

Feminine patronymics.—Πριαμίς ‘daughter of Priam’.
’Ατλαντίς ‘daughter of Atlas’ Νητίδες ‘daughters of Nereus’

493. Greek patronymics in -δῆς (Dor. -δᾶς), namely -δῆς (the most common form), -άδης, -ιάδης, and in dialects also -ωνδᾶς or -ονδᾶς.

Hom. Πριαμίδης (Πριαμός) Νεστορίδης (Νέστωρ)
‘Ιπποτάδης (‘Ιππότης) ‘Ασκληπιάδης (‘Ασκληπιός)
Πηλείδης and Πηληνίαδης (Πηλεύς)
Such forms are real patronymics in Homer, but in later times are merely a common type of personal names without patronymic force, as Θουκυδίδης, Ἀλκιβιάδης, Bocot. Ἑπαμεινώνδας.

a. The starting-point of this type, peculiar to Greek, is probably to be sought in the feminine patronymics in -is, -idos and -as, -ados (492.2, 3), where the patronymic use is only one aspect of the fem. ð-stems which grew to such proportions from a small nucleus of IE d-stems. Thus from Πριαμίδης 'daughter of Priam' was formed the masc. Πριαμίδης 'son of Priam'. Cf. the masculine agent nouns παιδοριβής, etc. (625).

494. G. (-ιδεος, -ιδεα) -ιδος, -ιδη, and -ιδες, allied to the patronymic names.
άδελφιδος 'nephew', ἀδελφίδη 'niece' (ἀδελφός 'brother')
ὐἱδεος 'grandson' (ὐῖος 'son') λυκίδεος 'wolf's whelp' (λύκος 'wolf')
ἀετίδεος 'eagle's young' (ἄετός 'eagle')

495. G. -άδως and -ιδος, from adverbs or adverbial phrases.
διχθάδως 'divided' (διχθά 'in twain') ἀμφάδως 'public' (ἀμφά- 
δων 'openly')
ἐγχερίδως 'in the hand' (χείρ 'hand') παραβαλασσίδως 'by 
the sea' (θάλασσα 'sea')
ἐντοσθίδια 'entrails' (ἐντοσθε 'within')

496. -δεņ-, G. -δων, L. -δό, -δην. Mostly verbal abstracts de- 
noting a physical or mental state.
G. μελεδώ 'care' (μελέτι 'is a care') σηπεδών 'rottenness' (σήπω 
'rot')
ἀλγηδών 'pain' (ἀλγέω 'suffer') ἀχθηδών 'distress' (ἀχθομαί 'be 
weighed down')
L. dulcedō 'sweetness' (dulcēscō 'become sweet') torpēdō 
'numbness' (torpē 'be torpid')
cupidō 'desire' (cupidō 'desire') libidō 'pleasure, lust' (libet 
'pleases')
hirudo 'leech' testūdō 'tortoise' (testu 'earthen pot')

For -tūdō, see 488.

a. In Greek, beside μελεδών, also μελεδώνη 'care' and μελεδωνός 'keeper'. A further related suffix is -δανος, βιγεδανός 'causing to shiver' (βιγέω 'shiver'), ληθεδανός 'causing to forget' (ληθομαί 'forget'). In Homer also -διος, μακεδός 'tall' (cf. μακρός 'long'), ὀλοφυδόν 'lamenting' (cf. ὀλοφύρομαι 'lament').
497. G. -ωδῆς. Originally compounds containing the root of δζω ‘smell’, as εὐωδῆς ‘fragrant,’ hence from ‘smelling of’ to ‘having the character of, like’.

πουώδης ‘grassy’ (ποιᾶ ‘grass’) σφηκώδης ‘wasplike’ (σφῆξ ‘wasp’) λυσσώδης ‘raging’ (λύσσα ‘rage’) πρεπώδης ‘proper’ (πρέπει ‘is fitting’)

498. L. -idus. Adjectives, from verbs and nouns (often uncertain which).

cupidus ‘eager’ (cupio ‘desire’) tepidus ‘warm’ (tepeō ‘be warm’)
timidus ‘afraid’ (timo ‘fear’) lúcidus ‘bright’ (lúceō ‘be light’, lúx ‘light’)

fūmidus ‘smoky’ (fūmus ‘smoke’) gelidus ‘icy’ (gelo ‘ice’)

a. There are various possible, and perhaps actual, sources of this type. It may combine IE *-do- and -dh-, may possibly include some compounds of IE *dō- ‘give’ or *dhē- ‘put’ (e.g. lúcidus, fūmidus).


moribundus ‘dying’ (morior ‘die’) tremebundus ‘trembling’ (tremō ‘tremble’)

errā bundus ‘wandering’ (errō ‘wander’) fācundus ‘eloquent’ (fāri ‘speak’)

irācundus ‘wrathful’ (irascor ‘be angry’) fēcundus ‘fruitful’ (fē- in fēmina ‘woman’)

dh-suffixes

500. The IE dh-, G. θ- suffixes are relatively unimportant, and are mostly connected with the root increment which appears also in verbal forms, as G. πλήω ‘be full’ beside πιμπλημι ‘fill’, πλήρης ‘full’, stem πλη-.

1. -θ-. δρνίς ‘bird’, δρνῦθος (acc. δρνὺ), extension of an i-stem, beside Dor. δρνίξ, δρνῖχος with guttural stem. κόρυς ‘helmet’, κόρυθος.

2. -θς. κάλαθος ‘basket’ κύαθος ‘cup’ ψάμαθος ‘sand’.

3. -θ-, -θδος. Place names like Τίρυνος (gen. Τίρυνδος), Κόρινθος, Ὀλυμπός, etc., are of pre-Greek origin. So also, in part at least, the
appellatives, mostly names of plants, fruits, etc., as ἐρέβυνθος ‘chickpea’, τερέβυνθος a kind of tree, δινθος ‘winter-fig’.

a. For -θος, -θρος, -θλος, see 466.2, 468.2, 473.2.

GUTTURAL SUFFIXES

501. -k-.

1. Greek.—λίθαξ, -ακος ‘stony’ (λίθος ‘stone’).
   λείμαξ, -ακος ‘meadow’ (beside λείμων)
   κόλαξ, -ακος ‘flatterer’
   θαρᾶξ, -ακος ‘breastplate’
   κύλιξ, -ικος ‘cap’
   κύρις, -ικος ‘herald’
   Diminutive or derogatory.—μείραξ, -ακος ‘young girl’ (beside μεράκιον ‘young boy’), νεάξ, -ακος ‘young fellow’ (νέος ‘young’).

2. Latin.—Adjectives in -āx, -ācis (productive), -ōx, -ōcis, and -īx, -īcis, denoting personal characteristics.
   aūdāx ‘daring’ (audeō ‘dare’)
   rapāx ‘rapacious’ (rapīō ‘seize’)
   tenāx ‘tenacious’ (teneō)
   vorāx ‘voracious’ (vorō ‘devour’)
   atrōx ‘cruel’ (āter ‘black, dismal’)
   ferox ‘fierce’ (fērus ‘wild’)
   vēlāx ‘swift’ (volo, -āre ‘fly’)
   fēlix ‘happy’ (orig. ‘fruitful’:
   fēlō ‘suckle’)
   pernīx ‘active, swift’

Nouns, vertex, -īcis ‘whirl, peak’ (vertō ‘turn’)
appendīx, -īcis ‘addition’ (appendō ‘weigh out’) cornīx -īcis ‘crow’

Productive -trīx, -trīcis, feminine of agent-nouns in -lor.
creātrīx, generītrix, imperātrīx, lōnstrīx, victrīx, fem. of creātor,
genēlor, imperēlor, lōnser, victor


1. Greek.—θηλυκός ‘feminine’ (θῆλυς ‘female’).
   ὄστακος ‘lobster’ (ὀστέων ‘bone’, Skt. aston-; here -ακος from -γ-ko-)
   φάρμακον ‘drug’
   σκώκος ‘shadowy’ (σκῦδ ‘shadow’)
   καρδιακός ‘pertaining to the heart’ (καρδιᾶ ‘heart’)
   κυριακός ‘pertaining to the lord’ (κύριος ‘lord’)

Korinhiaκός ‘Corinthian’ (beside Korinhios, from Κορίνθος)

-ικός. Partly inherited IE -iqa- (L. -icus, Skt. -ika-, Lith. -ikas, etc.), not confined to derivatives of i-stems. Rare in Homer, except in ethnica like Τρωικός, Πελαγικός, but appearing later

1 The rare and mostly unproductive labial suffixes are omitted.
with increasing frequency, until it becomes in Attic prose the most productive adjective suffix.

-τικός from neut. τ- stems, agent nouns in -ης, and verbals in -τες.

μαθηματικός ‘fond of learning’ (μάθημα ‘learning’)  κριτικός ‘critical’ (κρίτης ‘judge’)

πράκτικός ‘practical’ (πράκτος ‘to be done’)

2. Latin.—paucus ‘few’ (cf. G. παῖός ‘few’).

prācus ‘ancient’ (prius ‘before’)

-icus (cf. G. -ικός, above; Osc. tū v tís ‘publicus’ from tōlā ‘people’, mū nīk ú ‘communis’).

civīcus ‘of a citizen (cīvis ‘citizen’)  modicus ‘moderate’ (modus ‘measure’)

bellicus ‘of war’ (bellum ‘war’)  Italicus ‘Italian’ (Italia)

-licing (by combination with -lo- suffix).

rūsticus ‘of the country’ (rūs ‘country’)  domesticus ‘of the home’ (domus ‘home’)

fānāticus ‘inspired’ (fānum ‘shrine’)

-icus. amicus ‘friendly, friend’ (amō ‘love’).

anticus ‘in front’ (ante ‘in front’)

-ūcus. caducus ‘falling’ (cadō ‘fall’).

mandūcus ‘chewing, a chewer’ (mandō ‘chew’)

-icsus, -iecus (by combination with -ius).

patricius ‘patrician’ (pater ‘father’)  tribūnicius ‘of a tribune’ (tribūnus ‘tribune’)  noviicus ‘new’ (novus ‘new’)

-īcicus (from pple. in -itus).

fictīcus ‘fictitious’ (fictus ‘feigned’)  adventīcus ‘foreign’ (adventus ‘arrived’)

-āceus (by combination with -eus, 456).

rosāceus ‘of roses’ (rosa ‘rose’)  cretāceus ‘of chalk’ (crēla ‘chalk’)  farrāceus ‘of spelt’ (far, farris ‘spelt’)
a. There are a few forms with qu, formed from adverbs, and quite distinct from the above. antiquus 'ancient' (ante 'before'), longinquus 'remote' (longē 'afar'), propinquus 'neighboring' (prope 'near'). They are related to Sanskrit forms like pratyāics-, pratis- 'backward' (prati 'over against'), and are compounds in origin.

503. G. -ίςκος, fem. ἵκη, in diminutives. Originally adjectives related to a productive type of adjectives in Germanic and Balto-Slavic, as NE childish.

παιδίσκος, παιδίσκη 'young boy', 'young girl' (παῖς 'boy', 'girl')

άνθρωπίσκος 'manakin' (άνθρωπος 'man') νεανίσκος 'youth' (νεανίς 'youth')

504. -γ-. Rare. G. ἀρπαξ, -αγος 'rapacious'.

μάστιξ, -ιγος 'whip' ἀνυξ, -υγος 'rim'

Stem with preceding nasal, in -γγ-, in words denoting hollow shape.

φάλαγξ 'phalanx' λάρυγξ 'larynx' σάλπιγξ 'trumpet'


imāgo 'likeness, image' (cf. imilōr 'imitate') vorāgō 'abyss'

(vorō 'swallow'; cf. vorāx)

virāgō 'manlike woman' (vir 'man') verligō 'dizziness' (vertō 'turn')

orīgō 'source, origin' (orīr 'arise') prūrigō 'itching' (prūriō 'itch')

aerūgō 'copper-rust' (aes 'copper') lānūgō 'down' (lāna 'wool')

506. -gho-, G. -χός, in diminutives.

στόμαχος 'throat', later 'stomach' (στόμα 'mouth') νηπίαχος 'childish' (νηπίος 'childish')

δρτάλιχος 'chick' (δρταλής 'chicken') Dor. πυρριχος 'reddish'

(pυρρός 'red')

S-SUFFIXES


G. γένος, L. genus, Skt. janas- 'race, family' (G. γέννωμαι 'be born', L. gignō 'beget, bear', Skt. jan- 'beget')
346 COMPARATIVE GREEK AND LATIN GRAMMAR

G. μένος 'courage, rage, purpose' (cf. Skt. manas 'mind', from man- 'think')

ψεῦδος 'lie' (ψεῦδομαι 'lie')

κράτος 'strength'

θράσσος 'boldness'

L. foedus 'treaty' (fīdō 'trust')

pondus 'weight' (pendō 'weigh')

tempus 'time'

corpus 'body'

2. Adjectives, nom. sg. masc. fem. in -ēs, G. -ης (506). Derived from the neuters in -os, and mostly compounds.

eὐγενῆς 'well-born' (γένος)

eὐμενῆς 'well-disposed' (μένος)

ψεῦδος 'lying' (ψεῦδος)

3. Masc. or fem. nouns in -ōs, G. -ος, L. -or (early -ōs), -ōris (255). Rare in Greek, but in Latin productive in verbal abstracts, mostly denoting a quality or condition.

G. αἰδῶς 'shame', ἡδός 'dawn' L. amor 'love' honor 'honor'

dolor 'pain' timor 'fear' labor 'toil' tumor 'swelling'

vapor 'steam'


5. -wes- in perfect active participle (435).

508. Other IE s-suffixes, as -so-, -sā-, are rare, and with only scattered relics in Greek or Latin. In Greek suffixes containing σ, other than those mentioned above, the σ is from τ in -σας (485), -σος, -σα (490), -σιμος (460), -συνος, -συνη (464.8); or from κ, τ, etc., in -σις, -σα and partly in words in -σος, -σα. But some of these last may reflect IE -so-, -sā-.

In Latin, -sus is almost wholly from -to- after a dental or by analogical extension (437, 482); similarly -ōsus (480), and probably -ēnsis (481).

SURVEY

509. Survey of the formation of certain classes of derivatives.—It must be repeated here that several of these classes overlap, and furthermore that but few suffixes are restricted in use to any one class.

Greek Latin

1. Agent nouns:

-της (-του) 484, fem. -τρις -τρις

484c -tor 466, fem. -trix 501.2

-τηρ, -τωρ 466
2. Other designations of persons by occupation, personal characteristics, etc.:
-ευς 452
-οιν 463.1
-τε 463.1, -το 463.2

3. Designations of persons according to their native town or country:
-ιος 454
-ανοις, -ίνος 484.9, 10
-ίας 457
-ευς 452
-ενσ 481
-κοσ 502
-της 484, fem. -της 484.6
-ις (-ιός) fem. 491.3
-άνοις, -ήνοις, -ίνος 464.3, 5

4. Patronymics:
-ιδής, -ι(α)δής 493
fem. -ας (-αδός), -σ (-ιόσ)
492.2, 3
-ιος 455.1
-ίος 455.1

5. Diminutives:
-ίον 455.2
-ιδίον 455.2
-αριδίον 470.2a
-υλλίον 472.8
-ικος 503

6. Verbal abstracts, denoting action, state, result, whence also concrete force. The most distinctively abstract types are given first:
-σις 485
-τιδ 486
-η 449, -ιά 455.2
-ιδ -ιόδος 491.3
-δών 496
-μα 461.2
-ίоι 468
-κολον 467
-ων 463.1

7. Nouns denoting means, instrument, or place:
-τρον, -θρον 468
-τρομ, -βρον 468.1
-βρομ 468.2, 473.2a
-βυρομ 473.2
-κολομ, -κρομ 473.1

8. Qualitative abstracts:
-της (-τητος) 476
-συνη 464.8
-πα 465.2

-tās 478
-τία, -τίες 490
-ία, -ίαδ 488
-τά 465.2
FORM OFION OF ADVERBS

510. The majority of adverbs are simply case forms used adverbially. Others are formed with certain distinctively adverbial endings, some of them inherited from the parent speech, not corresponding to any known case forms. Still others, including those that have come to be used mainly as prepositions, are isolated forms without any distinctive formative element. Some adverbs are merely prepositional phrases which have come to be felt as single words.

511. Case forms.—All of the cases, except the vocative, may be used adverbially. Such use of the accusative is the most widespread, that of the nominative the least frequent. But the most productive types of Greek and Latin adverbs are of ablative origin.


