

A SHORT
COMPARATIVE GRAMMAR
OF
GREEK AND LATIN

For Schools and Colleges

BY
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AUTHORIZED TRANSLATION FROM THE SECOND FRENCH EDITION BY

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WITH AN INTRODUCTORY NOTE BY

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INTRODUCTORY NOTE.

ENGLISH students of Comparative Philology have for some time felt the need of a manual which should exhibit, in a concise form, the main results of modern research and the application of modern method, as bearing upon the scientific grammar of Greek and Latin. Much has been already done for us by Messrs. King and Cookson in their valuable work entitled *Sounds and Inflexions in Greek and Latin* (Clarendon Press, Oxford, 1888). M. Henry's volume, no doubt, presents many of the same facts as Messrs. King and Cookson's book; but it is considerably shorter, it is cast in a different mould, and it has a slightly dissimilar aim. It is, in the strict sense of the term, a Comparative Grammar of Greek and Latin, and treats of nothing extraneous to its theme. The luminousness of arrangement, the clearness of

exposition, and the general mastery of the subject which it displays are fully worthy of the distinguished and original scholar whose name is so honourably known in connexion with this branch of philology.

HENRY NETTLESHIP.

OXFORD,

Jan. 14th, 1890.

TRANSLATOR'S PREFACE.

THE following work is a translation of Professor Victor Henry's *Précis de Grammaire Comparée du Grec et du Latin*. The translation was undertaken by me mainly at the suggestion of Professor Nettleship and Professor Sayce, and with the full approval of the author, in the hope that, in the paucity of English books containing the results of the latest researches in Comparative Philology in regard to Greek and Latin, a translation of a work in which these were lucidly set forth by one of the acknowledged masters of the science might be of use to English students.

The translation has been made from the second and revised edition of the original. It contains also various later corrections and additions by the author, *e.g.* p. 119 note (ἐγνώσθης), p. 131 (πειστήρ), etc.; some additions by the author have also been inserted in the Bibliography. A few slight modifications and additions have been made, in order to adapt the work more directly to the requirements of English students. Thus in the Bibliography, English translations of German books have been substituted for French translations. Again, in the original, the explanations of pronunciation and illustrations of phonetic phenomena were mainly given through the medium of French examples; in a few such cases, mainly those connected with pronunciation, English examples have been substituted jointly by the author and myself, *e.g.* pp. 18, 21, etc.; in others, at the author's suggestion, I have added corresponding English examples within square brackets, *e.g.* pp. 30 note, 54 note, 185 note, etc. So also, when German words cognate to Latin and Greek have been given as illustrations, the corresponding English words have sometimes been added in brackets,

when these could be given with certainty, *e.g.* pp. 63, 73, etc. In a few cases references have been added to English books bearing on the subject under discussion, *e.g.* pp. 76 note, 186 note, 276 note, etc.; a few additional English books have also been mentioned in the Bibliography. All such additions by the translator have been placed within square brackets; none have been inserted without the author's approval.

In matters of terminology, it has been thought important not to confuse the English student by the introduction of fresh terms, where this could be avoided; accordingly, except in a few special cases where the author wished otherwise (*e.g.* in regard to vowel-gradation, p. 47 note 2), the usual English terminology has been adhered to, but attention has been drawn to the terminology of the original when divergent, and to that of other English books, when it seemed likely that the variations in the usage of English writers might cause perplexity to the beginner (*e.g.* p. 22 notes).

I have to express my warm thanks to the author for reading the whole of the proof-sheets of this translation, and for much kind assistance; and to Professor Sayce, who, in the midst of his many labours, has been kind enough to read the greater part of the proof-sheets, and to make many valuable suggestions. I wish also to express my obligations to Professor Nettleship; Dr. J. A. H. Murray, and Dr. Joseph Wright for some useful suggestions on points of terminology; and to my friend Mr. W. Worrall for help in passing the proof-sheets of the introductory matter through the press. But, while grateful to these gentlemen for their kind help, I must myself assume the sole responsibility for everything connected with the English form of this book.

R. T. ELLIOTT.

OXFORD,
Dec., 1889.

AUTHOR'S PREFACE.

THIS book contains the substance of four years' lectures (1884-87), delivered on behalf of the Faculty of Letters of Douai. More than once, in the course of my lectures, I have had occasion to regret that the students had not in their hands some manual of comparative grammar, which might enable them, either to review ideas which they had imperfectly grasped, or to acquire by themselves those points which the abundance of material forced me to exclude from the year's course. They at any rate had the opportunity of procuring the notes of preceding years; but even this precarious and insufficient resource was lacking to teachers outside, who often, for lack of books, treated wrongly or did not treat at all the questions proposed for their study. For the German works, in the first rank of which must be placed G. Meyer's Greek Grammar, are scarcely accessible to most of them, and there is no French work or translation which puts within their reach the discoveries of the last ten years, which have been so fruitful for this science.¹ All these considerations, and, above all, the kind encouragement of MM. Bréal and Bergaigne, have induced me to attempt to fill up this gap. May the book, when once it has seen the light, prove to be not unworthy of the welcome that greeted it before its birth!

My main object being to write an elementary work, I have scrupulously avoided controversy. As a general rule, on each question I have simply pointed out the solution which seems to me the best, without attacking, and sometimes without even mentioning, the others that have been offered. Many serious

¹ I except of course the dictionary of MM. Bréal and Bailly, which is not a grammar, and cannot take the place of one, and the second edition of M. S. Reinach's Manual (vol. ii.), in which comparative grammar naturally occupies only a limited space.

difficulties have been merely glanced at, some have been avoided, while points too uncertain have been passed over entirely in silence. At the risk of not doing justice to myself in details, I have been obliged to resign myself to these sacrifices. Perhaps they have exceeded due limits; it is for my critics to warn me of this, and I defer to their judgment beforehand; but honest and indulgent critics will do me the honour not to mistake my silence for ignorance.

For the same reason, the reader must not expect to find in these pages any new idea or anything that has not previously been published. Their sole merit, if they have any, is that they have been kept fully in touch with the latest results of Indo-European philology; and I will disarm the reproach of plagiarism, which is made so lightly by certain critics, by stating frankly that I have not claimed to be doing original work, and that, if I have hardly ever referred to authorities, it has been for fear of overloading and complicating unduly a text the look of which already is not too attractive. In order to make up as far as possible for the lack of references, I insert after this preface a bibliography, containing a list of the works to which I am most indebted. This list, incomplete as it is, will at the same time serve to indicate to students and teachers the books best calculated either to develop in them the taste for Comparative Philology in general, or to help them in working out more fully the particular points of knowledge which they have derived from my teaching.¹

I must especially remind the latter class of persons that it would do them no good, and indeed would rather do them harm, to approach the study of comparative grammar without having first fully mastered the elementary grammar of Greek and Latin. This being presupposed, I will invite the beginner to read this grammar from beginning to end, omitting nothing, but not stopping too long over passages which may seem to him difficult or obscure; it is much more important at the

¹ With this object, I have included therein some works which do not relate strictly to the comparative grammar of Greek and Latin, but which I have thought calculated to awaken in the mind of the beginner some general ideas on the evolution of language, or to provide him with terms of comparison drawn from the language which is familiar to him.

outset to gain a good general view than to understand every detail. But the second time it will be well for him to read with pen in hand, marking occasionally the essential points, and carefully verifying the numerous cross-references scattered throughout the work. Another method of working, no less profitable, but reserved for more advanced students, will be to read through the alphabetical indices, and, whenever any form at all unfamiliar strikes the eye, to seek the explanation of it in the body of the book. Lastly, it will be found useful to prepare any portion whatever of a Greek or Latin author, referring to the grammar for each of the etymological or grammatical forms there met with. This exercise has been regularly practised at my lectures, and has always yielded the best results.