L. primum ‘at first’, secundum ‘beside’, mullum ‘much’, celerum ‘for the rest’, vērum ‘truly, but’ (vērus ‘true’); plius ‘more’, melius ‘better’ (and so regularly from comparatives); sometimes from i-stems (usually -iler), facile ‘easily’, impūne ‘without punishment’.

Here also the temporal adverbs and conjunctions derived from pronominal stems, dum, tum, num, nunc (*num-c), cum, early quom, with m instead of the orig. d retained in the conjunction quod.
Likewise, from pronominal i-stems, im, interim ‘meanwhile’, ðlim ‘formerly’, enim ‘for’ illim, illinc (*illim-c) ‘thence’, hinc (*him-c) ‘hence’. The ablative force in the last three is secondary, probably absorbed from ðē hinc, etc.

2. Acc. pl. neut.—πολλά ‘often’, μεγάλα ‘greatly’ (beside sg. πολύ, μέγα), ἀλλα ‘otherwise, but’ (from ἄλλος ‘another’), μάλιστα ‘most’, σοφωτα ‘most wisely’ (and so regularly from superlatives, in contrast to acc. sg. from comparatives).

Probably here also, by analogy, the much-discussed ῥάχα ‘quickly, perhaps’ (ῥαχὺς), ὅκα ‘swiftly’ (ὅκυς), σάφα ‘plainly’ (σαφῆς), μάλα ‘very’, ἀμα ‘at the same time’.

L. mulia, cēlera (beside sg. mulum, cēlurn), quia ‘because’ (from the i-stem of quis, quid)


L. partim ‘partly’ (the orig. acc. of pars, otherwise replaced by partem); hence by analogy furīm ‘secretly’ (fūr ‘thief’), cursim ‘quickly’, etc.

4. Abl. sg.—G. -ω from -ōd in Doric adverbs of place whence, ὅω ‘whence’, etc., Delph. oίκω ‘from the house’.

Hence (or in part. from instr. sg. -ō), with addition of adverbial -s (cf. ἀμφι-s, L. ab-s, etc.), -σ in καλώς ‘well’, etc., the most common adverbial type.

L. -ō, early -ōd. primō ‘at first’, tūlō ‘safely’; with iambic shortening (102) modo ‘only’, cito ‘quickly’.

a. The pronominal adverbs of place whither, as quō, eō, early hōc, illō(c), istō(c), usually hiōc, illūc, etc., are of different but uncertain origin.

L. -ē, early -ēd. allē ‘highly’, cārē ‘dearly’, facillīmē (early facilumēd) ‘most easily’, the usual type from adjectives of the first and second declension; with iambic shortening bene ‘well’ (bonus ‘good’), male ‘badly’.

L. -ā, early -ād. suprā ‘above’ (early suprād), dextrā ‘on the right’, aliā ‘otherwise’; pron. adv. eā, qua, hāc, etc.
G. ὧκον ‘at home’, Ἰαθμῶν ‘at the Isthmus’, ποί ‘whither’. In dialects also -ω̣ν, as Dor. ὅπω ποί ‘whither’ (IE. qυμ-, 308.3), Lesb. πήλω ‘afar’.
G. (dat.-loc.) ἡθρᾶ ‘secretly’, κοινὰ ‘in common’, πῶ ‘how’
Cf. loc. pl. θυράσι ‘at the doors’, Ἀθήνας ‘at Athens’ (234.3)
6. Gen. sg.—ποῦ ‘where’, αὐτῷ ‘at the very place’, διόν ‘at the same place’. This type, denoting ‘place where’, is peculiar to Attic-Ionic.
L. versus ‘toward’, adversus ‘opposite’, praeceps ‘headlong’

Such adverbs were originally adjectives in agreement with, or nouns in apposition to, the subject.

512. Other adverbial endings. Greek.
1. -θεν, -θε, -θα, -θι. Related to dh-endings elsewhere, as Skt. kuha, Av. kudā ‘where?’, Skt. iha, OPers. idā ‘here’.
-θεν, place whence. οἴκοθεν ‘from home’, πόθεν ‘whence?’, Ἀθήνηθεν ‘from Athens’
-θί, place where. Hom. οἴκωθι ‘at home’, πόθι ‘where?’, ἀλλωθι ‘elsewhere’
-θεν, -θε, -θα, added to adverbs and prepositions πρόσθεν, πρόσθε, Dor. πρόσθα ‘before’, but ἐνθα ‘there’ with -θα in all dialects
2. -σε, place whither, mostly from pronouns. ἀλλοσε ‘to another place’, διόσε ‘to the same place’.
3. -δε, -δον, etc. Related to L. -de, -dam, etc. (513.3), all from a pronominal stem *do-.
-δε, place whither. οἰκὸν-δε ‘to one’s home’, also οἰκαδε (from *οἰκα acc. sg. of an old cons. stem), φυγαδε ‘to flight’, πόλιν-δε ‘to the city’, Ἀθήνας ‘to Athens’ (from -as-δε, 203.1, 204.3)
FORMATION OF ADVERBS

518]  FORMATION OF ADVERBS  351

-δον. ἐνδον ‘within’, σχεδὸν ‘almost’, ἐμβαδὸν ‘on foot’ (ἐμβαινω
‘go on’)
-δα. κρύβδα ‘secretly’ (κρύπτω ‘hide’), μιγδα ‘in confusion’ (μιγνυμι
‘mix’)
-δην, Dor. -δᾶν. κρύβδην ‘secretly’, μιγδην ‘in confusion’, κλήδην
‘by name’ (καλέω ‘call’)
-νδην, Dor. -νδᾶν. πλουτίνδην (choose) ‘according to wealth’
(πλοῦτος ‘wealth’), ‘from the wealthy’, ἀριστίνδην ‘from the
best’ (ἀριστος ‘best’)

4. -is, -ιν, in adverbs of time. Att. αὖθις, Ion. αὕτις Cret.
αὖτιν ‘again’, Att.-Ion. πάλιν ‘back, again’.
So -κις, -κι, -κιν in numeral adverbs, τετράκις, Lac. τετράκιβ, etc.

5. -τε, -τα, -κα in pronominal adverbs and conjunctions of time.
διε, τότε, πότε, Lesb. δηα, etc., Dor. δηα, etc.

6. -κας, distributive. έκας orig. ‘by oneself’, hence ‘far off’,
ἀνδρακάς ‘man by man’. Cf. Skt. ekaças ‘one by one’, δυιπα ‘by
twos’.

513. Other adverbial endings. Latin.

1. -ter. Inherited in forms like inter ‘between’ (cf. Skt. antar),
praeter ‘beside’ (praee), subter ‘beneath’ (sub), propter ‘near’
(prope), where it is related to -tero- in words of contrasted rela-
tions, dexter, etc. (294). Hence it came to be used freely in form-
ing adverbs from adjectives, as breviter ‘briefly’ (brevis ‘short’),
graviter ‘heavily’ (gravis), firmiter ‘firmly’ (firmus), audacter
‘boldly’ (audax).

2. -lus, from -los. intus ‘within’, funditus ‘from the bottom’
(fundus), antiquitus ‘from of old’ (antiquus), penitus ‘inwardly’.
‘from all sides’.

3. -de, -dem, -dam, -dum, -δῆ. Related to G. -δε, -δον, etc.,
all from a pronominal stem *do-.
quamde ‘than’, inde ‘thence’ (*im-de, for im see 306), unde
‘whence’ (*um-de, cf. umquam; or formed after inde)
tandem ‘at last’ (tand), pridem ‘long ago’, guidem ‘indeed’, totidem
‘so many’. Cf. idem (306.2)
quondam 'once' (*quom*). Cf. *quidam* 'a certain one'
dūdum 'a while ago', *interdum* 'for a time'
quandō 'when' (*quam*), early *endō* 'in'

4. -bi. *ibi* 'there', *ubi* 'where', early *ibei*, *ubei*. From -dhi (G. -θι) with *ei* from loc. adverbs; *b* from *dh* regularly in *ubi* (140), and by analogy in *ibi*. Cf. Osc. *puf* 'ubi'.

5. -per. *semper* 'always', *nūper* 'recently'.


514. Adverbs from prepositional phrases.
G. *ἐνώπια* 'face to face' (*ἐν = eis*, 324α), *ἐκποδῶν* 'out of the way' (*ἐκ ποδῶν*), hence by analogy *ἐκποδῶ* 'in the way'
L. *admodum* 'to full measure, fully' (*ad modum*), *obviam* 'in the way' (*ob viam*), whence the adj. *obvius*, *dēnuō* 'anew' (*dē novō*, 110.5), *sēdulō* orig. 'without guile' (*sē dolō*), then 'carefully, busily', whence adj. *sēdulus*

a. Whether such phrases are felt and written as single words depends mainly on their detachment from the literal meaning of the phrase, but in part on formal differences, as the accent of *ἐκποδῶν* or the vowel changes in *dēnuō*, *sēdulō*.

**COMPOSITION**

515. Composition is the formal union of two or more words in one. Compounds are marked as such by certain formal peculiarities, such as a single word accent, various phonetic changes, and especially, in the earlier and most widespread types of noun compounds, the appearance of the stem form as the first part. They are also generally distinguished by a more intimate union in sense, a specialized application as compared with that of the words when used separately. Thus in English, though here the more conspicuous marks of composition (the old stem forms) have disappeared, a *blackbird* is distinguished in both accent and sense from a *black bird*.

The semantic union of a word group tends to result in formal composition, of a kind sometimes known as juxtaposition as distinguished from the older type of stem composition. But it does
not necessarily so result. It may be a question if and when cer-
tain combinations were felt as compounds, and the writing of
them as such or separately may be only a fluctuating convention.
Thus usually Δύσκουρος but sometimes Δύς κούρος, Hom. καρπ-
κομήωντες or κάρη κομήωντες (an ancient dispute), L. aquaeductus
or aquae ductus. L. rēs pūblīca ‘commonwealth, state’ is a unit in
meaning but since it keeps the inflection of both parts, as gen.
reī pūblīcae (in contrast to G. Νεᾶπολις, gen. Νεᾶπόλεως), it is
generally written separately.

a. Mere semantic unification of a group of words may constitute a sort
of psychological composition, but not necessarily linguistic composition
in any reasonable use of the term. Thus in current English idiom house of ill
fame is as much a unit in sense as its equivalent brothel, but common sense
rebels against calling it a compound. Yet this would be the logical result
of the extension which some scholars give to the notion of composition.

516. The commonest type of nominal compounds, in which the
first part is a noun or adjective stem form, reflects a type that was
fully established in the parent speech and must go back to a re-
 mote period before the full development of inflection, when the
stem was not a mere abstraction but a form in actual use.
A corresponding type with a verbal stem as first part, if it
existed in the parent speech, was comparatively rare (522).

Certain compounds with inseparable prefixes are inherited from
the parent speech, notably those with the negative prefix, IE *ne-,
the weak form of the full *ne.
The commonest type of verbal compounds, those with ad-
verbial prefixes, the "prepositional compounds", mostly arose
independently in the several languages, by increasingly fixed
juxtaposition. The parts are still separable in Vedic Sanskrit
and Homeric Greek.

Although noun composition is an inheritance from the parent
speech, as shown by the agreement in the type of stem compounds
and by the rôle of composition in the IE system of personal
names (527), the various IE languages differ greatly in the de-
gree in which such composition is employed. It is carried to the
extreme in Sanskrit, with its many artificially constructed com-
pounds of monstrous length. There is a notable contrast between
the wealth of compounds in Greek and their scarcity in Latin.
Many of the compounds used by Latin authors are either bor-
rowed directly from the Greek or obviously modeled after them.
The verbal compounds, however, are common in Latin, as in
Greek.

The syntactical relation of the parts is most commonly that in
which the first part modifies the second. So regularly in verbal
compounds, and in the most widespread type of noun and adject-
tive compounds. But there are also less frequent types in which
the parts are co-ordinate or the first governs the second.

NOUN AND ADJECTIVE COMPOUNDS

Meaning

517. Accordingly to the syntactical relation of the parts and
the meaning of the whole, one distinguishes certain classes of
compounds. Such a classification is useful for our analysis, but it
must not be understood as a rigid system of which the speakers
were conscious. The very range and vagueness of the relations is
a characteristic of composition. Some compounds may be ana-
lyzed in more than one way. Thus G. ῥαπό-μαντις as ‘physician
and seer’ (copulative) or as ‘physician-seer’ (descriptive with first
part a noun in attributive relation). So φιλό-ξένος probably rests
on the possessive type as ‘one who has strangers dear’, but was
doubtless felt as ‘loving strangers’ (see 522 with α).

1. Copulative compounds.—The parts are co-ordinate, and may
be more than two.

G. ῥαπό-κρας (late) ‘bread and meat’, δώ-δεκα ‘twelve’
L. su-oce-taurilia ‘sacrifice of a swine, sheep, and bull’, quattuor-
decim ‘fourteen’

2. Determinative compounds.—The first part modifies the
second. These include:

A. Descriptive compounds.—The first part is an adjectival or
adverbial modifier.

ἀκρό-πολις ‘upper city, citadel’ ὀ-κακος ‘not evil’
σέν-δουλος ‘fellow-slave’ πρό-γονος ‘forefather’
L. **angi-portus** 'narrow passage, lane'  **in-grātus** 'unpleasant'  
**con-iux** 'spouse'  **per-facilis** 'very easy'

B. **Dependent compounds.**—The first part is a noun stem, or more rarely an actual case form, depending on the second part.

G. **λόγο-γράφος** 'speech-writer'  **στρατηγός** 'army-leader, general'  **οἶκο-γενής** 'born in the house, homebred'  **Δίόσ-κουρος** 'sons of Zeus'  **ἀδο-πόρος** 'wayfarer'

L. **armi-ger** 'armor-bearer'  **agri-cola** 'farmer'  **parti-ceps** 'sharing'  **aqua-ductus** 'aqueduct'

a. In the great mass of determinative compounds the relation of the parts is as above. But there are some in which this is inverted and the second part modifies the first. These are formed directly from certain phrases in the formal likeness of the usual type. So G. **ἵππο-πάραμος** 'river-horse' (for earlier **ἵπποσ ποτάμιοι**), **ἀξίω-λόγος** 'worthy of mention' (**ἀξίως λόγοι**), **λό-θεος** 'god-like' (**λός θεός**), late L. **domn-aedius** 'landlord' (**dominus aedium**), **domn-funda** 'landlady' (**domina fundi**).

The second part is governed by the first also in the type with verbal form as first part (522) and in those arising from prepositional phrases (524).

3. **Possessive or mutated compounds.**—These are in origin determinative noun compounds which through their use as epithets in apposition to other nouns have come to gain adjectival force, 'possessed of'. Cf. epithets like **red-breast** of the bird having a red breast, **block-head, one-eye(d), lion-heart(ed).**

G. **ἡώς ῥόδο-δάκτυλος** 'dawn the rose-fingered, rosy-fingered dawn'  **λεοντο-κέφαλος** 'lion-headed'  **ᾧκώ-ποις** 'swift-footed'  
**εἰ-τυχῆς**, **δυσ-τυχῆς** 'having good (bad) fortune'  
**ἀ-παῖς** 'having no child'  **τρι-ποις** 'having three feet, tripod'

L. **magn-animus** 'great-souled'  **ūn-oculus** 'one-eyed'  **bi-pēs** 'two-footed'

a. In Sanskrit the possessive compounds are distinguished in accent from the determinative, as **yajña-kamā-** 'desire of sacrifice', but poss. **yajñā-kāma** 'having desire of sacrifice'. This difference appears in Greek in certain words, where it has become associated with active or passive meaning of the second part. **λαμμ-τόμος** 'throat-cutting' but **λαμμ-τομος** 'with throat cut', **πατροκτόνος** 'slayer of one's father' but **πατροκτόνος** ('having a father as one's slayer') = 'slain by one's father', **λυθ-βόλος** 'throwing stones', but **λυθ-βόλος** 'pelted with stones'.
FORM

FIRST PART THE STEM OF A NOUN OR ADJECTIVE

518. The stem was originally the same as that of the uncompounded word. But there are many analogical substitutions, especially a great spread of the o-stem at the expense of others, and, in Greek, also some extension of the a-stem.

A final stem vowel is elided, when the second part begins with a vowel. But there are some few traces of an earlier system of contraction, such as occurs in Sanskrit (526a).