If the printing of such a work as the present did not involve quite enough difficulties in itself, I should have liked to distinguish by two different kinds of type the fundamental facts, the retention of which is indispensable, from the host of secondary details for which an attentive reading will suffice. In this matter I am forced to rely upon the discretion of the student, who will find therein scope for exercising and forming his judgment. I rely with more confidence on the tact and judgment of the teachers in our schools and colleges, for the selection of those elementary principles of comparative grammar which may be introduced with profit into their own teaching. It is of course out of the question to teach even the outlines of philological methods to pupils in the lower forms. But if, in the course of an explanation, or during the correction of an exercise, the teacher finds an opportunity of introducing a certain, happy, and easily intelligible comparison, he will gain the advantage of satisfying the young mind, always eager for clear and logical explanations—and who can tell?—perchance even of awakening, unknown to himself, some latent talent. The important point is, not to initiate the pupil into this or that detail, which will be forgotten as soon as learned, but to raise discreetly the veil of the sanctuary, and give him a brief glimpse of the beauty of this science, which is still too much ignored, and which, to borrow the words of one of its most

learned and sympathetic expounders,¹ "lying on the borders of the two great domains of motion and thought, connected with the natural sciences by its material element, sound, and with the moral sciences by its ultimate object, the expression of ideas, has its roots fixed in the field of natural history, while its blossoms expand into psychology."

V. HENRY.

DOUAI, June 5th, 1887.

Who would have told me, at the time when I was writing these pages, that my dear master and friend, Abel Bergaigne, would not see the second edition of a work which his wishes had called forth and his kind influence had befriended? Such as it is, since he was so indulgent as to deem it worthy of him, I dedicate it to his dearly loved memory, which will be religiously treasured by all those who have had the happiness of knowing him. He was one of those men whose mind and heart are so noble, that, even at the cost of the bitter pang of separation, we can never cease to rejoice at having met them on our life's pathway.

This second edition does not differ materially from the first. I have corrected some mistakes, filled up some gaps, and cleared up some obscurities, which the kindness of colleagues has pointed out to me. In this respect I owe especial thanks to MM. F. de Saussure and L. Job. I have put the bibliography and the text on a level with the works published in 1888, and I believe that I have left nothing undone in order to continue to deserve the favour which has greeted the publication of this unassuming manual. To those who have thus honoured me, and especially Professors Bréal, De Harlez, Hübschmann, Merlo,² G. Meyer, Sayce, and my friend M. H. Winkler, I wish to express my sincere gratitude.

V. H.

LILLE, Nov. 2nd, 1888.

¹ J. Darmesteter, *Essais Orientaux*, p. 30.

² Merlo likewise, before these words of recognition could reach him, has entered, while still young, into eternal rest. Like Bergaigne, and only two months after him, he met his death during an Alpine excursion.

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¹ An asterisk indicates those works which the student will read or consult with most advantage; a double asterisk, those the help of which is indispensable.

² Among the articles in this excellent collection, which are mostly very valuable, I will call special attention to Collitz, *die flexion der nomina mit dreifacher stammabstufung* (X. 1).

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CONVENTIONAL SIGNS.

<i>abl.</i>	ablative.	<i>instr.</i>	instrumental.
<i>acc.</i>	accusative.	<i>Ion.</i>	Ionian.
<i>adv.</i>	adverb.	<i>Lat.</i>	Latin.
<i>Aeol.</i>	Aeolic.	<i>Lesb.</i>	Lesbian.
<i>A.-S.</i>	Anglo-Saxon.	<i>loc.</i>	locative.
<i>aor.</i>	aoist.	<i>masc.</i>	masculine.
<i>arch.</i>	archaic.	<i>mid.</i>	middle.
<i>Att.</i>	Attic.	<i>mod.</i>	modern.
<i>Bæot.</i>	Bæotian.	<i>nom.</i>	nominative.
<i>Carm. Arv.</i>	Song of the Arval Brothers.	<i>neut.</i>	neuter.
<i>cf.</i>	compare.	<i>Osc.</i>	Oscan.
<i>Col. Rostr.</i>	Inscription of the Co- lumna Rostrata.	<i>pass.</i>	passive.
<i>Cypr.</i>	Cyprian.	<i>perf.</i>	perfect.
<i>dat.</i>	dative.	<i>pl.</i>	plural.
<i>Dor.</i>	Doric.	<i>pl. 1, 2, 3.</i>	1st, 2nd, 3rd person plural.
<i>e.g.</i>	for example.	<i>plup.</i>	pluperfect.
<i>Ep. Scip.</i>	Epitaphs of the Scipios.	<i>pres.</i>	present.
<i>fem.</i>	feminine.	<i>Set. Bacch.</i>	Senatusconsultum de Bacchanalibus.
<i>Fr.</i>	French.	<i>sing.</i>	singular.
<i>fut.</i>	future.	<i>sing. 1, 2, 3.</i>	1st, 2nd, 3rd person singular.
<i>gen.</i>	genitive.	<i>Sk.</i>	Sanskrit.
<i>Germ.</i>	German.	<i>subj.</i>	subjunctive.
<i>Goth.</i>	Gothic.	<i>subst.</i>	substantive.
<i>Gk.</i>	Greek.	<i>Tab. Mumm.</i>	triumphal tablet of the consul Mummius.
<i>Hom.</i>	Homeric.	<i>vb.</i>	verb.
<i>I.-E.</i>	Indo-European.	<i>Ved.</i>	Vedic.
<i>imper.</i>	imperative.	<i>voc.</i>	vocative.
<i>impf.</i>	imperfect.		
<i>ind.</i>	indicative.		
<i>inf.</i>	infinitive.		

All other abbreviations will be self-explanatory.

The sign of equality between two forms implies their identity: $\phi\acute{\epsilon}\rho\omega = \text{ferō}$. When used in conjunction with the sign (:), it denotes a proportion, e.g., $\text{urbibus} : \text{urbi} = \text{avibus} : \text{avi}$ (to be read "*urbibus* is to *urbi* as *avibus* is to *avi*").

An asterisk before a form denotes that it is not actually found, but is restored by conjecture.

A hyphen, placed before or after a form, denotes a form which never appears by itself in language, namely, either a suffix separated from its stem, or a stem deprived of its suffix: e.g. $-\mu\epsilon\nu$, termination of the 1st person plural of Greek verbs, $\phi\acute{\epsilon}\rho\text{-}\sigma$, stem of the verb $\phi\acute{\epsilon}\rho\omega$.

In Sanskrit transcriptions, a line above a vowel denotes an unaccented long vowel, bhārāmi (I bear); the circumflex accent denotes an accented long vowel, vêda (I know); c and j are to be pronounced like English ch and j respectively; \check{s} is always equivalent to English sh ; ¹ the cerebrals (cacuminals) are denoted by a dot underneath the letter in question, e.g. n .

In Greek, the quantity is marked throughout ($\epsilon\lambda\upsilon\sigma\alpha$), except when it coincides with the accent, in which case it has generally been thought best to sacrifice it to the accentuation ($\epsilon\lambda\upsilon\sigma\alpha\mu\epsilon\nu$).