519. Greek.—μονο-μάχος 'one who fights alone' (μύνος), μόν-αρχος 'one who rules alone, monarch'.

ιλο-τόμος 'wood-cutter' (ιλη; cf. Dor. ιλᾶ-τόμος)

δίκο-λόγος 'pleader' (δίκη)  φυσι-ο-λόγος 'student of nature'

(φύσις)  ἰχθυ-ο-φάγος 'fish-eating' (ἱχθύς)

μητρ-ο-πόλις 'mother city' (μήτηρ)  ἀγαλματ-ο-ποῖος 'sculptor'

(ἀγάλμα)

νίκη-φόρος 'victory-bringing' (νίκη)

θανατ-φόρος 'death-bringing' (θάνατος)

μαντ-ο-πόλος 'inspired' (μάντις)  ἀστν-νόμος 'city magistrate'

(ἀστυ)

σελάσ-φόρος 'light-bringing' (σέλας)

When the second part once began with f or σ, the final vowel of the first part is not elided but remains or is contracted with the following. Hom. κακ-εργός, Att. κακοῦργος 'evil-doing' (*κακο-εργός, cf. έργον), hence by analogy also παν-ουργος 'knave'; κληρούχος 'one who holds an allotment' (*κληρο-σοχός, cf. έξω from *σεξω, 162a), and so Att. πολιοῦχος 'city-protecting' (but Ion. πολιήχος, Dor. πολιάχος, πολιάχος from πολιά-).

520. Latin.—The first part generally ends in i, with elision if the second part begins with a vowel. This i represents mostly the o of o-stems, by weakening in medial syllable (110.2), but also in part the i of i-stems, with its extension to cons. stems in Latin. It wholly displaces the a- of a-stems (there are no Latin forms parallel to Gr. νίκη-φόρος), and with some exceptions the u-stem and cons. stem forms.

armi-ger 'armor-bearer' (arma)  agri-cola 'farmer' (ager)
undi-versus 'all together' ( unus) un-animus 'of one mind'
parti-cep-s 'sharing' (pars, partis) corni-ger 'horned' (cornu)
fratri-cida 'fratricide' (frater) tubi-cen 'trumpeter' (tuba)
manu-prelium 'wages' (manus) iudex 'judge' (*iouis-dic-, ius)

a. Forms like Aeno-barbus, mero-bibus, etc., follow the analogy of comp-
ounds borrowed from Greek, like philo-sophus, hippo-dromus.

FIRST PART A CASE FORM

521. G. Neapolis (nēa pōlis), gen. Neā póleos.
Διόσ-kouros 'sons of Zeus' Ἐλλην-ποντos 'Helle's sea' Πελο-
pōnνησος (Πέλοπος νῆςos 'Pelops' island')
πυρι-καυστος 'burnt in fire' δορι-κητος 'won by the spear'
πάσι-φιλος 'dear to all' νου-εχής 'having understanding'
L. aquae-ductus 'aqueduct' senātus-consultum 'decree of the
senate'

a. Compounds of this kind occur also in the other IE languages. But they
represent a later and less widespread type than that with a stem form as first
part. Most of them have arisen in the historical period from a union of words
used separately. The fact of composition may be shown by some difference
in form from that of the words used separately, as in Πελοπόννησος in con-
trast to Πέλοπος νῆςος, or gen. Neā póleos in contrast to nēa póleos. When
there is no formal difference, apart from the matter of accent which may be
unknown, it may be a question if and when composition is to be recognized,
e.g. L. aquae-ductus or aquae ductus (see 515).

FIRST PART A VERB FORM

522. G. φέρ-ασσις 'shield-bearing'.
φερε-νίκος 'carrying off victory' ἀρχέ-κακος 'beginning mis-
chief'
ἀρχέ-λαὸς 'leading the people' (cf. Μενέ-λαος)
δακτ-θῶμος 'biting the heart' μίσο-δημος 'hating the people'
μίσ-ἀνθρωπος 'man-hating', λιπο-στρατιά 'desertion of the army'
φυγό-μαχος 'shunning battle'
σωσί-πολις 'saving the state' στησι-χορος 'establishing the
chorus'
ξικεσί-πεπλος 'trailing the robe, with long train'

a. This type of compound is common in Greek, but in the other IE lan-
guages it is rare or of late appearance. It is a question whether in forms like
φερε-νίκος the first part is to be regarded as a verbal stem form, parallel to
the noun stem in the more usual type of compounds, or as the same form in its imperative use. For compounds based upon imperative phrases occur in Sanskrit, and such is believed to be the origin of the modern types like NE
pick-pocket, break-fast, Fr. porte-manteau, etc.
In the forms like φυγά-μαχος the o is due to the analogy of the common type with noun stem as first part.
The forms like σωσί-πολίς were associated with the σ-aorist stem and also with the abstracts in -σίς, but the real origin of the σι is obscure.

FIRST PART AN ADVERBIAL PREFIX

523. Most of these prefixes are identical with adverbs and prepositions in independent use. Others occur only in composition and are known as inseparable prefixes.
With possessive force, ὑπό-ξυλος ‘having wood underneath’, ἐπί-χαλκος ‘covered with bronze’, ἐν-θεός ‘inspired’ (‘having god within’)
L. con-libertas ‘fellow-freedman’, prae-nomen ‘fore-name’ per-facilis ‘very easy’; with possessive force, prae-ceps ‘head-foremost’
a. But the great majority of compounds with adverbial prefix are merely derivatives of compound verbs, like NE undertaking from undertake.
2. Inseparable.—Negative prefix IE *η- (orig. weak form of IE *ne, see 115), G. α-, av-, L. in-.
G. α or α- copulative (properly ἀ = Skt. sa-, IE *ṣwa-, related to ἄμα ‘together’, ὄμος ‘common’; α first by dissimilation, then extended) ἀ-πᾶς ‘all together’, ἀ-λοχος ‘wife’ (having the same bed, λέχος), ἀ-κόλουθος ‘attendant’ (κλευθος ‘way’), ἀ-τάλαντος ‘of the same weight’
Cf. εὐ- ‘well-’ (though this occurs separately as εὐ), εὐ-μενής ‘well-disposed’
L. νε- ‘without’, νε-cors ‘senseless’

FIRST PART A TRUE PREPOSITION

524. Compounds arising from a prepositional phrase, or prepositional-phrase compounds as they have been termed, are the
true prepositional compounds and are not to be confused with the preceding class in which the first part is an adverbial modifier. They are very common, especially in Greek, and sometimes show an added suffix or change of the noun stem.

G. παρά-δοξος ‘contrary to opinion’ (παρά δόξαν)
υπό-στεγος ‘under the roof’ (υπό στέγης)
ἐπι-θαλάσσιος ‘dwelling by the sea’ (ἐπί θαλάσση)
κατά-γενος ‘underground (κατά γῆς)
L. ob-vius ‘in the way’ (ob viam)  dē-mēns ‘out of one’s mind’
(ἐ mēntē)
ἐ-γρεγίος ‘distinguished’ (ἐ grege)  ἐ-normis ‘irregular, huge’
(ἐ normā)
prō-cōnsul orig. ‘one who acts in the place of the consul (prō
cōnsule)
sub-terrāneus ‘underground’ (sub terrā)

SECOND PART

525. The second part is a noun or adjective stem, but it may be one that appears only in composition and not in independent use.

G. λογο-γράφος ‘speech-writer’ and others in -πους, -μαχος, -φαγος, etc.

L. armi-ger ‘armor-bearer’ and others in -fer, -sex, -ficus, etc., in which the second part is a verbal noun not occurring alone

G. εὐ-φρων ‘cheerful’ beside φρήν ‘mind’, ἀ-πάτωρ ‘fatherless’ beside πατήρ ‘father’, εὐ-μενής ‘well-disposed’ beside μένος with difference in gradation

Fem. ā-stems normally become o-stems in masc. and neut. forms, as G. ἀ-τιμος ‘dishonored’ (τιμῆ), L. in-glōrius ‘without fame’ (glória).

But in Greek some appear as masc. ā-stems, as χρύσο-κόμης ‘golden-haired’, παιδο-τρίβης ‘gymnastic teacher’ (τρίβη ‘practice’, τριβω ‘rub’), Ὀλυμπιονίκης ‘victor at the Olympic games’. Such forms came to be associated with the corresponding verbs, and others were formed directly from a verb, as those in -πώλης, -μέτρης, -ἀρχής beside -αρχος, etc.

In Latin some compounds of ā- and o-stems become i-stems, as
bi-formis ‘double’ (forma), ē-normis (524), in-ermis ‘unarmed’ (arma), bi-iugis ‘yoked two together’ (iugum) beside in-ermus, bi-iugus.

Compounds of cons. stems generally retain the cons. stem, as G. ἀ-παίς ‘childless’ (παῖς, παιδός), εὐδαιμον ‘fortunate’ (δαιμων), L. quadrupes ‘quadruped’ (pes, pedis), prae-cepis ‘headlong’ (caput). But some become o-stems, as G. ἄν-υδρος ‘without water’ (υδρο), L. per-iūrus ‘oath-breaking’ (iūs).

Compounds are sometimes formed with an added suffix, especially -γο-. G. επι-θαλάσσως, L. ē-gregius, etc. (524). L. in-iūrius ‘unlawful’ (iūs), bi-ennium ‘period of two years’ (annus), bi-noctium ‘period of two nights’ (nox, noctis), medi-lerrāneus ‘inland’ (terra).

526. Vowel lengthening in Greek.—When the word forming the second part began with a, e, o, followed by a single consonant, the vowel is frequently lengthened to the corresponding ā (Att.-Ion. ā), ē, ō.

ἀν-ώνυμος ‘nameless’ (δυομα) ἀν-ώμαλος ‘uneven’ (δυμαλός) στρατ-ηγός, Dor. στρατ-ἀγός ‘general’ (ἀγω) παν-ήγυρεις ‘national assembly’ (ἀγορά) εὐ-ήνεμος ‘with fair wind’ (ἀνεμος) φιλ-ήρεμος ‘fond of the oat’ (ἐρεμός)

a. This has its origin in certain forms in which the long vowel was the result of contraction with the vowel of the preceding stem, before such contraction which prevailed in the parent speech, as in Sanskrit, was replaced by the later system of elision (518). So ὄμησθις ‘eating raw flesh’ (ὀμο-εῖ-) like Skt. āmad- of the same meaning (āma-ad), with IE contraction; similarly στραταγός, etc., and by analogy ἄν-ώμαλος, etc.

PERSONAL NAMES

527. Composition is characteristic of the system of personal names which prevails in Greek and the other main branches of the IE family, except the Italic, and which must be an inheritance from the parent speech.

Thus, with the word for ‘horse’ as first or second part, G. Ἰππο-αρχός, Ἀρχ-επός, Skt. Aśva-sena-, Bṛhad-aśva-, Av. Viśāpa-, OPers. Višāspa (‘Tṣāṣanṣa), Gall. Epo-rēdii, OIr. Each-enn;

The names are not formed from any and every word, but rather from a limited number which are conventionally employed in the system of nomenclature, and which may therefore be termed name words. Certain of these may be especially popular in a given language, dialect, or family. In Greek there are several hundred different names formed from ἵππος, while in Germanic there are virtually none from 'horse', but very many from 'wolf'.

Names of successive generations often show one name word in common, in different combinations, as son and father in G. Κλεό-μέδων Κλε-αρέτου, Δωρό-θεος Θεο-δώρου, etc.; OE Ethel-bald, Ethelbert, Ethel-red, sons of Ethel-wulf.

Of the Greek name words some are used only in the first part of names, some only in the second, but many in either. Examples are numerous of parallel names with the same two name words in reverse order, as "Αρχ-ἵππος, Ἰππαρχος; Φιλό-δήμος, Δημό-φιλος.

Nearly all the various classes of compounds, according to form and meaning, are represented. Thus Δημο-σθένης (lit. 'having the strength of the people'), a possessive compound with first part a noun stem (517.3), Φανό-δίκος (lit. 'showing justice'), with first part a verbal form governing the second (522). But while originally the names were like any other compounds in having an appropriate sense, the familiar name words came to be combined conventionally without any consciousness of the resulting sense or nonsense. In the well-known passage of Aristophanes (Clouds, 60 ff.), Strepsiades, who wished to name his son Φειδουνίδης after the grandfather, and his wife who wanted a name with ἵππος, compromised on Φειδίππιδης.

For the names in -αθής, -ίθης, orig. patronymic, but no longer so in historical names like Θουκυδίθης (from Θεο-κύθης), see 493.

528. From the compound names, which form the main body of the Greek system, were formed short names containing only
the first or second part, or sometimes the first part with the beginning of the second, with perhaps an added suffix. These are in origin pet-names, which however are not felt as such but have gained an independent status, like NE Eliza beside Elizabeth.

'Ἰππίας, Ἰππών beside Ἰππ-αρχὸς, Ἰππο-κράτης, etc., Φείδων beside Φείδο-κράτης, etc., Φιλίως, Φιλέας, Φιλάκων, etc., beside Φιλό-δωρος, etc., Δημοσθάς (late) beside Δημο-σθένης

The painter Zeuxis is called Zeuxippos in Plato, and there are some other examples of short and full name attested for the same person. But generally the short names have become quite independent of the full names. Cf. Ἰππίας brother of Ἰππορχὸς.

But not all the Greek short names are of such origin. There are many which did not originate in compound names but were from the outset simple descriptive epithets, used first as nicknames. Thus Πλάτων (πλατός 'broad, flat'), which in the case of the great philosopher displaced his original name Ἀριστο-κλῆς, Στράβων (στράβως 'squinter'), Πάχης (παχύς 'stout, fat').

a. Whether simple or compound, the Greek name was a single name. While there was a tendency to repeat the same name or a part of the name in the family, there were no true family names like the Roman gentiles.

The official title of a Greek citizen consisted of his own name, followed by that of his father expressed by the genitive or in some dialects by the old patronymic adjective in -ος, and generally a designation of his native town, or if an Athenian, his deme. Thus Δημοσθένης Δημοσθένους Παιανείς.

529. In Italic the IE system of compound names was displaced in prehistoric times. Latin and the Italic dialects agree in a system of praenomina and gentile names, with the father's name expressed by the genitive. The only differences are the order and the usual addition of f. (filius) to the genitive in Latin. The further addition of a cognomen is mainly Latin.

L. M. Tullius M. f. Cicero
Osc. V. Pūpidiis V. 'Vibius Popidius son of Vibius'
Umbr. T. T. Kastrucii (gen. sg.) 'of Titius Castrucius, son of Titus'

The praenomina are mostly of obscure etymology, but clearly original short names of the same type as G. Πλάτων.
The gentiles are in origin patronymic adjectives derived from the father's name, like Hom. Τέλεμωνος, but becoming fixed as family names. *Tullius* was orig. 'the son of Tullus', as NE *Johnson* was orig. 'John's son'.

**VERBAL COMPOUNDS**

530. The only widespread type of verbal composition is that with adverbial prefixes, most of them identical with forms that are used independently as adverbs or prepositions, in short, the 'prepositional compounds'. The situation in Vedic Sanskrit and Homeric Greek, where the parts are still separable (the so-called τομησις 'cutting, severance'), shows that the formal union belongs mainly to the history of the individual languages.

Forms like G. οικοδομέω, L. aedificō 'build' are not really compounds of a noun stem with a verb, but are rather derivatives of a compound noun, as οικο-δόμος, *aedifex*.

Others have arisen from juxtaposition, as L. bene-dīcō 'bless', manē-mittō 'set free', animadversō 'attend to' (animum adverto). So cale-faciō 'make hot' (cale faciō in early Latin), candē-faciō 'make white', etc., which came to be felt as derived from verbs in -eō.

a. Latin inseparable prefixes with verbs are:

*amb*- , *am*- 'about': G. ἀμφί
*an*- 'in' (rare): Umbr. *an-*, G. ἄνά
*dis*- 'apart', from IE* di-*, beside* dwi- (313.2)
*por*- 'forth': pró
*re*- , *red*- 'back'
*sē*- , *sēd*- 'apart' (early L. also as preposition 'without'), orig. 'by one's self':
  *sē* reflexive.
APPENDIX

SELECTED BIBLIOGRAPHY
(WITH ABBREVIATIONS EMPLOYED)

PERIODICALS

AJA = American Journal of Archaeology
AJP = American Journal of Philology
BSL = Bulletin de la Société de Linguistique
BB = (Bezzenberger's) Beiträge zur Kunde der indogermanischen Sprachen
CP = Classical Philology
CQ = Classical Quarterly
CR = Classical Review
Ger.-Rom. Monatsschrift = Germanisch-romanische Monatsschrift
Glotta, Zeitschrift für griechische und lateinische Sprache
Gött. gel. Anz. = Göttingische gelehrte Anzeigen
Göttingen, Nachr. = Nachrichten von der königlichen Gesellschaft der Wissenschaft zu Göttingen
Idg. Jhb. = Indogermanisches Jahrbuch
IF = Indogermanische Forschungen
IF Anz. = Anzeiger für indogermanische Sprache und Altertumskunde
KZ = Zeitschrift für vergleichende Sprachforschung, begründet von A. Kuhn
Language, Journal of the Linguistic Society of America
MSL = Mémoires de la Société de Linguistique
Rev. de ph. = Revue de philologie
Rev. ét. gr. = Revue des études grecques
RhM = Rheinisches Museum für Philologie
Riv. di fil. = Rivista di filologia.
Riv. IGI = Rivista Indo-Greco-Italica
TAPA = Transactions of the American Philological Association
Woch. klass. Ph. = Wochenschrift für klassische Philologie
ZDMG = Zeitschrift der deutschen morgenländischen Gesellschaft
Z. rom. Ph. = Zeitschrift für romanische Philologie

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7. Jokl, in Streitberg's Geschichte der idg. Sprachwissenschaft 2. 3. 121, with references.
13. Kretschmer, Einleitung in die Geschichte der griechischen Sprache (fundamental work on the languages of Asia Minor, etc., but antedating the most important discoveries). Friedrich, Altkleinasiatische Sprachen, in Ebert's Reallexikon der Vorgeschichte. Articles Phryger, Thraker, etc., in Schrader's Reallexicon der indogermanischen Altertumskunde.
Hoffmann, Die Makedonen. Numerous controversial articles by Hatzidakis, Kazarof, and others.

1 For most of the matters discussed in the main part of the book it is sufficient to refer once and for all to the Brugmann-Thumb and the Stolz-Leumann with their bibliographies, especially that of the latter work as being both full and recent.
Most of the references added here are to subsequent discussions of controversial matters.


30. Budinsky, Ausbreitung der lateinischen Sprache.


41-63. Cf. the works on general linguistics cited above, p. 364.

42. The postulate of the "invariability of the phonetic laws" ("Ausnahmlosigkeit der Lautgesetze") goes back to Leskien, Declination im Slavisclitauischen und Germanischen (1876), Einl. p. xxviii. It was taken up with enthusiasm, as a guiding principle, by most of the then younger generation of scholars, though also rejected by some. For the discussions down to 1900, cf. the Bibliography in Wechssler, Gibt es Lautgesetze? In 1901 it was remarked (Wheeler, TAPA 32. 6) that "few herald it in the abstract, few disregard it in the concrete". For recent discussion, cf. E. Hermann, Lautgesetz und Analogie (1931), with the review by L. Bloomfield in Language 8. 220 ff.


On the geographical theory, cf. also the conclusion of Boas (Hdb. Am. Ind. Lang. 52), "I do not believe that detailed investigations in any part of the world would sustain this theory".


The ease theory is the one that is most prominent in early works, and is also made the most of by Jespersen, Language 26 ff.

46. For the numerous examples of spelling pronunciation in English, cf. also Jespersen, Modern English Grammar 1, Index, under “Spelling-pronunciations”.


Buck, Grk. Dial. 302 ff.

Kirchhoff’s map, while needing revision in some details, shows the distribution of the main types, and is so familiar that one speaks of the “blue” (East Greek), “red” (West Greek), and “green” (Cretan, etc.) alphabets.


80.4. 5. The preceding w is taken here as the primary factor, as in 2,3, though the change is further conditioned by the quality of the following vowel (cf. bonus, bene). Classed as a plain assimilation by Sommer, Hdb. 114, with inclusion of doubtful cases like homō, modus which may perfectly well be inherited o-grade forms, and without regard to the countless exceptions to such assimilation. Similarly Stolz-Leumann 96.


82.5. Stolz-Leumann 61. Add Sturtevant, CP 11. 204, 207.

83.2. The usual explanation, but a doubtful one, is that the change took place in the syllable before the accent, e.g. cāvere, whence by analogy caveō. Stolz-Leumann 61.

APPENDIX

369
88. Further details and problems of Att. ἄ, ἡ, Brugman-Thumb 37 ff.
90b. Sommer’s phonetic explanation of poena, etc. (Hdb. 76 ff., Erläut. 20 ff.), is too complicated to carry conviction, and even so leaves moenia as admittedly archaistic. The view preferred in the text is also that of Lindsay 246, Wackernagel, KZ 33. 55, Solmsen, KZ 37. 11, Conway, CR 17. 364, Marouzeau, MSL 17. 272.
90e. For the current explanation of l. oboediō, cf. Stolz-Leumann 87.
92.2d. Stolz-Leumann 103.
98.3. Brugmann-Thumb 67.
99.2c. Against the assumption of general lengthening before gn, Buck, CR 15. 311 ff.
102d. Lindsay, 210 ff.
116. For retention of the symbols ʃ, etc., cf. also Language 2. 106.
127a. Forms like βλητ-, πλη- are the starting-point for the numerous secondary stems in ἣ, as in σκῆσω (ἐκώ), μελῆσω (μέλω), ἰθλήσω, ἡθλήσα, ἠθλήκα (ἐθλω), βούλησαι, βεβούλημαι (βούλουμαι), νεόμη (νέομ), ἐφήσω, ἠφήσα, ἠφητός (ἐφώ), εὐρήσω, εὐρήκα (εὐρήκω, and so from several others in -ικω), μαθήσω, μεμάθηκα (μαθάω), and so from several others in -αιω. Much less common is the extension from δρά-, τρά-, etc., to a secondary stem in ἄ, Att.-Ion. ἄ, as in ἄνθωσ, Dor. ἄνθωσ (ἀνίσημω) or from γνω-, στρω-, etc., to a secondary stem in ω, as in πετωκα (πητω), ἀλώσμαι, ἐλῶν, ἢλων, ἓλωκα, ἰλωκα (ἀλικομαί), ἢλωσα, ἡμβλωκα (ἡμβλίκω).
129.3. Other views on the stages of the Italic development are cited in Stolz-Leumann 137 ff.
120 ftn., 244. Att. ποῖς. Latest discussion, with references to other suggestions, Petersen, CP 26. 356 ff.
161. Brugmann-Thumb 151.
189. Details on assimilation in Latin compounds, Buck, CR 13. 156 ff.
200.4. Stolz-Leumann 140 ff.
208.5. Stolz-Leumann 143.
212, 216. Sturtevant and Kent, TAPA 46. 129 ff.
217. Any historical relation between the Greek and Lithuanian circumflex is denied by Kurylowicz, Language 8. 200 ff.
218. On the Greek accentual tradition, Laum, Das Alexandrinische Akzentuationssystem.
APPENDIX


Even the old initial stress accent (221) is now being denied by advocates of the pitch accent. While a certain dominance of the initial syllable is of course admitted, to account for the vowel syncope and weakening in other syllables, it is claimed this had nothing to do with stress. But as this dominance was obviously not one of quantity, it is difficult to see what else it could be than one of stress. It must have been some phonetic actuality, not a psychological phantom.

227a. Against Pompilio as dual (Somer, Hdb. 348), Meister, Lat.-Gr. Eigen- namen 1. 90; Wackernagel, Vorles. über Syntax 1. 77; Stolz-Leumann 255.


229, 238, 239. For the abl. sg. IE -ød, -ėd are assumed here, but it must be admitted that -ōl, -ēl are equally possible, since the Italic final d may come from final t (215.3), the Skt. final t and d are interchangeable (e.g. vṛkāl, vṛkād), and the cognate forms of other languages are equally ambiguous in this respect.

237a. Solmsen, Beiträge zur griech. Wortforschung 238 ff.

260. L. sedēs, etc., are taken as ē-stems and compared with the isolated Skt. nom. sg. panthās, acc. sg. panthām, by Meillet, Indian Stud. in Honor of C. R. Lanman 3 ff., and Pedersen (see ref. to 273).

273. Pedersen, La cinquième déclinaison latine, with criticism by Leumann, Glotta 18. 255.


304.1. Sommers' derivation from gen. sg. *qwosyo, etc., accepted by many, is to me phonetically improbable. The derivation from possessive adjective, as in the text, is a very old view, often independently revived (so in my Osk. Vocalismus 151 ff., without knowledge that it went back to Aufrecht, KZ 1. 232; later by Brugmann and others) and still preferred by many. Sturtevant, TAPA 44. 99 ff. Herbig, IFAnz. 37. 27 ff.


368a. The ɛ of ἄληγμα etc. is explained by Petersen, Language 2. 19 ff., as due to the influence of certain reduplicated presents which were no longer felt as such
and in which the \( \iota \) seemed a present variant, like \( \tau i \kappa \tau \omega \) beside \( \tau e \kappa \kappa \omega \), \( \tau i \kappa \tau \omega \) beside \( \tau e \kappa \kappa \omega \). Adversely Kretschmer, Glotta 17. 238.

Cf. also Leumann, IF 42. 60 ff., Glotta 18. 257 ff.


522a. Type \( \sigma \omega \iota-\kappa \omega \lambda \iota \), recent discussion by Specht, Glotta 20. 31 ff.

INDEX
OF GREEK AND LATIN WORDS

ἀ-, ἀ- 105, 358
ἀ-, ἀ- 358
ἀγαλματοσώματι 356
ἀγαμαί 266
ἀγάμος 132
ἀγγέλλω 262
ἀγέμις 105, 108, ἡγεμονία, ἡγέμονας 108
ἀγός 138, 316
ἀγκίλος 329
ἀγνός 138
ἀγνώμω 266, ἕγα 287, ἕγη 255, ἐγή 285
ἀγορᾷ 105
ἀγοράζω 262
ἀγοραίος 318
ἀγρός 84, 327
ἀγορίς, ἀγορίτης 105
ἀγώ 84, 111, 260, ἄγει 302, ἡγαγον 283
ἀγωγὴ 111
ἀγών 187, 321
ἀδελφός, -ος 341
ἀδελφος 128, 132
ἀδίκων 265
ἀείδω 89
ἀετίδεις 341
ἀξιόματι 141
ἀμίμ 257, 266
ἀπή 188
Ἄθαναλα, Ἄθηνα 139
Ἄθηνας 141, 150, 151, 350
Ἄθηναιος 318
Ἄθηνησθαι 350
Ἄθηνησθε 177, 350
ἀδρός 132
αἴδιος 318
αἴδος 346
αἰεί, ἀεί 139
αἴθρη 188
αἴθω 88, 111, 122, 260

αἶνω, ἱμετα, ἐνεστα 283
ἀλα 141
αἰσθάνομαι 263
ἀληθής 323
ἀκακός 354
ἀκηδήδαται 288
ἀκμων 320
ἀκόλουθος 358
ἄκρις 327
ἄκροτος 354
ἀκροσ 111
ἀκών 333
ἀλγία 264
ἀλγηθῶν 341
ἄληθεια 139, 179
ἄληθος 98
ἄλησομαι 264, ἡλίσκομαι, ἡλὼν, ἡ ἀλών 255, ἀλώσομαι, ἡ ἰω 370
Ἄλκιβιάδης 341
"Ἀλκιππος 133
ἀλλά 349
ἀλλάσσω 261
ἀλληλο 221
ἀλλοθι 350
ἀλλοτρίος 318
ἀλλος 38, 142
ἀλλοσ 350
ἀλογος 208
ἀλοχος 358
ἀλς 191
ἀλος 152
ἀλτο 284
ἀλφα 76
ἀλφός 121
ἀμα 349
ἀμαρτάνω 258, 263
ἀμβλίσκω, ἀμβλίσκων, ἀμβλίσκως, ἀμβλίσκων, ἀμβλίσκωσι, ἀμβλίσκωσια 370
ἀμβρόσιος, ἀμβρώσια 123
ἀμβροτος 38, 123, 148

1 The references are to pages.
COMPARATIVE GREEK AND LATIN GRAMMAR

ἀμείνων 214, 216
ἀμήλγω 98
ἀμέτ, ἀμε 219
ἀμέτις 47
ἀμμες, ἀμμε 219
ἀμβόω 220
ἀμπελών 322
ἀμφάδιος 341
ἀμφή 50, 363
ἀμφὶἐνυόμι, ἀμφιέσα 255
ἀμφιφορεῖται, ἀμφιφορεῖς 39
ἀμφῶ 171
ἀναμέλει 350
ἀνάξ 18, ἀνὰ 156, 186
ἀναρρήγυμα 138
ἀνάθωμ 263, ἐ(λ)αθε 51, 155, ἔθε 287
ἀνάφαξ 351
ἀνάφρασθα 47
ἀνάρεις 318
ἀνάρις 333
ἀνάρων 321
ἀνέμοι 80, 320
ἀνήρ 187, 325, ἀνὴρ 38, 148
ἀνέφασσον 323
ἀνέφρασσον 345
ἀνέφρος 327
ἀντί 50, 80, 122, 237
ἀντιφωνα 119
ἀντιτύχει 345
ἀντωνυμία 168
ἀνδρος 360
ἀνω 350
ἀνωμαλος 360
ἀνοίμωμα 360
ἀνύστερος 215
ἀξιογέγος 355
ἀξιόθ, ἀξιόδος 315
ἀξαζ 236, 350
ἀξαζε 355, 360
ἀξαζός 358
ἀξάτωρ 109, 110, 212, 359
ἀξέλλω 149
ἀξλδα, -ᾶ 97
ἀξίσ 84, 99, 237
ἀξίλις 212
ἀξίδωσ 284
ἀραρίσκω, 255, 263, ἀρηρώς, ἀρηρυία 288
ἀργαλείος 329
ἀργολίς 340
ἀργυρίς 52
ἀρέσκω 258, 263
ἀρετή 335
ἀρή, ἀρής 109, 189
ἀρέτων 168, 326
ἀριστέρος 214
ἀριστοῦνθα 351
ἀριστος 216
ἀρκτίλος 329
ἀρμός 320
ἀροτρο 326
ἀρπάζω 261, 262
ἀρταξ 212, 345
ἀρτη 21, 152, 211, 321, ἄρη 152
ἀρταμίτος 123
ἀρτόκρας 354
ἀρχίκας 357
ἀρχίλας 357
ἀρχή, ἀρχός 315
Ἀρχιππος 360, 361
Ἀσκληπιάδης 340
ἀστιδίων 317
ἀστις 340
ἀσσος 141, 214
ἀστήρ 188
ἀστικός 344
ἀστυ 199, 338
ἀστυνόμος 356
ἀτάλαντος 358
ἀτύμω 359
Ἀτλαντὶς 340
ἀθ, αθε 89
ἀθής 351
ἀθητής, αθητής 336
ἀθένω 263
ἀθεώ 89
ἀθος III
ἀθροις 348
ἀθήν, αθήν 351
ἀτοσσαντός 221
ἀτούς 350
ἀτυχήν 321
ἀτος II
INDEX

'Αφροδίτιος 123
άφρων 109, 110
άχαρις 212
άχθηδων 341
βαθρον 326
βαίνω 37, 105, 146, 250, θηνα 253, 283,
βίβλος, βεβαίος, βεβαίως 289
βάλλων 309
βάλλω 105, 109, 129, 259, ξαλόν 108,
βιβλίκα 116, 290, βεβληθαι 250,
βληθη 116, 253, 257, 283
βανά 128
βαραθρω 116, 326
βαρβατος 121
βερεία 162
βαρφνω 262
βαρύς 105, 128
βασιλείου, -εον 318
βασιλεύς 18, 202, 316
βασιλικός 344
βασίς 105, 112, 337
βάσκω 258, 263
βατός 105
βαυ, βαύ 76
βελεμνων 321
βέλλωμα 149
βέλος 109, 130
βημα 266
βιβλίος 52
βιβρώσκω 106, 116, 128, 263, θρών
116, βρωτός 106
βιψυ 174
βίος, 128, 120, 319
βλάσφημος 153
βλάψες 337
βλέφαρον 327
βλέμμα 116
βλέψως 116
βλάσκω 106, 117, 148, ξυλον 106, 117,
μείβλωσα 148
βοστός 338
βολή 109
βουκολέω, βουκόλος 48
βουλή, βωλή, βάλλα 149
βουλήμαι 17, 120, βούλει 250, ήδουλόμην
255, βουλήσομαι, βεβοδηλήμαι 370
βούς 89, 128, 203
βροτήθ 335
βροτός 148
βυζαντίνος 323
βως 89
γάλα 185
γαστήρ 187
γάστρων 321
γέλως 190
γενά, γενή 85
γένεθλον, γενέθλη 330
γενέτης 115, 316
γένος 81, 109, 126, 131, 191, 345
γένος 316
γεραίτερος 215
γέρας 101
γέρων 333
γενστός 308
γέω 126
γέφύρα 142
γηράσκω 264
γέγονοι 109, 255, 257, 260, έγενόμην
109, 283, γίνοσ 284, γέγονα, γεγάμην,
γεγαίως 109, 287–88
γεγονός 115, 126, 258, 263, έγγυνω
253, 283, γεγυμοί 290, γεγωσθήνη
285, γενστός 85, γενστός 309
γλυκός 52, 310
γλυκίτης 333
γλύφω 260
γλωσσα 140
γρήγορος 115, 316
γρήγορη 320
γρήγορος 332
γόνος 109
γόνοι 190, 199, 316
γράβην 144
γράμματες 316
γραπτός 338
γράφω 257, 260, γραψά 282, γέγραφα
287, γεγράφαι 153, γεγράφην, γεγράφη
285, γραπτός 308
γυνή 128, γύναι 156, 186
δαιρή 123, 188
δαίμων 110, 188
δαιτρός 326
Comparative Greek and Latin Grammar
INDEX