The work has been divided into 300 sections, each of which forms as homogeneous a whole as possible. It is to these that all the references introduced by the words *supra* and *infra* refer.

[Square brackets denote additions by the translator.]

See the indices at the end of the volume.

¹ And so also \check{z} is equivalent to French j [English s in *pleasure*].

A SHORT COMPARATIVE GRAMMAR OF GREEK AND LATIN.

GENERAL INTRODUCTION.

(1) THE grammar of every language, taken by itself, seems like a purely empirical collection of arbitrary rules, subject to still more arbitrary exceptions, which it confines itself to stating, without being able to afford us even an inkling of their explanation. Thus French grammar teaches us that the plural of substantives is formed by adding an *s* to the singular. Whence comes this *s*? and how is it that it has the property of changing a singular into a plural? To this question French grammar can give no answer. It teaches that adverbs are derived from adjectives by adding to the feminine the termination *ment*, e.g. *long*, *longuement*, but that those in *ent* are exceptions, changing the termination before *ment* into *em*, e.g. *prudent*, *prudemment*. What is the meaning of this syllable *ment*? why does it require the feminine of *long*, but not of *prudent*? On this point French grammar by itself cannot enlighten us.

But if we go back to Latin, we see there an accusative singular *cabdllum* and an accusative plural *cabdllōs*, which throw light on the origin of the *s* in the plural *les chevaux*. We see there a word *mēnte*, ablative of a feminine noun, which, in such an expression as *lōnga mēnte* (literally "in a long manner"), required the feminine of the adjective *lōngus*, which had different forms for masculine and feminine, but could naturally cause no variation in the adjective *prūdēns*, which had the same form for masculine and feminine. Thus the benefit which we derive from the scientific comparison of two

languages more or less closely related to one another consists in a knowledge of the reason of rules and the reason of exceptions, which latter, when properly understood, will be seen to really fall under the rule;¹ and from the mere fact that grammar thus understood requires less exertion of the memory and more of the reasoning powers, it can at the same time be more easily retained and more surely investigated.

This is the aim of what is called **Historical or Comparative Grammar**.

(2) Relationship between several languages may be due either to the fact that one is descended from the other (*e.g.* French from Latin), or to the fact that they are all descended from a common ancestor (*e.g.* French, Italian, Spanish, and Roumanian, all descended from Latin).² In the latter case, the ancestor may be known, and may have left a more or less extensive literature, or at any rate some written documents, throwing light on the chief features of its grammar; or, on the other hand, it may have perished, without leaving any trace of its existence except the languages derived from it, which it is proposed to study. It is in the latter sense that we must understand the affinity of Greek and Latin, which are not descended from one another, nor indeed from any language historically known,³ but are, in common with other European and Asiatic tongues, derived from a language long since dead, which never had any written characters, and was spoken

¹ A perfect grammar would be one which contained not a single exception. The science of language has not yet reached this stage; but it is drawing nearer and nearer to the desired end, though this end can never be attained.

² Strictly speaking, these expressions borrowed from every-day life are inexact. No language is descended from another; French is not descended from Latin, for it is impossible to fix any precise moment in history in which men ceased to speak Latin and began to speak French. As a matter of fact, French is still Latin, though modified from age to age by changes of which successive generations had no consciousness. The gap only becomes apparent when we contrast two periods separated from one another by a long interval.

³ Hence we must avoid the erroneous expression still too often used by learners, "This Latin form *comes* from Greek," or "This Greek form *comes* from Sanskrit." Sanskrit is not the ancestor of the other languages; it is at most their elder brother, and has been subject to quite as many alterations as its brothers, if not more.

by a tribe about which we do not know enough even to say precisely where it originally lived. This pro-ethnic language, which can only be restored by a comparison of the different grammatical forms which have sprung from it, has received the conventional name of the **common Indo-European language** or **Parent-speech**.¹

(3) The Indo-European family comprises, in the first place, two main divisions: an **Asiatic or Aryan branch**, and a **European branch**. The essential mark of distinction between these two groups lies in the fact that pro-ethnic *e* and *o* were preserved without corruption in the European languages, whereas in the Asiatic languages they were both confused with long or short *a*. Thus the primitive **bhéromes* (we bear) is represented very exactly by the Greek *φῆρομες* (Doric), but very imperfectly by the Sanskrit *bhadrāmas*.

(4) I.—The Asiatic branch in its turn is divided into two groups:

1. **Indian group**, comprising (α) Sanskrit, which has long been a dead language, but is still preserved with jealous care in the liturgical schools of the Brahmans, and was early analysed by the most minute grammarians that any literature has ever known. Its oldest remains (certain hymns of the Veda) may go back to the tenth century B.C., or even earlier. (β) Prākṛit, or more accurately the Prākṛitic languages, consisting of popular dialects which, many centuries before our era, superseded Sanskrit in every-day life. The best known of these is Pāli, the sacred language of Buddhism. (γ) The modern dialects, still spoken in many parts of India, such as Hindi, Hindustani, Bengali, etc.

(5) 2. **Iranian group**, comprising (α) Zend or Avestic, certainly as old as Sanskrit, preserved in the Avesta and other sacred books attributed to the legislator Zoroaster, the mythical founder of fire worship. (β) Old Persian, the language of the losers of Marathon, of which only a few scanty relics survive in some cuneiform inscriptions of the Achæmenid kings. (γ)

¹ [German philologists generally prefer the term "Indo-Germanic"; many English writers use the term "Aryan," or more correctly "Arian," in this sense.]

The modern Iranian languages, the most important of which is Persian, much corrupted by the introduction of Arabic and Turkish words.

(6) II.—The European branch is divided into seven main groups: Armenian, Hellenic, Italic, Celtic, Germanic, Letto-Slavonic, and Albanian. The first and last have but recently come within the range of Indo-European comparison, and hold only a very subordinate position therein. The second and third require special consideration.

(7) 1. At first sight the **Hellenic** group seems to include only one language, Greek, represented in the most ancient times by the Homeric poems, of which certain parts at least go back to the ninth century B.C.; in the period which precedes and follows the age of Pericles by the brilliant Ionic, Attic, and Alexandrian literatures; in the Middle Ages by the Byzantine writers; at the present day by modern Greek. But it would be a great mistake to suppose that all these records belong to a single language, or that they each reflect faithfully the current speech of the time and country to which they belong. The language of the Homeric poems is a purely artificial mixture of Æolic and Ionic forms; that of the tragedians certainly differs greatly from that spoken by the Athenian spectators; the Byzantines wrote in Greek in the same way that the Schoolmen wrote in Latin; and at the present time Greek newspapers are written in a language which would be more easily understood by Pericles himself than by a contemporary who is at all illiterate.

The real form assumed by the language at a particular period and in a particular part of Greece has fortunately been revealed to us by infallible witnesses, namely, inscriptions, which, apart from the necessarily limited number of mistakes on the part of the writers, give us absolutely accurate information; from them a rich harvest has already been gathered. By the light of these sources of information, supplemented by the hints of the ancient grammarians, it has become possible to distinguish at the outset in the Hellenic unity two groups, which may be distinguished by this fundamental difference, that one, the Non-Ionic group, always keeps primitive *α*, whereas the Ionic group changes it to *ε*. Thus, Indo-European **sistāmi* (I place,

cf. Lat. *stāre*) is represented in Doric by *ιστᾶμι*, in the Ionic-Attic group by *ιστημι*.¹

I will mention briefly the dialects which belong to these two groups, and their chief surviving monuments.