ἐγνήθησαντι 149
ἐγραμμαί 256
ἐγχειρίδιος 341
ἐγχείλις 198
ἐγώ, ἐμοί, etc. 217-19
ἐδήτης 338
ἐδρα 327
ἐδω 122, ἐδομαί 278, ἐδηδος 255
ἐδόμα 98
ἐδώδωρ 98
ἐἐργω 98
ἐἐργη 98
ἐθελοντή 325
ἐθλώ, θλώ 17, ἑθλώμα 299, ἑθλόν 255, ἑθλήσω, etc. 370
ἐθίδιλλων 329
ἐθιδολον 329
ἐθιδολος 329
ἐθισις 98, 123, 231
ἐθισάω 321
ἐθλε, ἐθλε 149
ἐθύμαται 151
ἐθύμι, ἕθυμ 91, 150, 243-46, 257, ἕθυμιν, ἕθυμιν 151, 253, ἐθύμι 98, 302, ἐθύμω 253, 299, ἕνω, ἕν, ἑαυσα, ἑαττα, ἑπτε 307, ἑαττεῖαι 282, ἑναί 305
ἐθύμι 86, 244, 257, 266, ἐθυμεν 298, ἔθει 302
ἐθύμι 151
ἐθύμων 89, 283, ἐθύμευν 305, ἐθύμα 284
ἐθύρω 98, 135, ἐθύραται 288
ἐθύμημα 266
ἐθς 237
ἐθς 17, 146, 191, 229
ἐθυδος 358
ἐθυθα 287
ἐτ, ἐτι 156, 237
ἐτάς 351
ἐτατόν 105, 126, 231
ἐτεί 350
ἐτεύνοις 224
ἐτυλησια 54
ἐτυλεµάων 47, 352
ἐτυλέω 351
ἐτυπά, ἐτυρός 82
ἐταίρα 30
ἐτάινους 318
ἐτάσσων 214
ἐτάσσων 263, ἐτάσσω, ἐτά 280, ἐτάναιάτο 288
ἐτᾶφρος 129
ἐταξίς 129
ἐταλεφρός 80, 98, 327
ἐτακιστεκόλος 357
ἐταλά 148
ἐτεληθην 144
ἐτεληθην 188
ἐτεληθησάμω 262
ἐτεληστατος 357
ἐτελιζω 141, 259, 261
ἐτέρα 340
ἐτεροτοκός 220
ἐτεροτοκός 351
ἐτέρω 82, 257
ἐτέρος 220
ἐτεροτοκός 47, 352
ἐτω 237
ἐτωτος 230
ἐτωτος 230
ἐτωτος 351
ἐτωτος 231
ἐτως 350
ἐτως 358
ἐτωσοστος, -τος 339
ἐτων 81, 230
ἐτων 134, 151, 266
ἐτωυπω 143
ἐτωυπως 148
ἐτωτος 351
ἐτωσεθις 341
ἐτωςα 352
ἐτως 230
ἐτωσονοις 300
ἐτωςοντα 231
(ἐτωςα) ἐτωσονοις, ἐτωσα 287, 290
ἐτωςα 108, 109, 129
ἐτι 237
ἐτωςοστος 359
ἐτωςοστος 108
ἐτισταμαι 52, 266, 299, ἐτισταμαι 255, ἐτιστομαι 299
ἐτιχαλκος 358
ἐτερο 108
INDEX

θάρσος, θάρρος, θράσος 104, 152, 346
θάσις, θάττων 120, 140, 214
θαμάζω 262
θέατρον 326
θείω 108, 109, 129
θελκτήριον, -τήριον 325, 326
θέλω, συ θέλω
θέμελια 330
θεράπων 211, 353
θερμαίνω 262
θερμός 129, 319
θέγας 122, 337
θέσις 147, 320
θεσίας 340
Ωθησαγηνής 176
Ωθησίας 340
θηλυκός 343
θήλως 113
θήρ 128, 314
θηραιοί 113
θήτα 75
θήσις 264, τεθήκε 239, 289, τεθνώς
τεθνώς, θητός, θνάτος 106, 116
Οουκιδίδης 341
θρήνος 324
θρίξ, τριχός 120, 314
θρόσσος, θρόσκω 117, 264, θορσον 117
θυγάτηρ 187, 325
θυλή 329
θύμος 52, 80, 122, 319
θύρα 122
θύρας 177, 350
θύρησις 174
θυσαινότος 335
θυσία 339
θύω, έτίθημι 120
θωμάς 113
θώραξ 343
ιαστρόμαντις 354
ιατρός 326
ιδιώτης 53
ιδρο 265
ιδρος 190
ίματι 266
ιερείς 316
ιερός, ιαρός 134, 327
Ημι 113, 266, ἡκα 284, 289, ἦς 302,
κωκα 113, 287
θείν 79, 134
θικάτι 98, 123, 231
θείτης, -τής 330, 337
θείως 98, 131
θλίπις 333
"Ιππαρχος 360, 361
Ιππεύς 316
"Ιππιας, 362
Ιππικός 344
Ιπποδομόλος 48
Ιπποπόταμος 355
Ιππος 128, 133
"Ιπποσάδης 340
Ιππός 321
"Ιππων 362
ές 80
Ισάμη 286
"Ισθμοῖ 349
Ισθμός 355
Ισσος 138
Ιστήμη 79, 85, 113, 132, 255, 257, 266,
κατήν 253, 283, θατήκη 239, 289,
παλαίας 84, 113, 308
Ιστώρ 134
Ισχύρος 327
Ισχύς 316
Ισχος 260
Ισωτα 76
"Ιγκαλυπτής 336
ιεροσφάγος 356
κάθημαι, ἐκαθήμην 255
καλω 139, 263, έκα 284, ἐκά 285
κακείαντες 144
κακότης 333
κακουργός 312, 356
κάλαδος 342
καλώς, κάλημι 265, έκαλεσα 116, 283,
κλητός 116
καλός, καλός 137, 319
καλύπτω 80, 261
καλύς 349
κάματος 106, 116
κάμηλος 116, 283, κέκμηκας, κεκμήως
καλώς, καλύς, καμάτος 106, 116
κάτηλος 329
<table>
<thead>
<tr>
<th>Greek Word</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>κάτιοι</td>
<td>146</td>
</tr>
<tr>
<td>κάλπεος</td>
<td>144</td>
</tr>
<tr>
<td>καθαίρετος</td>
<td>343</td>
</tr>
<tr>
<td>κάρη</td>
<td>190</td>
</tr>
<tr>
<td>καρφηκτόρας</td>
<td>353</td>
</tr>
<tr>
<td>καρυκέφαλος</td>
<td>318</td>
</tr>
<tr>
<td>κατάγης</td>
<td>359</td>
</tr>
<tr>
<td>καταλαμβάνω</td>
<td>52</td>
</tr>
<tr>
<td>καταρρέω</td>
<td>132</td>
</tr>
<tr>
<td>κάτω</td>
<td>350</td>
</tr>
<tr>
<td>κείμαι</td>
<td>266</td>
</tr>
<tr>
<td>κεκαθαίρετος</td>
<td>147</td>
</tr>
<tr>
<td>κεκορισθέντος</td>
<td>147</td>
</tr>
<tr>
<td>κέλος</td>
<td>116</td>
</tr>
<tr>
<td>κέλνη</td>
<td>332</td>
</tr>
<tr>
<td>κέλλω, ἔκλεισα</td>
<td>152</td>
</tr>
<tr>
<td>(κέλωμαι) ἔκλεισε</td>
<td>293</td>
</tr>
<tr>
<td>κεραννύμι</td>
<td>266</td>
</tr>
<tr>
<td>κέρας</td>
<td>190</td>
</tr>
<tr>
<td>κερδαλίος</td>
<td>329</td>
</tr>
<tr>
<td>κεστό</td>
<td>151</td>
</tr>
<tr>
<td>κεφαλαργία</td>
<td>38</td>
</tr>
<tr>
<td>κεφαλὴ</td>
<td>328</td>
</tr>
<tr>
<td>κηρύξ</td>
<td>343</td>
</tr>
<tr>
<td>κίνδυνος</td>
<td>323</td>
</tr>
<tr>
<td>κίρημι</td>
<td>267</td>
</tr>
<tr>
<td>κίς</td>
<td>129</td>
</tr>
<tr>
<td>κίλχημι</td>
<td>266</td>
</tr>
<tr>
<td>κλαίω</td>
<td>139, 263</td>
</tr>
<tr>
<td>κλάθη</td>
<td>144</td>
</tr>
<tr>
<td>κλέις, κληθ</td>
<td>89</td>
</tr>
<tr>
<td>κλέος</td>
<td>52, 108</td>
</tr>
<tr>
<td>κλέπτης</td>
<td>336</td>
</tr>
<tr>
<td>κλέπτω</td>
<td>142</td>
</tr>
<tr>
<td>κλήδη</td>
<td>351</td>
</tr>
<tr>
<td>κληρούχος</td>
<td>356</td>
</tr>
<tr>
<td>κλωτός</td>
<td>131, 308</td>
</tr>
<tr>
<td>κλώ, κλώ, κλώ, κλήθ</td>
<td>302</td>
</tr>
<tr>
<td>κλώς</td>
<td>314</td>
</tr>
<tr>
<td>κλύς</td>
<td>145, 179</td>
</tr>
<tr>
<td>κοιμ</td>
<td>350</td>
</tr>
<tr>
<td>κοίτος, κοίτη</td>
<td>335</td>
</tr>
<tr>
<td>κόλαξ</td>
<td>343</td>
</tr>
<tr>
<td>κολυμβᾶν</td>
<td>22</td>
</tr>
<tr>
<td>κοππατίας</td>
<td>76</td>
</tr>
<tr>
<td>κόπτω</td>
<td>142, 260, κίσο</td>
</tr>
<tr>
<td>κορπονύμι</td>
<td>266</td>
</tr>
<tr>
<td>κόρη, κόρη, κόρφα</td>
<td>85, 137, 319</td>
</tr>
<tr>
<td>κόριλλα</td>
<td>328</td>
</tr>
<tr>
<td>Κορυφαίας</td>
<td>343</td>
</tr>
<tr>
<td>Κόρικος</td>
<td>342</td>
</tr>
<tr>
<td>κόρη, κόρση</td>
<td>85</td>
</tr>
<tr>
<td>κόρυς</td>
<td>342</td>
</tr>
<tr>
<td>κορίς</td>
<td>261</td>
</tr>
<tr>
<td>κόσμος</td>
<td>55</td>
</tr>
<tr>
<td>κοτήμι</td>
<td>333</td>
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<tr>
<td>κράτηρ</td>
<td>313</td>
</tr>
<tr>
<td>κράτος</td>
<td>346</td>
</tr>
<tr>
<td>κρέας</td>
<td>124</td>
</tr>
<tr>
<td>κρείττων</td>
<td>140, 214</td>
</tr>
<tr>
<td>κρεμάθρα</td>
<td>326</td>
</tr>
<tr>
<td>κρίμαμαι</td>
<td>257, 266, κρίζωμαι</td>
</tr>
<tr>
<td>κρίζων</td>
<td>140, 214</td>
</tr>
<tr>
<td>κρι</td>
<td>207</td>
</tr>
<tr>
<td>κρίκω</td>
<td>142, 262, ἐκρίνα</td>
</tr>
<tr>
<td>κριτήρ</td>
<td>325</td>
</tr>
<tr>
<td>κριτής</td>
<td>336</td>
</tr>
<tr>
<td>κριτικός</td>
<td>344</td>
</tr>
<tr>
<td>κρίβδα, κρίβδην</td>
<td>351</td>
</tr>
<tr>
<td>κρύστων</td>
<td>261</td>
</tr>
<tr>
<td>κρυφθ</td>
<td>350</td>
</tr>
<tr>
<td>(κτάομαι) κέκτημαι, ἕκτημαι</td>
<td>256</td>
</tr>
<tr>
<td>κτέανον</td>
<td>322</td>
</tr>
<tr>
<td>κτέλω, κτέλω, ἐκτανοῦ</td>
<td>108, 142</td>
</tr>
<tr>
<td>κτες</td>
<td>187</td>
</tr>
<tr>
<td>κτίζω</td>
<td>131</td>
</tr>
<tr>
<td>κτάμος</td>
<td>115</td>
</tr>
<tr>
<td>κτάμος, κτάμος</td>
<td>319</td>
</tr>
<tr>
<td>κυκλο</td>
<td>115</td>
</tr>
<tr>
<td>κυκλος</td>
<td>128</td>
</tr>
<tr>
<td>κύλις</td>
<td>343</td>
</tr>
<tr>
<td>κυνάριον</td>
<td>327</td>
</tr>
<tr>
<td>κύριακός</td>
<td>343</td>
</tr>
<tr>
<td>κύρος</td>
<td>115</td>
</tr>
<tr>
<td>κύκω, κυκός</td>
<td>109, 188</td>
</tr>
<tr>
<td>κύς</td>
<td>129</td>
</tr>
<tr>
<td>λαγχάρω</td>
<td>(263), ἐθνη</td>
</tr>
<tr>
<td>λάθρα</td>
<td>350</td>
</tr>
<tr>
<td>λαμιτομος, -τόμος</td>
<td>355</td>
</tr>
<tr>
<td>λαῖος</td>
<td>88, 319</td>
</tr>
<tr>
<td>λαλῶ</td>
<td>56</td>
</tr>
</tbody>
</table>
INDEX

αμβάς 132, 258, 263, Ἰλαθόν 283, ἰλαθέα 132, εἰληφα 138, 151, 258, 287, λειδήρα 290
λαμάρτ 340
λαμπρός 326
λαυάνω 263, λειαθόν 283
λάνος 106
λαός, ληθό, λεύς 93
λαυγιάδω 60
λάρυγξ 345
λάσκω 153, 263
λέβης 332
λέγοντα 17, 260, λειχθαι 153
λέγον 'collect', λέγον 284, ρίλλοχα, ρίλλογεια 256
λείμαξ 343
λείχω 127
λέξεις 122
λευκοκόραλος 355
λευκόν 262
λευκάλω 262
λευκός 88
λέων 211, 333
λήγω 260
ληθήδας 341
ληγώς 324
ληγυρής 327
ληθαξ 343
ληθές 318
ληθαίω 60
ληθών 323
ληθοβαλος, -βόλος 355
λομήν 320
λομήν 321
ληστάρας 327
ληστηριατία 357
λίπρα 118
λογογράφος 355, 359
λόγος 315
λούσσων 88
λοφυρόν 326
λοξάγγος 85
λυκίδες 341
λύκος 128
Δυυκόβρον 361

λύπηρόν 327
λύσις 122
λυσσώδης 342
λότρον 326
λύχνος 152
λώς 263, ἱλίους 282, λότο 284
λώτη 315
μαθηματικός 344
μαθητής, μαθητρία, μαθητρίς 336
μαίνομαι, ἴμανην 269
μάκαρις 187
μακεδονίς 341
μακράν 349
μακρός 326
μάλα 349
μάλιστα 349
μάλλον 214, 348
μαθάνω 263, μεμάθηκα 290, 370
μαυλά 317
μαντιστόλος 356
μάντις 122, 337
μάρμαρια 267
μαρτυρίω 264
μαρτύρομαι 262
μάρτυς 187
μάρτις 345
μάχανά 30
μάχημα 319
μέγα 348
μεγάλα 349
Μεγαρείας 316
Μεγαρίς 340
μέγαρο 51, 208
μεθύ 198
μεθέω 259
μεθάνω 132
μειξό, μέξον 214
μείραξ 343
μελαίνω 262
μέλάς 187, 210
μελέτων, -βώνη, -δωνός 341
μελέτη 335
μελίσσα 140
μελιτέοις 334
μελιτωτα 211, 334
μέλλω, ἤμελλον 255
mēlō, mēlēs 370
mēmu, mēmu, mēmās, mēmās 288
mēmēs, mēmēs, 288
mēnos 346
mēno 109, 260
mērima 179
mesaiōtros 215
mēsos, mēsos, 122, 141
metoxhē 168
mēntos 141, 145
mēn 197
mēnō 259
mēnēr 85, 131, 335
mēnit 122
migda, migdēn 351
migmēn (267), migmēn, migmēn, migmēn
mērōs, mērōs 327
mikρs 156
mikρidōs 329
mikρos 51, 132
mikρopho 264
mikμos 109, 257, 260
mikράμρωs 357
mikγw 263
mikw 264
mikρādρμos 357
mikh 98
mikṃa 320
mikṃh 320
moirā 142
mōnarchos 356
mōnās 235
mōn 109
mōnomákho 356
mōnos, mōnos 137, 319
mousikōs 344
mū 75
mūk 80, 193

vāv 139
vāō 138
vās 203, 204
vāνtēs 336
vāνtēs 60
vāνψi 174
vēvāiōs 317

vēvālarkos 345
vēvāχ 343
vēvōlōs 353, 357
vēvōn 22
vēkρōs 327
vēkōs 316
vēmō, vēmēkha 290, 370
vēvōkās 332
vē(μ)os 81, 131, 134
vēνtēs 313, 332
vēvōtēs 340
vēvēlēs 329
vēvōs 121
vēρōs 130
vēlōs, vēlos, vēlos 93, 138
vēvēlāχos 345
vēvōkēdes 340
vēvōw, vēw 141, 261
vēkaw 264
vēkēfōros 356
vēfā 129, 132, 207
vēfās 340
vēmīzō 262
vēmōs 84
vēmos, vōmos 138
vēvēkhēs 357
vō 75

vēvē 75, 76
vēvēsos, vēvēsos, vēvēfōs 17, 137, 319
vēvōfōn 317
vēvō 75
vēvōlōs 323

vēvō, vō, tō 132, 224
vēvōkouchta 231
vēvōkos 233
vēvōs 111
vōs 224
vō vēvēna 224
vōmē 147, 320
vōsīkōros 355
vōsītōw 60
vōsōs 333
vōsōs 141, 150
vōw, vōw 52, 111, 123
INDEX 383

οἶδα 87, 239, 286, εἰδώς, ἰδύα 288, ἰδέα 291, ἰδεῖα 255, 291
οἰς 250
οἴκαδε 350
οἴκες 350
οἰκεῖος 318
οἰκητής, -τής 336, 337
οἴκων 264, ζῶκων 255
οἰκία, οἰκί 85
οἰκογενής 355
οἰκόδειος 350
οἰκοδῆτις 350
οἰκον 350
οἰκόνομος 350
οἴκω 87, 126, 134
οἰκτὴρω 262
οἰκός 349
οἰκή 87, 229
οἶνος 87
οἶνοντα 334
οἶνον 321
οἶος 229
οἶος 318
οἷς, δρίς 111, 134, 316
δρις 111, 327
ὁκτὼ 82, 134, 230
δέλθρος 326
δηλίξων 214
δηλίγος 51
δελθίμα 143, 266
δηλος, δηλως 137, 319
δηλοφόριος 341
"Ολυμπιανότης 359
δλυθρος 343
"Ολυμπός 342
"Ολυμπείς 123
ὁμαλός 328
δ μικρόν 76
ὁμώμι 266, ὠμοσα 283
ὁμαδε 350
ὁμοχ 350
ὁμφαλός 82
ὁνίμημα 260, ὀνήσω 370
ὁνωμα 98, 131, 168, 189, 320
ὁνωμαι 266
ὁνωμάτω 259
ὁνωμίξα 82
ὁξεία 162
ὁκες, ὁκη, ὁκων 350
"Οστος 334
ὁκως 349
ὁράω, ὁράω, ὁράσσω: 07, 265, ἔως 255
ὁρέω, ὁροφέχασαι 288
ὁρεύως 323
ὁρεσθής 174
ὁρκίζω, ὁρκίσα 255
ὁρκίς, ὁρκίς 342
ὁρκύμι 266, ὁρκύς 282
ὁρός 137
ὁρτάλχος 345
ὁρθοσος 261
ὅς (poss.) 220
ὅς (rel.) 138, 228
ὅσι 52, 147, 320
ὅσος, ὅσος 141
ὅσσε 111
ὁστάκος 343
ὁστέα, -α 97
ὁστις 228
ὅτε, ὅτα, ὅτα 351
ὅτε 228
ὁ, ο, etc. 217-19
ὁδας 192
ὁδος 189
ὁκ, οκί 156
ὁς 190
ὁθός 224
ὁφαλμία, ὀφαλμιώ 60
ὁφις 129, 316
ὁφρός 198, 201, 316
ὁχος 109
ὁχος 127
ὁψ 109, 314
ὁψωμαι 111
παιδαρίων 327
παιδίων 317
παιδίως, -ίσις 345
παιδοπρίβης 359
πάλλως 328
πάλαι 176
παλαιστρα 326
<table>
<thead>
<tr>
<th>Greek Term</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>πάλιν</td>
<td>236, 351</td>
</tr>
<tr>
<td>πάλτο</td>
<td>284</td>
</tr>
<tr>
<td>πάμα</td>
<td>115</td>
</tr>
<tr>
<td>παμφαίων</td>
<td>255</td>
</tr>
<tr>
<td>πανδαμάτωρ</td>
<td>116</td>
</tr>
<tr>
<td>πανηγυρίς</td>
<td>360</td>
</tr>
<tr>
<td>πανοιργος</td>
<td>312, 356</td>
</tr>
<tr>
<td>παραδολή</td>
<td>56</td>
</tr>
<tr>
<td>παράδεισος</td>
<td>127</td>
</tr>
<tr>
<td>παράδοξος</td>
<td>359</td>
</tr>
<tr>
<td>παραθαλασσίως</td>
<td>341</td>
</tr>
<tr>
<td>παρθενών</td>
<td>321</td>
</tr>
<tr>
<td>παρρησία</td>
<td>148</td>
</tr>
<tr>
<td>πάσα</td>
<td>85, 141, 151</td>
</tr>
<tr>
<td>πάσιφλος</td>
<td>357</td>
</tr>
<tr>
<td>πάσχω</td>
<td>263</td>
</tr>
<tr>
<td>πάθρο</td>
<td>84, 121, 187, 325</td>
</tr>
<tr>
<td>πάτριος</td>
<td>317</td>
</tr>
<tr>
<td>πατροκτονος</td>
<td>-κτόνος</td>
</tr>
<tr>
<td>πάτρως</td>
<td>202</td>
</tr>
<tr>
<td>Πάχνη</td>
<td>362</td>
</tr>
<tr>
<td>παχυλός</td>
<td>329</td>
</tr>
<tr>
<td>παχάνω</td>
<td>262</td>
</tr>
<tr>
<td>παχύνος</td>
<td>323</td>
</tr>
<tr>
<td>πέξιφι</td>
<td>141</td>
</tr>
<tr>
<td>πέλας</td>
<td>76</td>
</tr>
<tr>
<td>πειθώ</td>
<td>202</td>
</tr>
<tr>
<td>πείνα</td>
<td>179</td>
</tr>
<tr>
<td>πεινώ</td>
<td>265</td>
</tr>
<tr>
<td>Πελασγικός</td>
<td>343</td>
</tr>
<tr>
<td>Πελατόνησος</td>
<td>151, 357</td>
</tr>
<tr>
<td>πεμπτά</td>
<td>128</td>
</tr>
<tr>
<td>πέμπε</td>
<td>129, 230</td>
</tr>
<tr>
<td>πεμπτός</td>
<td>128</td>
</tr>
<tr>
<td>πέμπω, πέμπομα</td>
<td>288</td>
</tr>
<tr>
<td>πεντάκις</td>
<td>236</td>
</tr>
<tr>
<td>πεντάχα</td>
<td>236</td>
</tr>
<tr>
<td>πέντε</td>
<td>128, 230</td>
</tr>
<tr>
<td>πεντάκωνα</td>
<td>231</td>
</tr>
<tr>
<td>πεντάκωστός</td>
<td>236</td>
</tr>
<tr>
<td>πέπρωται</td>
<td>117</td>
</tr>
<tr>
<td>πεπτός</td>
<td>128</td>
</tr>
<tr>
<td>πεπτώ</td>
<td>261</td>
</tr>
<tr>
<td>πέραν</td>
<td>349</td>
</tr>
<tr>
<td>πέρας</td>
<td>190</td>
</tr>
<tr>
<td>Περαγαμήκος</td>
<td>323</td>
</tr>
<tr>
<td>περι</td>
<td>50, 237</td>
</tr>
<tr>
<td>περικάλλης</td>
<td>358</td>
</tr>
<tr>
<td>πέρημα</td>
<td>267</td>
</tr>
<tr>
<td>Περιός</td>
<td>340</td>
</tr>
<tr>
<td>περισσόν</td>
<td>323</td>
</tr>
<tr>
<td>πέσσαρες</td>
<td>129</td>
</tr>
<tr>
<td>πέσω</td>
<td>128, 140, 261, πέψω</td>
</tr>
<tr>
<td>πέταλον</td>
<td>328</td>
</tr>
<tr>
<td>πέταμαι</td>
<td>266</td>
</tr>
<tr>
<td>πετάννυμι</td>
<td>266</td>
</tr>
<tr>
<td>πέτομαι</td>
<td>108, ἓπτόμην</td>
</tr>
<tr>
<td>πέτταρες</td>
<td>129</td>
</tr>
<tr>
<td>πευθὴν</td>
<td>321</td>
</tr>
<tr>
<td>πευθομαι</td>
<td>109, 120</td>
</tr>
<tr>
<td>πέφαμαι, -ται</td>
<td>109, 129</td>
</tr>
<tr>
<td>πεφαράδεμος</td>
<td>147</td>
</tr>
<tr>
<td>πὴ</td>
<td>350</td>
</tr>
<tr>
<td>Πηλείδης</td>
<td>340</td>
</tr>
<tr>
<td>Πηλημάδης</td>
<td>340</td>
</tr>
<tr>
<td>πῆλιν</td>
<td>120, 350</td>
</tr>
<tr>
<td>πῆκοκα</td>
<td>350</td>
</tr>
<tr>
<td>πῆχυς</td>
<td>198, 316</td>
</tr>
<tr>
<td>πίδανος</td>
<td>322</td>
</tr>
<tr>
<td>πίλαμαι</td>
<td>267</td>
</tr>
<tr>
<td>πίμπλημι</td>
<td>115, 266, πλήθο</td>
</tr>
<tr>
<td>πίμπτημι</td>
<td>266</td>
</tr>
<tr>
<td>πίω</td>
<td>113, 263, πίει</td>
</tr>
<tr>
<td>πίπτω</td>
<td>260, πεσοῦμαι</td>
</tr>
<tr>
<td>πίστις</td>
<td>122, 337</td>
</tr>
<tr>
<td>πίστυρες</td>
<td>129</td>
</tr>
<tr>
<td>πίττημι</td>
<td>267</td>
</tr>
<tr>
<td>πλακοῦς</td>
<td>211, 334</td>
</tr>
<tr>
<td>πλατύς</td>
<td>104</td>
</tr>
<tr>
<td>Πλάτων</td>
<td>362</td>
</tr>
<tr>
<td>πλέγδην</td>
<td>144</td>
</tr>
<tr>
<td>πλέες</td>
<td>214</td>
</tr>
<tr>
<td>πλείστος</td>
<td>213</td>
</tr>
<tr>
<td>πλείων</td>
<td>213</td>
</tr>
<tr>
<td>πλέω</td>
<td>131, 260, 264, 265</td>
</tr>
<tr>
<td>πληθῆς</td>
<td>316</td>
</tr>
<tr>
<td>πλήρης</td>
<td>84</td>
</tr>
<tr>
<td>πλοῦσιος</td>
<td>123, 317, 339</td>
</tr>
<tr>
<td>πλουτίζον ἦν</td>
<td>351</td>
</tr>
</tbody>
</table>
COMPARATIVE GREEK AND LATIN GRAMMAR
INDEX

τέκνοι 109, 142, 259, 262, τέταμαι, τατός 109
τεχνίς 262
τεχνός 127
τεκνον 322
τέκτων 131, 321
tελαμών 115, 116, 320
Τελαμώνιος 317
tελές 130, 259, 264, ἐτέλεσα 283
tελής 333
tέλος 152
τέμνω 263, ἔταμον, ἔτεμον 283
tέρας 190
τερήθιαδος 343
tέρην 210, 321
tέρμα 320
tέρμων 320
tέτασετε 128, 138, 230
tετρα- 230
tετράποδα 47
tετράκις, ἅκρι 236, 351
tετράφαται 288
tετραχάδα 236
tετράκοντα 231
tετταράκοντα 231
tέτταρες 128, 138, 230
tέτην 144, 153
tίδημι 84, 113, 120, 122, 123, 244-48,
255, 257, 266, τίθημι 290, τίθημι
253, 309, θήκη 84, 284, 280, θήμα
θύμων 208-90, θεία 302, θείαι 305,
tίθηκα 120, θετός 113
tέκτων 38, 260, ἔτεκκον 283
tιμῶ 259, 264
tιμή 53, 122, 128, 129
tιμήσεις 333
tιμών 317
tίμων 128, 258, 263, τέλασα, τέτειμαι 290
Τίμων 342
tίς 17, 122, 128, 129, 226-27
tιτρώσκω, ἔτορον 117
tλά-, λήγ-, έτλαν 116, ἐτάλασα 116,
τλάτος 106, 115, 116, 308
tόλμα 179
tόνω 109, 162
tοξύτης 336
tότε 351
tραγωδίας 90
tρεῖς, τρῆς 90, 122, 130, 104, 230
tρέπω 109, 260, ἔτραψον 109, 283, τέ-
tροφα 109, 287, 288, τετράφαται 288
tρέφω, θρέψω 120
tρέω 52, 264, έτρεσσα 283
tρήω 150
tριάκοντα 231
tριάκοντα 232
tριάς 235, 340
tρίττω, τετρίφα 288, ἐτρίφθην 144
tριήρης 192
tρικτύς 123
tριές 234
tριπλάσιοι 233, 234
tριπλασίων 234
tριπλή 236
tρίπλους 233, 234
tριπλώς 236
tρίπτων 355
tρίπτυχος 234
tρίς 236
tρισάς 234
tρισάς 236
tριττός 234
tριττήν 236, 338
tριφάσιοι 234
tριφυής, τρίφυτος 234
tρίχα 236
tρίχη 236
tρίχθα 236
tρίχων 236
tρίχων 236
tρώτος, τροπός, τροπῆ 109, 315
tροφή, τροφός 315
tρόφος 316
tροχαλός 328
tρόχος 316
tροχός, τρόχος 315
tρώγων 56
Τρωήκος 343
tύ 123, 217
tυγχάνω (263), τετύχηκα 290
Τυθός 202
tύλος, τύλη 328
tύραννος 18
COMPARATIVE GREEK AND LATIN GRAMMAR

φάλειω 109, 257, 260, ἠφανον 109, 257, 283, πέφυγα 120, 287
φήμη 85, 320
φοι 113
φόρ 128
φθάνω 263
φθέρω 142, 262, ἐθέρερα 152, 282, ἐθέρα, ἐθέραρκα 290
φθίνω 131, 263, φθείται 298
φιλόω 259, 264, 265, φιλοίην 299
φιλήμενοι 360
φίλος 317
φιλομειδής 132
φιλόξενος 354
φιλότης 333
φλεγόμονα 327
φλόξ 314
φόβερος 327
φοβήω 260, 264
φόβος 52
φοβείς 316
φόβος 100, 129
φορά 315
φόρος, φόρος 315
φόρτος 335
φάτηρ 121, 325
φρατία 38
φρήν 109, 110, 189
φροίδος 134
φρουρά 134
φροσύμα 144
φρύγαδε 350
φυγάς 340
φυγή 315
φυγόμαχος 357
φυλάσσω 140, 261, πεφύλαξα 288
φυλή 328
φύλον 328
φυσικός 344
φυσιολόγος 356
φύσεως 321
φύτευμα, φυτλή 330
φυτώς 264
φωρή 113
φῶς 190
INDEX