(8) A.—The Non-Ionic group comprises :

(a) The Doric dialects, of which literature furnishes some specimens, necessarily more or less corrupt, in the *Odes* of Pindar, the fragments of Alcman (Laconian) and other lyric writers, the *Idylls* of Theocritus (Doric, of Sicily), and the choruses of Greek tragic and comic poets (very impure Doric). These dialects are: (α) Laconian—stela of Damonon, etc., various glosses in Hesychius; still surviving in the dialect called Tsaconian. (β) Doric of Magna Græcia—tables of Heraclea. (γ) Messenian—inscription of Andania. (δ) Argive. (ε) Corinthian. (ζ) Megarian. (η) Cretan, known mainly through the long and very important inscription recently discovered, called the Table of Gortyna. (θ) Doric of the islands (Rhodes, etc.). (ι) Achæan.

(b) The dialects of Northern Greece, Phocian, Locrian, Ætolian, Acarnanian, etc., which had no influence on the literary language of Greece.

(c) Thessalian: little known, some curious peculiarities.

(d) Elean: inscriptions of Olympia.

(e) Arcadian-Cyprian, which a considerable amount of epigraphical evidence (inscription of Tegea, Table of Idalium) justifies us in regarding as a single dialect, in spite of the distance and geographical obstacles separating its two varieties.

(f) Pamphylian (Asia Minor): very little known.

(g) Lesbian, the language of the oldest lyric poets, Alcæus and Sappho: numerous testimonies of ancient grammarians.²

(h) Bœotian, which seems to have some affinity to Lesbian.

¹ Hence we must not say that "Doric changes η to α," or, worse still, "to α." Doric changes nothing; corresponding to Attic *τιθημι*, where the ε is primitive, it has *τιθημι*. On the contrary, Doric keeps unchanged the vowel which ordinary Greek has corrupted.

² The grammarians invented a linguistic category called "the Æolic dialect," to which they referred everything that was not Ionic or Doric. If this name is to be retained, it must at any rate only be applied to Lesbian, Bœotian, and certain forms in the Homeric poems.

(9) **B.**—The **Ionic** group, which is by far the most important from a literary point of view, has only a few varieties.

(a) First comes the **Old Ionic** of Asia Minor (Smyrna, Chios, etc.), the oldest Greek known, which forms the basis of the language of the Homeric poems (at any rate of such as have come down to us), and of the epic poems of all his later imitators.

(b) The **New Ionic** of Asia Minor, as known to us from the writings of Herodotus and Hippocrates, seems to differ from the preceding dialect only in a few trifling points; but inscriptions prove the existence of more decided differences.

(c) The Ionic of the islands (Cyclades, Eubœa) seems to be the connecting link between the dialects of Asia and Europe.

(d) The Ionic of Athens, or **Attic**, differs from ordinary Ionic only in one essential point: it keeps or restores primitive *ā* after *ι* or *ρ*. *E.g.* Dor. *ἰσῑᾱμι*, Ion. and Att. *ἰστημι*; Dor. *κόμᾱ*, Ion.-Att. *κόμη*; but Dor. *σοφῑᾱ ἀμέρᾱ πρᾱσσω*, Ion. *σοφῑή ἡμέρη πρήσσω*, Att. *σοφῑᾱ ἡμέρᾱ πρᾱττω*. Pure Attic is naturally found only in inscriptions, of which a large number have been discovered; but the literary language which comes nearest to it is that of the comedies of Aristophanes and especially that of the dialogues of Plato.

(e) During the period of Athenian supremacy, the political influence of Athens caused the Attic dialect to spread throughout all Greece, and this expansion gave birth to an artificial language, the *κοινὴ διάλεκτος*, which served as a common bond between all parts of the Hellenic world, and from the time of Alexander began to supersede the local dialects.¹ The *κοινή*, with the exception of a few sounds or forms exclusively confined to the language of Athens (*ττ* for *σσ*, etc.), is essentially identical with Attic. This is the language taught by our ordinary grammars. It is the language in general use by prose writers subsequent to the age of Pericles, so far, that is, as they do not, like Lucian, affect to imitate Attic; it was con-

¹ In the same way, from the time that France became united under one monarchy, the language of the centre (Ile-de-France, Orléanais, and Touraine) having become the only literary and official language, gradually superseded Picardian, Norman, Burgundian, Provençal, and other provincial dialects.

tinued in Byzantine and still survives in contemporary Greek. But the dialects long maintained themselves by its side or beneath its surface, and during this long period they no doubt introduced into it a certain number of forms which helped to modify it. At least one of these dialects, the Laconian, has survived up to our own day, being continued in the mountain dialect called Tsaconian.

(10) 2. The chief representative of the **Italic** group is **Latin**, of which the earliest known record¹ (the extremely obscure Duenos inscription,² recently discovered) goes back to the fourth century B.C. Owing to the conquests of Rome, Latin, which was originally the dialect of a small town in Latium, spread over Europe and Africa, and under the form of Portuguese, Spanish, Provençal, French, Rhætian, and Italian, is still spoken throughout all Western Europe, while in the valley of the Lower Danube it is represented by Roumanian.

At first sight the unity of the Italic group seems greater than that of the Hellenic; but this is a mere illusion, arising from the fact that only one of the Italic dialects, so far as we know, attained the rank of a literary language, the others being known only to the student of inscriptions. As a matter of fact, several languages were spoken in Italy, namely, going from north to south :

A.—Cisalpine Gallic, of the same family as Transalpine Gallic, belongs to the Celtic groups.

B.—Etruscan, the language of a brilliant civilization which Roman barbarism destroyed, survives in numerous inscriptions, of which at present only the spelling can be deciphered, the meaning remaining unknown. It is however becoming more

¹ The *Song of the Arval Brothers* is generally given as such. This song is certainly very old; but the text in our possession was only written in A.D. 218, by some one who did not understand it in the least. The epitaphs of the Scipios are more than a century later than the Duenos inscription, and accordingly are more intelligible. The *Senatus consultum de Bacchanalibus*, a long and interesting document, is still later.

² [For an account of this inscription see a paper by the translator in the *Transactions of the Oxford Philological Society* for 1888-9 (Clarendon Press, 1889), where allusion is also made to a Praenestine inscription since discovered, and thought by Bücheler to be still older. Cf. *Journal of Philology*, xvi. 196.]

and more probable that Etruscan, so far from belonging to the Italic group, is not even an Indo-European language at all.

C.—**Umbrian**, an Italic dialect spoken in the plateau of the Apennines, is known chiefly from the Eugubine Tables, the mutilated remains of a great liturgical code, which have for the most part been translated.

D.—The dialects of Central Italy, occupying an intermediate place between Umbrian and Latin (Picenian, Sabine, Pelignian, Marsian, Volscian, Æquian, Faliscan, etc.), are still almost unknown. The essential characteristic of all these dialects, which is observable also to a less extent in popular Latin, is the weakening and loss of final syllables, which were preserved in classical Latin; e.g. Umb. *pīhaz* = *piātus* or *katel* = *catulus* already has quite the appearance of a word belonging to one of the Romance languages.

E.—**Latin** is revealed to us in its minutest details by an abundant literature, extending over eight or nine centuries, by a large number of inscriptions from all parts of the Roman world, and by the numerous testimonies of grammarians. The Romance languages and the excavations at Pompeii enable us even to penetrate the secrets of spoken or popular Latin.

F.—**Oscan**, or the Osco-Samnite group (Southern Italy), is only represented by about 200 inscriptions, of which two only, the Cippus of Abella and the Table of Bantia, are of any length.

It was formerly supposed that there was a closer connexion between the Hellenic and Italic groups than between these and the other groups, and hence it was assumed that within the main Indo-European unity there was a secondary Græco-Latin unity. This view is now generally abandoned; possibly it may be revived some day. However this may be, that which cannot be asserted of Greek and Latin is certainly true of Latin and Celtic, and very probably of German and Slavonic also.

(11) 3. The **Celtic** group comprises (α) In antiquity, Gallic, the language of the ancient inhabitants of France, which, after Cæsar's conquests, fell into disuse, and became so completely forgotten that, with the exception of a few words borrowed by Latin, it has left no trace of its existence save about thirty mutilated inscriptions, which can only be imper-

fectly translated. (β) In the Middle Ages (from the eighth century), Old Irish and Cymric, which possessed a literature, still partially preserved. (γ) At the present time several dialects, such as Gaelic (Scotland), Erse (Ireland), Cymric (Wales), and Breton (extreme west of Brittany).

(12) 4. The Germanic group is divided into four secondary groups: (α) Gothic, which has long been a dead language, but is known to us by a translation of the Bible, made by Bishop Ulfilas in the fourth century. (β) Norse, which still extends over all the extreme north of Europe (Icelandic, Norwegian, Swedish, Danish). (γ) Low German, represented at the present time by Flemish, Dutch, Low German (dialects of northern Germany), and English (called Anglo-Saxon up to the twelfth century); the vocabulary of English however has been much altered by the introduction of French words, imported by the Norman conquerors. (δ) High German, the language of Central Europe (Germany, nearly the whole of Switzerland, and the German districts of Austria), is distinguished, according to its age, as Old High German (eighth century), Middle High German (twelfth century), and Modern High German (sixteenth century). Its oldest document, the Nibelungen-lied, belongs, in its present form, to the twelfth century.

(13) The Letto-Slavonic group is divided in the first place into Lettic and Slavonic. The Lettic or Baltic division consists of three languages (Lithuanian, Lettish, and Old Prussian); of these the last is extinct, and the two others, having no distinct nationality to support them, are already on the road to extinction. In spite of this however, and of the fact that Lettic is only known to us in its modern form, it is a most valuable aid to the study of Indo-European philology. The Slavonic branch is represented in the Middle Ages by Old Slavonic or Old Bulgarian, an ecclesiastical language, of which one of the oldest records is the celebrated Gospel of Ostromir (ninth century).¹ At the present time it is represented through-

¹ This is the date of the translation into Old Slavonic, but the manuscript itself only belongs to the eleventh century. Other documents, including the gospel known as Codex Zographensis, now hold a higher place in the estimation of students of Slavonic.

out the whole eastern half of Europe by Russian and Polish, in part of the south-east by the languages of the South Slavonic countries bordering on Turkey or forming part of the Austrian empire (Bulgarian, Servian, Croatian, Slovenian, Bosnian, Dalmatian, etc.), and it even penetrates to Bohemia, right in the centre of Europe (Czech and Moravian). All the Slavonic dialects have striking points of resemblance to one another, which greatly facilitate their study.

(14) Before approaching the comparative study of Greek and Latin, it seemed advisable to assign them their proper place in the family of languages to which they belong. But the consideration of the various European and Asiatic languages mentioned above does not fall within the narrow range of the present work; at the most, they can only be occasionally referred to for the sake of some simple and striking illustration. Even the Hellenic and Italic dialects can only occupy a very subordinate position in this grammar, which is concerned primarily with the Greek *κοινή* and with classical Latin.

(15) The grammar of any single language, viewed by itself, includes four divisions: **Phonology**, or the study of sounds; **Etymology**, or the study of the formation of words; **Morphology**, or the study of grammatical forms (declension and conjugation); and lastly **Syntax**, or the study of the way in which these forms are employed and grouped together in sentences. Such also are the objects of comparative grammar, and such ought to be the plan of this book. But comparative syntax cannot yet be regarded as a science; and, moreover, a complete treatment of it would require a volume as bulky as the other three parts put together; hence it must be laid aside for the present. Moreover phonology, etymology, and morphology form a homogeneous whole, which can be treated quite satisfactorily by itself.

FIRST PART.

PHONOLOGY.

(16) By Græco-Latin phonology is meant the study of the Greek and Latin sounds,¹ and of their regular relations to one another.

The first thing necessary, in order to obtain an accurate view of the sounds of a language, is to think of them as they are or were actually pronounced, and not merely as they appear when viewed through the distorting medium of writing. Writing, even supposing it were strictly phonetic, must always be a somewhat clumsy representation of the extremely delicate and varied mechanism of human speech. But, as a matter of fact, writing never is phonetic; for, being fixed at a time when a certain pronunciation was current, the spelling remains unchanged long after the pronunciation has been altered.² For example, the French word *loi* seems to contain a diphthong; and it does, but not the one indicated by the spelling, for the word is not pronounced *loy*, but *lwa*.³ In other words, the semivowel, which is really not *ɪ* but *ʊ*,⁴ precedes, instead of following, the principal vowel, which is really not *o* but *a*. No representation could be more inexact. In the word *autre* there is no diphthong at all (the word having long ceased to be pronounced *awtre*),

¹ [Here and in similar cases the author uses the word *phonème*, which he prefers as being more definite than "sound," the word generally adopted by English writers.]

² Thus English was formerly pronounced as it was written; but, while many changes have been made in its pronunciation, its spelling has remained almost the same. Hence the result which is so confusing to the beginner.

³ *y* = German *j* [or English *y* in *yonder*]; *w* = English *w* [in *wake*] or French *ou* in *oui*. These sounds are not vowels, but consonants.

⁴ The sign *u* always represents English *oo* = French *ou* and German *u*.

but a simple vowel σ , wrongly represented by the combination *au*. Similar anomalies occur in the French combinations *ou*, *eu*, *an* (nasal vowel), and indeed very frequently in all languages.

Phonetics, thus understood, must evidently form the foundation of all comparative grammar. For what right should we have to identify any two forms whatsoever, even forms approaching so closely to one another as $\phi\acute{\epsilon}\rho\omega$ and *ferō*, except on the ground of having proved by a sufficient number of probable instances, that they correspond, sound for sound, to one another; in other words, that the Greek ϕ , ϵ , ρ , and ω , and the Latin *f*, *ē*, *r*, and *ō*, are respectively the representatives and actual successors of the *bh*, *ē*, *r*, and *ō* of the Indo-European word **bhērō*, which has been restored in accordance with the converging testimony of the different languages of the family? In this respect a scientific system of phonetics will arrive at conclusions that must seem startling to the uninitiated. In etymology, it will separate two words apparently identical; e.g. German *feuer* and French *feu*, of which the first corresponds to Greek $\pi\acute{\upsilon}\rho$, and the second to Latin *fōcum*:¹ while, on the other hand, it will identify two words which otherwise no one would ever dreaming of connecting; e.g. French *larme* and English *tear*, which only differ in respect of an additional suffix in French.² The same is the case in morphology. What forms could be more alike than $\pi\alpha\tau\rho\acute{\iota}$ and *patrī*? And yet these two forms are quite distinct, as is sufficiently proved in the eyes of the phonetician by the difference of quantity in the *i*, which in Greek is short and in Latin long. On the other hand, *νύκτα* and *noctem* are one and the same word, for in the Greek *a* there is latent the same nasal which is pronounced in Latin. In this more than in any other branch of knowledge we must be distrustful of appearances.