χαίρω 37, 142, 262, ἐχάρην 269, 285
χαλάω 264
χαμαί 127, 131
χαριεις 211, 333
χει 76
χειλιοι 150, 232
χείρων 214, 216
χέρνης, χέρνησα 141, 314
χέω 100, 127, ἔχεα, ἔχεα 284, χέτο
284, κίχυται 109, ἐχίθην 120
χήν 127
χήνη 131
χθεσινός 323
χθόν 131, 190
χθιλιοι 92, 150, 232
χιλισιώνθις 236
χιὼν 190
χοί 100
χορηγός 85
χρεών 207
χρηίας 91
χρήμα 49
χρήσιμος 319
χρήσιμος 318
χρυσοκόμης 359
χίλια 330
χύτρα 326
χρόω 265
χρόω 190
χώρα, χώρη 85
ψάλτης, ψάλτρια 325, 336
ψάμαθος 342
ψελι 76
ψευδής, ψεύδος 346
Τίλης 123, 202
δικα 349
δικτυοις 355
διμηστής 360
διμιδθώς 332
δὲ μέγα 76
ἀνίκαι, ἀνοικής 255
Ἀραμάξης 142

LATIN

ab, abs, & 84, 99, 144, 158, 237
abiectus 53
abrogō 102
ac 99
accipió 143, 144
accusātiō 337
accusō 102
acıer 53, 100, 111, 195, 327
acerbimus 216
acerbō 335
aciēs 111
actiō 337
acus 316
adlictus 53
adhaerō 102
adiciō, adiciō 103
adlegō 102
admodum 352
admonēō 102
adrogo 148
adsideō 101
adsum 143
adventicius 344
adventus 338
adverbium 168
adversus (adv.) 350
aedēs 88, 111, 122, 195
aedicula 328
acidificō 363
Aenobarbus 357
aënus, ahēnus 127, 149
aerūgō 345
aestivus 319
aestus 88
aetās 135
agellus 147, 338
ager 84, 100, 111, 327
aggerō 144
agilis 330
agitō 268
agō 270, ēgī 293, axim 281, āctus 94
agricola 177, 315, 355, 356
Agrigentum 165
aiō 277
alacer 102
albeō 259, 269
albus 121
aliā 349
aliās 349
alimentum 321
alimōnium 321
alis 139
almus 319
altē 95, 349
altitūdō 338
altus 335
alveolus 83
amābilis 331
amāns 212
amātōr 325
amb-, am- 363
ambāges 111
ambō 171
ambulō 49
amicitia 340
amicus 344
amor 192, 346
amplexus 309
anās 102
angiportus 355
anguis 316
angulus 328
animadvertō 160, 363
animal 95
animālis 331
animus, anima 320
annus 147
ānser 127
ante 50, 80, 237
anticipō 80, 101
anticus 344
antīquitās 351
antiquus 345
aperiō 135, 259, 272
appendix 343
apur 123
aquaeductus 353, 355, 357
arātrum 326
arbōr 192, arboxem 133
arfuisse 123
arma 54, 320
armiger 355, 356
armus 320
Arpīnās 332
arrīpiō 143, 148
articulus 328
artīfex 103
arvō rur 123
arvum 319
asportō 153
assum 143
Atheniēnsis 334
atque, 99
atrōx 343
attineō 101
atingō 100
aucepte, -upis 101, 314
audācia 317
audācte rur 351
audāx 343
audi, audieram, audisse 295
audītō 337
auditōrium 326
augeō 89, auxi 293
aureus 318
aurifex, -ufex 101
auritus 335
aurōrā 192
ausim 281
auspex 314
aut, autem 89
avis 316
Bacchānālia 331
barbātus 335
bellicus 344
bellicōsus 334
bellum 136
bene 82, 95, 349
benedicō 363
bibō 270
bibulus 328
biennium 360
bifāriam 234
bifōrmis 360
biūgis, -us 360
bīnī 149, 234–35
INDEX

binoctium 360
bipèses 230, 335
bis 136, 236
bonitās 313, 333
bonus 82, 136, 316
bōs 30, 89, 128, 130, 203
bovile 331
brevīs 50, 81, 148
breviter 351
burgus 30

caballus 53
cadūcus 344
caedēs 195
caedō 88, cecidi 88, 292
cal(i) dus 99
calefaciō 303
calefō 278
calēscō 271
calvus 319
camera 38
candēfaciō 363
candēlābrum 330
canianus 324
canis 49, 105, 197
Cannēnīsis 334
canō, cecinī 255
cantitō 268
cantō 268
cantus 338
capessō 281
capiō 53, 259, 272, cēplī 293, capsō 281
capis 340
captīvus 53, 319
caput 56
cārē 349
carō 49, 105, 188, 321
carpentum 30
carrus 30
Carthaginiēnis 334
castrēnīsis 334
cāsus (nomin) 55
cāsus (pple.) 94
Catamitus 29
caupō 321
causa 49, 54, 133, 155
cāvī 293

cavus 84
cēdō, cessī 294
celer 327
-cellō 270
celsus 82
cēna 154
cēnātus 308
cēnsūra 339
cēnsus 309
centum 124, 126, 231
centūria 236
centuriō 322
Cerēs 193
cernō 100, 258, 270, crēvi 294
certus 100, 335
cētera 349
cēterum 348
cēu 87
cingō 270
cinis, cineris 79
circēnīsis 334
circum 50
circumāgō 102
cito 95, 349
civīcus 344
civilis 331
civītās 197, 333
clam 349
clāmō 52
clārus 52
classis 54
claudeō 269
Claudius 317
claudō 89, clausī 133, 293, clau(s)sus 133, 144, 155, 308
clāvis 89
clepō, clepsti 293
cliqueus, clupeus 89
clivus 319
Clodiōs 89
clueō 52
cocītilis 330
coeplī 88, 293
cognītus 115
cognōmen 147
cognōsco 154
cōvrō 97
colligō 102, 147
collis 147, 324
collocō 143
colvō 82, 135
comes 332
comitium 339
commūnis 87, 88, 324
comprimaō 101
coniugerium 317
coniunctiō 168
coniux, 314, 355
coniuvō 154, coniux 293
conlibertas 358
conlocō 46, 102, 143, 147
consacrō, -securō 102
consoberinus 149
consuetūdō 338
consuēlō 83, 191
consulāris 332
consulatus 338
consulos 83
consoliō 89, 94
contubernālis 101
conventiō 105
copia 97
coquina 30
coquō 38, 82, 128, 135, coxī 293, coctus 128, 144
coquus 315
cor 158, 185
corem 349
cornicen 103
corniger 357
cornix 343
corolla 147
corpulentus 336
copus 191, 346
corrigo 101
corrumpō 148
cottidiē 135
crāstinus 324
crātrix 343
crēdibilis 330
crēdulus 328
crēscō 60, 258, 270
crēsāceus 344
crēbrum 326
crēdēlis 331
cruor 124
cubile 331
cuiās 332
culter 326
cultūra 339
cum 83, 348
cupldō 341
cupidus 342
cuppes 156
cupressētum 335
cūr 85, 352
cūrō 87, 133, 259, 267
currō, cucurrī 292
currus 155
cursim 349
curūlis 155, 331
custōdiō 259, 272
custōs 340
-cutiō 103, -cussi 293
dacrīma 123
-dam 349
dator 324
deō 50
dēbilis 121
decem 103, 122, 126, 220
decemvir 313
decet 81
decies(n) 150
decimus 103, 214, 232
decuria 236
decurio 322
desis 96
defendō 129, défensō 144
defensor 325
degener 193
dēgō 97
dehinc 96
dehlerā 96
dēlectus 53
dēligō 102
dēlibrum 330
demoror 27
dēmens 359
INDEX

dēnārius 54
dēni 235
dēns 333
dēnuō 102, 352
desorsum 134
deus 87, 134, 197
dexter 99, 153, 214
dīstrā 349
dicō 86, 108, 126, 257, 270, dic 302, dicier 306, dixi 293, dīxe, dīxem, etc. 294
dictus 92, 108, 308
dictātorius 325
dictūtō 268
dictō 268
dicundus 310
dīs 89, 204
digerō 149
dignus 81, 94, 146, 322
dilēxi 294
dingga 81, 123
Diovis 140, 203
diribeō 127
dirigō 149
dis 363
dis, ditūs 135
disciplina 324
discō 258, 270, didicī 292
diurnus 324
diuturnus 334
diūtinus 311, 324
divisi 294
dō 276, decī 292
doceō 269
doctrīna 324
dolābra 330
dolor 346
dolōsus 334
dolus 315
domesticus 344
domi 350
domitus 308
domnaedius 355
domnifunda 355
domō, domiō, domitus 268, 279
domus 81, 205
dōnō 267
dōnum 83, 85, 113, 322
dorsum 154
dossum 154
ducentī 230, 232
dūcō 88, 109, 257, 270, dūc 302, ductus 109, 308
dūdum 352
duellum 136
duenos 82
dulcēdō 341
dulcis 52, 316
dum 348
duo 95, 171, 229
duodecim 231
duodēvirgintī 231
duonus 82, 136
duplex 212, 230
dūrabilis 331
dūrēscō 271
dūritia, -īs 204, 340
duumvir 313
dux 109, 314
eā 349
eburneus 318
edō 122, 276, ēdiī 292, ēsus 94, 308
ēdūcō 153
ego 95, 217-19, mihi 81, 95, michi 127,
mēd 26, 157
ēgregius 359, 360
ēlegantia 333
ēluō 102
emō 49, 54, ēmi 292, ēmpūs 38, 146, 308
endo 352
ēnecō, ēnicō 102
ēnim 349
ēnormis 359, 360
eō 244, 257, 275-76, euntis 83, 306
eō (adv.) 349
eques 332
equile 331
equilnus 324
equitātus 338
equus 53, 128
errābundus 342
eundem 146
eundum 310
ěveniō 153
ex, ē 154, 237
exaudiō 102
exemplar 95, 331
exercitus 338
exitium 339
expressió 55
exsul 191

fābula 330
fābulo 56
faciēs 204, 317
facile 348
facilis 98, 330
facillimē 349
facillimus 216
faciō 122, 272, 284, fac 302, fēcli 84, 113, 203, feced 157, 245, 296, fēfaked (fēfaked) 26, 74, 157, 245, 296, faxō, faxim, faxitur 279, 281, factūrus 307, faciundus 310

fācundus 342
fāginus 318
fāgus 206
Falerīū 79
fallō 270
falsus 309
fāma 320
famēs 206
familiares 331
famulus 328
fānāticus 344
far, farris 147, 158
farciō 272
fārī 268
farrāccus 344
faveō 84
febris 130, 327
fēcundus 342
félix 343
fēlō 113
fēmina 113
fémininus 324
femur 189
fenestra 326
feretrum 326
ferō 81, 85, 131, 275, ferre 38, 143, 147, 305, ferrem 301, tetuli, tullī 216, 292, lātus 106, 115, 148, 308
ferōx 343
ferreus 318
ferus 128
fībula 330
ficticius 344
fictilis 330
fīdēlis 331
fīdēs 106
fīdō 86, 106, 120, fissus 308
figō, fixi 293, fixus 309
figmentum 127
figulus 325
figūra 127
filiolus 83, 328
fīndō 270, ēdī 292, fissus 94, 308
fīngō 127, 270
finīō 259, 272
fīō, 96, 135, 276, 277
fīrmiter 351
firmus 319
fīabra 330
fīamen 189
flamma 320
flāvus 319
flectō 271
flēbō 269, flēvi 294
Flōrāria 38
fōreō 269
fōs 192
fūctus 338
flāmen 320
flō 271, flōxi 293, 294, flōxus 309
fodiō, fōdi 111, 272, 293
foedus 87, 106, 108, 346
foedus ‘foul’ 87
foideratei 86
fōns 337
forās 349
foris 122
fōrma 94, 320
formāticum 38
formōsus 334
formus 84, 319
formāx 84
forte 207
fortūna 324
| forum 135 | glaber 52 |
| fossa 335 | gladiatôr 325 |
| foveô 269 | glâns 309 |
| fragilis 55, 330 | glîs 193, 197 |
| fragmen, -mentum 320 | gnârus 115 |
| frangô, frígî 203 | gnôscô 126, 146 |
| frâter 121, 188, 325 | gracilis 330 |
| frâtricida 357 | grâtia 339 |
| fraudulentus 336 | grâtus 335 |
| frênum 207 | gravis 128, 130, 209 |
| frigéfactô 278 | graviter 351 |
| frigidus 99 | -gregior 102 |
| frîgus 149 | gustô 52, 308 |
| fructuus 199 | gustus 126 |
| fruînô 304 | habeô 269 |
| fuga 315 | habitô 268 |
| fugió 272, fugî 293 | hác 349 |
| fugittvus 319 | haereô, haesî 294 |
| fulgur 101 | hastâtus 335 |
| fulguriô 259 | haurîô, hausî 294 |
| fulmen 154 | helvus 82, 319 |
| fulsî 154, 293 | hemô 82 |
| fulvus 319 | hesternus 324 |
| fürmidus 342 | hibernus 148 |
| fûmus 52, 80, 84, 122, 319 | hic, haec, hoc 225, huius 222, huic 223 |
| fundîtus 351 | hic 350 |
| fundô 270, fûdi 203, fûsus 94 | hiemô 190 |
| fûnebris 149, 327 | hinc 348 |
| für 85 | hirûdô 341 |
| furnâx 84 | Hispaniênsis 334 |
| fürtim 349 | histriô 322 |
| gallina 324 | hóc (adv.) 349 |
| gaudium 317 | hodiê 96 |
| gelidus 342 | hodiernus 324 |
| gelu 82 | homô 82, 187, 188, 321 |
| gemma 320 | homullus 328 |
| generô 267 | honestus 335 |
| genetîvus 319 | honor, honôs 46, 191, 346 |
| genetrix 343 | hordeum 154 |
| gêns 197 | horreô 52 |
| genu 316 | horror 52 |
| genus 81, 109, 191, 345 | hortus 335 |
| gerô, gessî 204, gestus 133 | hospes 101, 103 |
| gibber 156 | hostilis 331 |
| gignô 109, 255, 257, 270, 271, genuf 279, genitus 279, 308 | hostis 337 |
hác 349
humerus 127
humī 350
humilis 200, 330
humus 84, 127

iaeō 269
iacciō 269, 272, iēci 293
iam 349
iānītor 325
ibi 95, 352
Idem 149, 225
idiōta 53
idololatria 39
ieceur 135, 138, 189, 190
ignis 94
ignorantia 333
ignōscō 154
iliō 101
ille 225, illius 96, 222
illic 350
illīm, illīnc 349
illōc, illūc 349
im 349
imāgo 345
imber 195, 327
immannis 324
imperātorius 325
imperātrix 343
impūne 348
in 237
in- (neg.) 105, 358
incidō 88, 102
inclūdo 102
inclutus 131, 308
inde 351
index 102, 314
inermis, -us 360
Inférus 99
Infīmus 215
Infīrā 99
ingōrīus 359
ingrātus 355
initium 339
iniūrius 360
inlūstris 147, 153
inquam 277

inquillinus 82
inquīrō 102
inrumpō 148
Insulō 100
integer 102, 327
intellegentia 333
intellegō 102
inter 351
interdum 352
interiectō 168
interim 349
intimus 215
intus 351
invidia 317
invītāre 53
iocus 207
iouxmenta 88
Iovis 140
ipse 226
frācundus 342
ispiritus 98
is, ca, id 224, eius 139, 222
iste 226
Italicus 344
iubeō 122, iussī 122, 293, 294, iussus 122, iussitur 281
iūdex 102, 149, 314, 357
iūdicāitus 338
iūgerum 206
iugum 80, 138, 315
iūmentum 88
iungō, iūnxī, iūnctus 258, 270, 293, 154
Iuppiter 140, 155, 203
iūrātus 308
iūs 193
juvenis 138, 197
iuvēnta 335
iuentās 333
iuentūs 338
iuvō, iuvī 268, 293