(17) There is still however a further requisite. An indefinite series of parallel instances would not justify us in asserting the equivalence of two sounds, except on one funda-

¹ In the same way the Latin word corresponding to German *haben* [Eng. *have*] is rather *capiō* than *habēō*.

² From Indo-European **dakru* arose, on the one hand, Latin *lacru(-ma)*, on the other, Gothic *tagr* and Anglo-Saxon *tær*, *teār*.

mental condition, the **physiological possibility** of the changes which have produced them. Every phonetic change, in fact, such as that which has transformed Latin *k* to *š*¹ in French *cheval* = *cabdllum*, presupposes a series of innumerable unconscious changes, which are so imperceptible that neither speaker nor hearer has any suspicion of them at the moment when they take place. For example, Picardian, which is less corrupted than French, has not gone beyond the stage of *k* in *kevd* = *cheval*. The origin of the latter form is probably as follows: the tongue was slightly shifted, and came in contact with a part of the palate not so far back as the place affected by the pronunciation of simple *k*, and so there arose between the consonant and the vowel a hardly perceptible palatal sound, which may be approximately represented by *y*, *kyě*. This sound in its turn reacted upon the consonant; and so the group became approximately *tyě*, from which it is but a very short step to *tšě*, as may be seen by experiment. It is thus, for example, that Swedish pronounces the syllable which it still spells *kjv*; and this is the stage which has been reached by a northern variety of Picardian, the dialect of Tourcoing. If now the initial *t* becomes merged and lost in the hissing sound of the following consonant, we arrive at the present French form *ševdl*. Of course the stages indicated above are only halting-places, as it were; between each of them it would be easy to distinguish further intermediate stages, which might be represented by the symbols $k_1, k_2, k_3, \dots, k_{n+1}, ky_1, ky_2, \dots, ky_{n+1}$, and so on.

Unless we were able to restore some such series in thought, it would be quite impossible to conceive and consequently to admit scientifically most phonetic phenomena; it is only on this condition that they admit of being reduced to laws, understanding by law the expression of the constant and invariable reproduction of a particular phonetic phenomenon during one of the stages in the development of a given language. **Phonetic laws**, resting thus on the double basis of the history of language and physiology, may be truly said, at any rate from the standpoint of the method of comparative philology, to have

¹ This symbol represents English *sh*, French *ch*, German *sch*.

no exceptions; for, when once a law has been discovered, to admit by the side of it or beneath it isolated facts supposed to have escaped its action would be to fall again, in spite of oneself, into the well-worn rut of arbitrary etymologies.¹

Since phonetic laws are primarily physiological, it is impossible to enter on even a cursory examination of them without some knowledge of the physiology of the vocal organs.

¹ Hence we must avoid such phrases as "In Latin *s* between two vowels *often* becomes *r*." A phonetic law either exists or does not exist; there is no other alternative. If Latin *s* between vowels becomes *r*, it does so *always*. If it sometimes *seems* to have remained unchanged, we must seek the reason of this apparent retention. This kind of investigation has already been carried very far, and we shall see many instances of it. [Cf. p. 76, note.]

CHAPTER I.

ELEMENTS OF PHYSIOLOGICAL PHONETICS.

SECTION I.

THE VOCAL APPARATUS AT REST.

(18) Like every wind-instrument, the vocal apparatus may be said to consist of a pair of **bellows**, emitting a current of air; a **sonorous tube**, into which the current of air, more or less impeded in its way, enters in vibrations; and of a **sounding-board**, by contact with which the volume of the sound is increased.

The bellows are the lungs. As they can only supply air during the process of expiration, the moments of inspiration are intervals of rest, such as are denoted by punctuation. There are not, at any rate in the languages with which we are concerned, any inspiratory sounds.

The air expired, escaping through the bronchi and the wind-pipe, reaches the larynx, which is at the upper end of the windpipe. The gristly protuberance of the larynx can be easily felt on the throat, and by watching its motion during the process of speaking a very rough idea may be formed of the mechanism of speech. The larynx in its turn opens into the pharynx by a round aperture called the glottis, the upper margins of which, called vocal chords, are hard and elastic, and, by contracting, are able to oppose an obstacle to the current of air, and to vibrate while it is passing through.

The sounding-board consists of the double cavity of the mouth and nostrils. The shape and size of this cavity may vary, in such a way as to modify the sound emitted through the glottis, under the influence of three chief factors:

1. The elasticity of the inner and outer walls of the mouth,

which can be made longer by being narrowed and shorter by being widened.

2. The action of the soft palate (*velum palati*). In front, that is, for two-thirds of their extent, the nose and mouth are completely isolated from one another by the bony arch of the palate; but from the pharynx to the nasal cavities there is a passage, which can however be closed by means of a fleshy and movable prolongation of the palate, called very appropriately the "veil of the palate." When, the mouth being at rest, the veil falls like a loose curtain, the two cavities are in free communication with one another; but when it rises and rests on the back part of the pharynx, it isolates the nasal cavities, and so renders the whole upper half of the sounding-board ineffective. The soft palate has a small continuation, of the shape of a grape, called the uvula, which has a share in the production of speech (*infra* 21).

3. The extreme mobility of the tongue, which by resting successively against the soft palate, the back, middle, or front part of the palatal arch, the gums, the teeth, etc., is capable of producing an infinite variety of modifications in the shape of the mouth and its mode of opening.

The sounding board reflects, increases, and varies the **musical sounds** emitted through the glottis; but, besides these, the movements of the tongue and lips produce **noises**, which may be either **momentary** and **explosive**, when the mouth opens or shuts suddenly, or **continuous** and **fricative**, when the mouth being almost closed only allows the air to escape at any point through a very narrow passage. The musical sounds are the **vowels**. The noises, whether accompanied or not by voice produced in the glottis, are the **consonants**.

SECTION II.

THE VOCAL APPARATUS IN ACTION.

(19) 1. Before coming into action, the vocal apparatus is in the position assumed during deep thought or tranquil sleep; the mouth being very slightly open, the soft palate lowered, the

tongue resting flat on the bottom of the mouth, and the glottis permitting the air to pass through it without any obstacle. Neither sound nor noise can then be produced, except that during the moments of expiration, a gentle current of air passes through, which contains in itself the potential utterance of a vowel.¹ This is the **inaudible sound** which in certain modes of writing is represented by a particular symbol, the Greek soft breathing, the French and Spanish *h*. If the air is expired with more energy and a certain amount of effort, we have the German or English *h*, very improperly called aspirated.

2. The organs being in the first position, the soft palate is raised and cuts off all communication with the nasal cavities; at the same time the vocal chords contract and vibrate. In this way a pure or oral **vowel** is produced, *a, i, u*, etc.

3. If the vibration takes place without the soft palate being raised, the vowel is sounded in both cavities at the same time,² and so we obtain a **nasalized vowel**, written in French *an*, *in*, *un*, etc.

4. If the mouth, when in the third position, is closed by means of the lips or the tongue at any point, then the air expired being only able to escape by the nostrils, no oral vowel can be produced. The result is a **nasal sound**, *m, n*, etc.

5.³ The open mouth lets the current of air pass through; but its passage is impeded by an elastic obstacle, which it displaces, and which returns to its original position with a rapid alternate quivering or trilling sound. This sound is a **trilled r**, of which there are several varieties, distinguished according to the different organs employed in producing them.

6. The mouth is open, but the tongue completely obstructs

¹ That is, supposing the position to remain unchanged, then, as soon as the vocal chords vibrate, a vowel will be heard.

² This can easily be proved by experiment. A looking-glass placed in front of the mouth and nostrils and protected by a screen against the breath of the mouth, remains clear after the pronunciation of *o*, but not after the pronunciation of the nasalized vowel *on*.

³ In this and all the following positions, the soft palate is raised, and consequently the nasal cavity plays no part in the production of sound, except in the case of persons who speak through the nose.

the middle part of it, leaving only the two sides free; the current of air, being thus impeded, is obliged to split itself up into two portions in order to find an outlet, and vibrates while forcing a passage for itself in the narrow space between the cheeks and teeth. This is the lateral trill *l*.

These two trills, or liquids, may be either accompanied or not by a very slight vibration of the vocal chords. In the first case, which is far the commonest, they are called voiced or sonorous; the second case, that of surd or voiceless liquids, is illustrated by Greek initial *ρ*, and by an *l* occurring in the Slavonic languages.

It is now time to ask whether the different sounds corresponding to positions 4, 5, and 6 are consonants or vowels. We know they are usually called consonants, and they really appear to be so in combinations like *admit*, *nostril*, *outlet*, where they have a vowel to support them. But let us compare, for example, the word *outlet* with *kettle*; both are evidently dissyllables, and are felt by the speaker to be so. In the former word the vowel of the second syllable is a short *e*; what is it in the latter? It is not a short *e*, for nobody pronounces the word as *kettēl*; the *l* is rather pronounced with a short and trilling lateral sound, which by itself fills the whole syllable, viz. *ketl̥*. In other words, in English *kettle*, German *mittel*, etc., the *l* acts the part of a vowel. The same is the case with *r*; an exactly corresponding trilling sound occurs, for example, in German *schwester* and French *arbre*, which, though evidently a dissyllable, is not pronounced *arbrē* or *arbēr*, but rather *arbr̥*; that is, the *r* here becomes a vowel. This *l̥* and *r̥* are called **sonant liquids**, and are both very common in German final syllables. German and English also supply many examples of vocalic or **sonant nasals**; thus a sonant *ŋ* occurs in English *haven*, German *hafen*, pronounced respectively, *hāvŋ*, *hāfŋ*; a sonant *m̥* in English *fathom*, *seldom*, pronounced *fathm̥*, *seldm̥*, etc. To sum up, the **nasals and liquids are both consonants and vowels**: consonants when they are supported by a vowel; vowels generally whenever they support another consonant, and particularly when they occur between two consonants.

7. If the mouth, when closed at any point, is opened suddenly in order to let the current of air escape, or if, on the other hand, being already opened in order to pronounce a vowel, it then, by being closed completely at any point, suddenly arrests the current of air, the result is a pure noise, which forms what is called an **explosive or implosive momentary consonant**.¹ If this noise is not accompanied by voice in the glottis, the consonant is called **surd [or voiceless]**, *k, t, p*; if however, while the current of air is passing through, there is a slight contraction of the glottis, together with a vibration of the vocal chords, the consonant becomes **sonorous**² [or **voiced**], *g, d, b*.

8. Lastly, if the mouth, instead of being completely closed and then opened wide, is obstructed at any point, in such a way as to allow the expiratory current to escape only through a narrow opening in the centre, the air passes between the edges of this opening with a noise of friction which constitutes a **continuant, spirant, or fricative consonant**. According as it is or is not accompanied by glottal vibration, this consonant likewise is called **voiceless**, *s, f*; or **voiced**, *z, v*.

To sum up then, leaving out of consideration the simple act of expiration (1), all the expiratory sounds may be divided into three groups: **vowels** (2 and 3), **consonant-vowels** (4, 5, and 6), and **simple consonants** (7 and 8). These must now be examined in more detail.

¹ Thus, in a group like *appa*, the two *p*'s being pronounced, the first is closed or implosive, the second explosive. In the corresponding group *abba*, the closing and explosion are slighter, but equally perceptible.

² The reader may prove by experiment the existence of this unconscious vibration of the glottis which accompanies the articulation of the consonants wrongly called "soft." First practise the pronunciation of *p* or *b* by mere explosion, without letting any vowel follow them. This result attained, if you pronounce *p*, at the same time closing the ears tight, no sound will be heard; whereas, if you go on to pronounce *b*, you will be conscious of an intense rumbling sound. This is the vibration of the vocal chords, which penetrates into the ear through the internal auditory meatus. Certain ethnic groups however pronounce the voiced consonants almost without voice; this is the case with South German and Alsatian *d* and *b*, which to a French ear sound like *t* and *p*.

SECTION III.

CLASSIFICATION OF SOUNDS.

§ 1. *Vowels.*

(20) 1. **Oral Vowels.** The two opposite poles of vocalism are *i* [Eng. *ee* in *feet*], which is essentially the high-toned vowel, and *u* [Eng. *oo*], which is essentially the low-toned vowel. In pronouncing *i*, the larynx rises and the corners of the mouth are widened in such a way as to give to the sonorous tube the least length possible; whereas, in pronouncing *u*, the larynx is lowered,¹ and the lips are thrust forward, so that the length becomes as great as possible. Between these two lies the vowel of equilibrium, *a* [Eng. *a* in *father*], the sound which is produced when, the organs being in a position of rest,² the soft palate is raised and the glottis begins to vibrate.

Between these three chief notes of the vocalic scale there is naturally room for a large number of intermediate sounds; thus we ascend from *a* to *i* through open *e* (French *è* [approximately English *ai* in *air*]) and close *e* (French *é*); and again we descend from *a* to *u* through open *o* (Fr. *homme* [approximately Eng. *o* in *hot*]) and close *o* (Fr. *eau*). The *o* sounds and the *e* sounds in their turn have, as intermediate sounds, respectively the German *ö* (Fr. *eu*) and the French *e* mute. Lastly, if the larynx takes the position required for *i*, while the lips are placed in the position required for *u*, we shall hear the mixed sound represented by German *ü* or French *u*.

2. **Nasalized Vowels.** To each oral vowel there necessarily corresponds a nasalized vowel. Thus, if we pronounce *a* without raising the soft palate, the result is the two nasals in the French word *enfant*. The most common instances besides this are *en* (of *païen*, often written *in* in French), *on*, and *un* (French), corresponding respectively to *è*, *ó*, and *ö*. But languages rich in nasals, Portuguese for example, possess many others.

¹ These movements may be verified by placing the finger on the protuberance of the larynx whilst uttering these two sounds alternately with some energy.

² *Supra* 19, 1.

3. Diphthongs. Diphthongs are often defined as the meeting of two vowels in one syllable; but this definition is faulty, for two real vowels must necessarily form two syllables, separated from one another by the smooth breathing, which, as we have seen, precedes the utterance of every vowel. This is the case with the two vowels of the English word *poet*. If the soft breathing is absent, as in the English interjection *aye*, the second sound is not and cannot be a vowel; it is only a consonant of a particular kind, which rests upon the preceding vowel, and, in order to recall its vocalic origin, is often called a **semi-vowel**.

Every vowel may become a semivowel, with the single exception of *a*, the utterance of which is inseparable from the smooth breathing. But it is especially the two extremes of the vocalic scale, *i* and *u*, which are liable to this change; their semi-vowels will be represented by *y* and *w*. The semi-vowel of *u* can easily be perceived in the French words *lui*, *pluie*. The semi-vowels of *e* and *o* approximate respectively to those of *i* and *u*.¹

It will be seen then that we must carefully distinguish real diphthongs, which are composed of a vowel and a semi-vowel, *ay*, or of a semi-vowel and a vowel, *ya*, joined together in one syllable, and false diphthongs, which only appear such in consequence of the way in which they are written, and which in reality are simple vowels. In French the groups *au* and *ou* are diphthongs only to the eye; they represent the vowels *ó* (close) and *u*. So also in Greek we shall see that *av* was a diphthong, but *ov* a vowel.