labeō 321
labor 192, 346
lábor, lápus 309
lábrum 330
lábundus 309
lāc 158, 185
mules 103, 158, 332
militāris 331
mū(t)lia 155
mille 232
minor 54, 213
minuō 258, 271
minūtus 308
mīrōr 132
miser 327
miseria 317
missilis 330
mitto 27, 294, mīsi 294
mixtus 153
mōbilis 330
modicus 344
modo 95, 349
moenia 87
molesta 339
molitus 308
 mollis 104, 135
 mollitía, -tiās 340
 molō 279
 molta 82, 83
 monēō 260, 269, monitus 308
 mōns 99, 197
 montānus 323
 mordeō, memordī, momordī 292
 moribundus 342
 morior 105, 259, 272
 mors 99, 197, 337
 mortālis 331
 mōs 192
 mōtiō 337
 mōtus ‘motion’ 338
 moveō 260, mōvi 293, mōtus 89
 mulcetra 326
 mulgeō 98, multis 154, multisus 309
 muliebris 327
 multier 105, 193
 multa 82
 multa (adv.) 349
 multīfāriam 234
 multum 348
 multus 51
 mundānus 323
 mundus 53

mūnia 87
murmūrō 255
mūrus 87, 327
mūs 80, 193, 197
mūtus 335

nam 349
Narbōnēnsis 334
nāsūtus 335
nātū 207
nātūra 339
nātus 106, 115, 146
nāvis 55
nebrundines 130
nebula 121
nec, necque 99
nectō 271
necubī 130
necēs 105
nefrones 130
negāssim 281
nēmō 82, 97
nescius 53
neu 87
neuter 89
nēve 87
nichil 127
nīdus 149
niger 327
nihil, nil 37, 81, 97, 127
nisi 95
nivōsus 334
nix 132, 149
nixus 146
nō, nāre 149, 268
noceō 260
nōlō 275
nōmen 131, 168, 189, 320
nominātīvus 319
nōn 88
nōnāgintā 231
nōnēgentī 232
nōnus 89, 232
nōscō 115, 146, 258, 270, nōvi 294,
nōsse, etc. 295, nōtus 85
nōster 214, 218, 220
novem 81, 230
INDEX

novendecim 231
novēni 235
novicius 344
novitās 101, 332
novus 81, 131, 134
nox 107
noxius 317
nūdus 89
Numasioi 89
num 348
numerus 84
nunc 348
nūndinae 89
nūntio 80, 94
nūntius, nūntium 339
nūper 352
nurus 80
ob 50, 237
obdormiscō 271
oboedīo 88
observō 144
obviam, obvius 352, 359
occidiō 322
occipio 101
occupō 101
ocris 111, 327
octingentiū 232
octō 42, 82, 230
octōdecim 231
octōgintā 231
octōniū 235
oculus 111
odor 52, 123
ofella 155
offa 155
officina 324
oinos, oenus 87
oleō 52, 123
oleum 54
olfaciō 52
ōlīm 349
oliva 30, 82
omittō 155
operiō 272
optimās 332
optimus, -umus 101
opulēns, opulentus 336
ōrdō 94
oriēns 54
ōrigō 345
ōrior 272, oriundus 309
ōrnamēntum 321
ōrnō 94
oscen 103
ōsculum 328
ostendō 153
ovile 331
ovis 111, 134, 316
pābulum 330
palam 349
palūs 340
pangō, pepigī, pēgī, pānxī 203, 204
pāctus 94
parabola 38, 56
parcō, peperci, parsī 294
pariō 105, peperi 100
pars 99, 107, 337
parsimōnia 321
particeps 355, 357
participium 168
partim 349
partior 272
parturiō 307
parvus 51, 319
pater 84, 95, 121, 187, 188, 325
patientia 333
patricius 344
patrius 317
paucus 50, 344
paul(l)um 155
pauper 327
pecora 49
pecten 189
pectō 271
pecu 316
pecus 340
pedes 332
peior 139, 140, 216
pelagus 206
pellō 270, pepull 255, 292, pulsus 309
pendēō 269
pendō 269, 270
pendulus 328
penitus 351
penna 51
per 237
percellō 270, perculus 309
percutiō 103
peregrinus 38
perfacilis 355, 358
perficiō, perfectus 100
pergō 102
periculum 329
perīurus 360
perna 154
pernīx 343
persōna 29, 36
pēs 109, 121, 185, 314
pessimus 140, 216
petessō 281
petorritum 30
piāculum 329
pictūra 339
plēnum 335
pluralus 324
pius 96
placuit 51
plangō 270
plantō 267
plectō 271, plexus 309
plēnus 84, 115, 322
-plēō 269
pleōrēs 213
plisima 213
pluō 131
plurimus 213, 215, 216
plus 213, 216, 348
pōculum 37, 83, 98, 148, 329
Poenicus 87
poena 51, 87
pollubrum 330
pōmērium, pōmoerium 88
pondus 346
pontifex, -ufex 101
popīna 30, 130
populāris 331
por- 363
porgō 102
portigō 102
portā 335
poscō 104, 109, 153, 258, 271
possum, 274
potiō 272
potis 82
pōtus 113, 308
prae 50
praebēdō 97
praeceps 350, 358, 360
praedicāre 54
praedō 321
praemium 97
praeomnēmen 358
praepositiō 168
praeter 351
praetōrium 326
praetūra 339
precor 109
prehendō 127
premō, presśā 294
prīdem 351
prīmō 95, 349
prīnum 348
prīmus 149
prīnceps 94, 99, 103, 146
prīscus 344
privignus 94
prō 49, 237
probātiō 337
prōcōnsul 359
procus 109, 315
prōmō 97
prōnōmen 168
propinquus 345
propitius 339
propter 351
prō(r)sa 54, 154
prōsus 154
proximus, -umus 101
prūdēns 89
prūrigō 345
pubēs 193
puer 99
pueritia 340
pugna, pugnō, pugnus 313
INDEX

pulcher 119
pulmentum 154
pulmo 320
punctum 335
pungo, pepugi, pupugi, punxi 292, 294
Panicus 87
puniō 87
quā 349
quadrāgentiā 231
quadringenī 231, 232
quadru- 231
quadrupès 360
quaeō 271
quaesō 271
quaestūra 339
quam 349
quande 351
quandō 352
quārtus 94, 232
quasi 95, 96
quater 236
quaternī 235
quattuor 128, 136, 138, 155, 230
quattuordecim 231, 354
quercus 206
qui 128, 226–28, cuius 139, 222
quia 349
quidam 352
quindecim 128
quindecim 99, 231
quinquagintā 231
quinque 38, 81, 128, 230
quinque(n)s 236
quintus 39, 128, 130, 154, 232
quippe 144
quis 128, 226–28
quō (adv.) 349
quom 83
quondam 352
quotiē(n)s 236
rādix 135, 147
raeda 30
rāmus 147
rapāx 343
rapio 272
rapsōdus 90
rāstrum 326
ratiō 337
re-, red- 263
reddō 270
rēgālis 331
rēgina 324
rēgiō 322
rēgius 317
rēgnum 94
rēgō, rēx 294, rēctus 94
rēgulus 328
reiciō 103
relinquo, relictus 128, 130
reperīō 272, reperī 292
rēs 49, 89, 204
rēs pūblica 353
rettull 99, 292
rivus 319
rōbur 191
rōbustus 335
rogitō 268
Rōmānus 323
rōs 192
rosāceus 344
rosētum 335
rōstrum 144, 326
rotundus 309
ruber 30, 80, 98, 122, 131, 326
rudō 257, 270
rūfus 30, 122
rūna 324
rumpō 258, 270, rūpī 293
ruō 271
rū(r)sus 135
rūs 193
rūsticus 344
Sabinī 146
sacer 100, 327
sacerdōs 332
sāl 158, 191
saliō 272
sallō 147
salvus 319
Comparative Greek and Latin Grammar

Samnium 146
sánctus 154
sanguen 187
sanguis 187
sapientia 333
sapiō 52, 272
sapor 52
sās (poss. pron.) 220
satur 327
Saturnālia 331
scabō, scābi 293
scaevus 88, 319
scindō, scidi, sicidī, 256, 292, scissus 94
scriba 315
scribō, scripsī 293, scriptus 36, 38, 143, 144, 308
scriptor 325
scriptūra 339
sē, sui, sibi 217–18
sē-, sēd- 363
secō 268
secundum 348
secundus 128, 134, 232, 309
sēcūrus 51, 88
sēd 218
sēdecim 231
sedeō 269, sēdi 292, sessum 143, 144
sedēs 195
sedile 331
sēdulus, sēdulō 352
seges 102
segmentum 146
sella 147
semel 81, 236
sēmen 84, 320
sēmi- 132
sēmodius 39
semper 81, 352
sēnātus 199, 206, 338
senātūscōnsultum 357
senecta 335
senectūs 338
senex 197
sēnī 235
sententia 333
sepelīō 272
septem 132, 230
septendecim 231
septēnī 235
septimus 232
septingenti 232
septuāgintā 231
sepulcrum 329
sequor 108, 128, 132, secūtus 128, 309
serō 49, 54, 187, 188, 320
servō 79, 270, sēvī 294
servīō 272
servītūs 338
sescentī 232
sessor 337
Sestius 154
seu 87, 96
sēvīrī 153
sexāgintā 231
sexī(n)s 236
sextus 154, 232
sīdō 270
signum 94
silva 319
silvānus 312, 323
similis 81, 209, 330
simul 81, 82
simplex 81
simulācrum 329
singult 235
sinister 214
sīnō 270, sīvī 294
sinus 324
si quidem 96
sīs (poss. pron.) 220
sīs=sī vīs 135
sistō 255, 257, 270
stvē 87
socer 82
societas 101
socius 108
socrus 82
sōl 97, 191
sol(i)dus 99
solvō 271, solūtus 308
somnus 36, 38, 82, 109, 135, 146, 322
soror 82, 325
speciēs 49, 204, 317
INDEX

speciō 259
sperniō 270, sprēvi 294
spēs 193
-spiciō 272
spondeō 269, spopondī 256, 292
sponte 207
stabilis, stabulum 98, 122, 330
statīvus 319
statuō 271
sternō 258, strāvi 294, strātus 106
sternuō 258, 271
stō 268, stēti 256, status 84, 308
strāta 54
stringō 270, strictus 94
struō 271, struΧ 293, 294
studium 317
suāvis 52, 132, 136, 209
sub 99, 134, 237
subter 351
subterrāneus 324, 359
suggerō 144
suggestus 53
sum 243, 257, 273–74, eram 278, erō
281, siem, sim 301, essem 301, forem
80, 274, fuit 96, 121, 216, fūtūrus 307
sum, sam, etc. (dem. pron.) 226
summus 146, 215
sūmō 153, sūmpsi 38, 146, 294, surēmi
294, sūmptus 140
suovetaurilia 354
super 50, 134, 237
superstes 332
superus 99
suprā 99, 349
suprēmus 99
surgō 99, 102
surrigō 99, 102
surripiō 143, surripuit, -rupuit 101
sus 198
susciπiō 153
suspendō 153
sustineō 153
suus 220

tabellā 328
tabola 83
taceō 269, tacitus 308
talentum 100
tain 349
tandem 351
tangō 270, tetigī 291, tāctus 94, 308
teges 102, 332
tegō 124, 270, tēxi 294, tēctus 94, 308
tenō 270
temperī 191
tempestās 333
tempestus 191
tempus 191, 346
tenāx 343
tendō 270, 271, tetendi 292
tener 327
tenuis 122, 209
tepidus 342
ter 100, 158, 326
termen 320
ternī 234–35
ternō 236
terō, trīvi 294
terror 52
tertius 232
testa 56
testamentum 321
testis 100
testūdō 341
textō 131, textus 154
thēnsaurus 150
timidus 342
timor 192, 346
tinguō 81
toga 315
tollō 115, 270
tōnsor 325
tōnstrīx 343
tormentum 154
torpēdō 341
torqueō, torsi 154, tortus 39, 154
torçē 147, 269, tostus 154
totidem 351
totiē(n)s 150, 236
trāduō 153
tragoedus 90
trahō, trāxi 294
trecentū 232
trędecim 231  
trembreundus 342  
trembō 52, 294  
trēs 97, 122, 139, 230  
triblis 231  
tribunātus 338  
tribūnicius 344  
tribūnus 324  
tribus 198  
tribūtus 308  
trīfāriam, -ius 233, 234  
trigintā 231  
trīnī 235  
triplēx 233, 234  
triplus 233, 234  
tristīs 51  
triumphus 119  
triumvīr 313  
tū 217-19  
tubīcen 357  
Tullius 317, 362  
tum 348  
tumor 346  
tu quidem 96  
turbāssitur 281  
turpis 316  
turris 193  
tūtō 349  
tuus 220  
über 190  
ubi 95, 130, 227, 352  
Ulixēs 202  
ultimus 215  
ultus 154  
umbilicus 82  
umbō 82  
umerus 84, 127  
umanīmus 357  
uncus 82  
unde 227, 351  
umdecim 94, 103, 231  
unguen 128  
unguis 82  
ungō 270, ūnctus 144, 308  
ūniversus 357  
ūnoculus 355  
ūnus 36, 87, 229, ūnīus 96  
urbānus 312, 323  
urbs 144, 197  
urgeō 135  
ūrō 88, 134, ussf 294, ustus 308  
ut 130, 237  
uter 227  
utier 87  
valdē 49, 99  
valētūdō 338  
validus 49, 99  
vapor 130, 346  
vās 206  
vēcors 358  
vēhicle 329  
vēhō 127, vēxī 145, 293, vectūs 144  
vēlābrum 330  
vēlōx 343  
venīō 105, 128, 139, 146, 259, 272, vēnī 292  
verbōsus 334  
verbum 122, 138, 168  
verrō, vortō 84  
versus (adv.) 350  
vertex 343  
vertīgō 345  
vertō, vortō 84, vertī 292, versus, vorsus 84, 154  
vērum 348  
vespa 38  
vesper 134  
vesperāscō 271  
Vesta 134  
Vestālia 331  
vester, voster 84, 218, 220  
vestīs 134, 337  
vetō, votō 84  
vetus 210  
victīr 95, 187, 188, 325  
victīrix 343  
vīcus 87, 126, 134  
vīdeo 79, 134, 269, vīdi 87, 293, 295, vīsus 94  
vīdua 122  
vigil 191
<table>
<thead>
<tr>
<th>INDEX</th>
<th>405</th>
</tr>
</thead>
<tbody>
<tr>
<td>vīgintī</td>
<td>231</td>
</tr>
<tr>
<td>vinciō</td>
<td>272</td>
</tr>
<tr>
<td>vincō, vīcī</td>
<td>203</td>
</tr>
<tr>
<td>vinculum</td>
<td>328</td>
</tr>
<tr>
<td>vinētum</td>
<td>335</td>
</tr>
<tr>
<td>vinolentus</td>
<td>335</td>
</tr>
<tr>
<td>vino̅sus</td>
<td>334</td>
</tr>
<tr>
<td>vinum</td>
<td>87</td>
</tr>
<tr>
<td>violēns, violentus</td>
<td>335</td>
</tr>
<tr>
<td>vīr</td>
<td>99, 327</td>
</tr>
<tr>
<td>vīrāgō</td>
<td>345</td>
</tr>
<tr>
<td>vīrūs</td>
<td>338</td>
</tr>
<tr>
<td>vīrus</td>
<td>306</td>
</tr>
<tr>
<td>vis</td>
<td>80, 193</td>
</tr>
<tr>
<td>visō</td>
<td>271</td>
</tr>
<tr>
<td>visus 'sight'</td>
<td>338</td>
</tr>
<tr>
<td>vitiōsus</td>
<td>53</td>
</tr>
<tr>
<td>vitulus</td>
<td>81</td>
</tr>
<tr>
<td>vīvō, vīxf</td>
<td>293</td>
</tr>
<tr>
<td>vīvus</td>
<td>80, 128, 319</td>
</tr>
<tr>
<td>vocābulum</td>
<td>330</td>
</tr>
<tr>
<td>vocō</td>
<td>109, 130</td>
</tr>
<tr>
<td>volnus</td>
<td>83</td>
</tr>
<tr>
<td>volō, volt</td>
<td>82, 83, 274, 275, velim</td>
</tr>
<tr>
<td>volucris</td>
<td>197</td>
</tr>
<tr>
<td>volvō, volvātus</td>
<td>308, volvendus</td>
</tr>
<tr>
<td>vomō</td>
<td>82</td>
</tr>
<tr>
<td>vorāgō</td>
<td>345</td>
</tr>
<tr>
<td>vorāx</td>
<td>343</td>
</tr>
<tr>
<td>vorō</td>
<td>128</td>
</tr>
<tr>
<td>vōtus</td>
<td>89</td>
</tr>
<tr>
<td>vōveō, vōvī</td>
<td>293, vōtus</td>
</tr>
<tr>
<td>vōx</td>
<td>109, 130, 134, 314</td>
</tr>
<tr>
<td>vulgus</td>
<td>206</td>
</tr>
</tbody>
</table>