4. Long and Short Vowels. Every vowel, whether oral, nasalized, or in a diphthong, may either be uttered very quickly or prolonged during the whole of a single expiration; hence an indefinite number of degrees of quantity, which may easily be observed in language, whether spoken or sung. For the sake of simplicity, grammarians have reduced these varieties to two, long and short, *ā*, *ǣ*, and have also agreed to regard the duration of a long vowel as about twice that of a short one.

¹ Thus the word *seau* [bucket] (a dissyllable with close *e*), which has become in French the monosyllable *sé* (close *o*), is pronounced *syó* in certain dialects.

§ 2. *Consonant-Vowels.*

(21) 1. **Liquids.**¹ We may distinguish essentially three kinds of *r*, according as the quivering obstacle which produces it consists of the upper margin of the glottis, the uvula, or the tip of the tongue. **Glottal *r***, unknown to the cultivated languages of Europe, is very common in Arabic, and is heard also, though in a very impure form, in the pronunciation of those persons who have a tendency to "burring." The second, **uvular *r***, is that of northern French; in southern French it is replaced by **lingual *r***, which is also the only kind known in Italian and Spanish.

There are also several kinds of *l*; but this distinction is much less important.

2. **Nasals.** We have seen that the nasals are pronounced with the mouth closed. Now the place of closure may be situated at any point whatever in the cavity of the mouth, from the soft palate to the lips. If the tongue rests against the soft palate (*velum palati*) or the palatal arch, the sound is called **velar** or **palatal *n***; this is the *ng* of English and German final syllables, often called also **guttural *n***. If the tongue closes the mouth at the level of the sockets (*alveoli*) of the upper teeth, we hear the ordinary or **alveolar *n***. If the closure takes place in front by means of the joined lips, we have the **labial *m***.

When used as vowels, the liquids and nasals may be long or short, just like the ordinary vowels.

§ 3. *Consonants.*

(22) 1. **Explosives.**² The closure of the mouth which is necessary for the production of a voiced or voiceless explosive may likewise be **velar**, **palatal**, **dental**, or **labial**. Hence four groups of consonants, which include also several subordinate groups.³ The first two groups are often united

¹ [Fr. *vibrantes* (trills); *l* and *r* are usually classed as liquids by English writers.]

² [Fr. *momentanées* (momentary); called "explosives" by many English and German writers, "stops," "mutes" or "cheeks" by others.]

³ **Cacuminals** (the tongue turned up against the top of the palate), **dorsals** (the back of the tongue resting against the front part of the palate), **alveolars**, **interdentals**, etc. [English *t* is rather cacuminal, French *t* alveolar.]

under the less precise appellation of **gutturals**: the velar gutturals, *q*, *g*, are those heard in the English words *cool*, *good*, and especially in the German *kuh* (cow); the palatals, *k*, *g*, are those heard in the English *key*, *gift*. The dentals, *t*, *d*, and the labials, *p*, *b*, require no explanation.

2. **Spirants**.¹ The following are the most common spirants (taking them in order according to the position of the half-opened aperture through which the air passes): (a) the voiceless velar, German *ch* in *dach*, *noch*; (b) the voiceless palatal, German *ch* in *ich*, *blech*; (c) the voiceless and voiced cacuminals (French *ch* and *j* [approximately English *sh* and *s* in *pleasure*]), denoted respectively by *š* and *ž*; (d) the voiceless and voiced dentals, or rather alveolars, *s* and *z*; (e) the voiceless and voiced interdental, English *th* hard and soft; (f) the two labials, *f* and *v*.

3. **Modifications of the Consonants**. The two chief possible modifications of the consonants are **aspiration** and **mouillement** [or palatalization.]

A.—**Aspiration** affects scarcely any but the momentary consonants. It consists in the explosion being more energetic, and accompanied by the forcible expiration² which we have designated by *h*; hence the consonants of this class are denoted by *qh*, *kh*, *th*, *ph* (voiceless), *gh*, *gh*, *dh*, *bh* (voiced). German initial *k* is the best example that can be given of an aspirated explosive; a *qh* is heard in *kuh*, a *kh* in *kind* (child).

When the explosion of the explosive melts gradually into the expiratory breath which follows it, the two sounds end by coalescing into one, that is to say, into the corresponding continuant or spirant. Thus the transition is easy from *ph* to *f*, from *th* to the alveolar or interdental sibilant; and the German *qh* in *kuh* has become a velar spirant in the Swiss dialects.

B.—**Mouillement**, a phenomenon easier to reproduce than to define, may modify not only all the momentary and continuant

¹ [Fr. *continues* (continuous); usually called "spirants" or "fricatives" by English philologists.]

² Thus for these consonants also the term "aspirate" is very inappropriate (see above, 19, 1); but this terminology being consecrated by usage will be retained.

consonants, but also the nasals and liquids. The French *l* mouillé in the word *file* is well known; *n* mouillé occurs in the word *digne*. The other consonants showing mouillement are most frequently met with in Hungarian and the languages allied to it, but may also be found elsewhere; it was, as we have seen above (17), a *k* mouillé, written *ky*, which served as an intermediate stage between *cabdllum* and *cheval*. As a general rule the mouillé sound is accompanied by a slight dorsal articulation.¹

Having settled these preliminaries, we are now in a position to begin an historical study of Greek and Latin sounds; we shall examine in succession the vowels, semi-vowels, and diphthongs, the consonant-vowels, the consonants, the effects of combinations of vowels and consonants, and lastly the tonic accent.

¹ A very minute study of this phenomenon has very recently appeared in Kuhn's *Zeitschrift* (xxix. 1).

CHAPTER II.

GRÆCO-LATIN VOCALISM.

SECTION I.

VOWELS AND DIPHTHONGS VIEWED SEPARATELY IN EACH LANGUAGE.

§ 1. *Greek.*

(23) 1. *Vowels.*—Greek possesses five short vowels, α , ϵ , ι , \omicron , υ , and a corresponding number of long vowels, $\bar{\alpha}$, η , $\bar{\iota}$, ω , $\bar{\upsilon}$. To these must be added, as will be seen later on, the two false diphthongs $\epsilon\iota$ and $\omicron\upsilon$.

The pronunciation of α and ι , long or short, presents no difficulty; ϵ and \omicron were close ϵ and δ ; ω probably a very open δ . There is no controversy except as to η and υ .

The η of modern Greek is an i ; but there is no doubt that this pronunciation does not represent that of the ancients. The fact that η was always regarded as the long vowel corresponding to ϵ , the Latin transliteration of η by $\bar{\epsilon}$,¹ the syllable $\beta\eta$, which in a verse of the comedian Cratinus represents the bleating of sheep, and other arguments besides, justify us in asserting that, at any rate up to the classical period, η was equivalent to a more or less open ϵ . It is possible however that in popular pronunciation itacism crept in pretty early; but it does not appear to have finally prevailed until the beginning of the Byzantine period.

The same is the case with υ , which is likewise an i in modern Greek. We shall see that υ is the regular representative of Indo-European u ; this is a presumption in favour

¹ The transliteration by i belongs to the period of the spread of Christianity, of which popular Greek was essentially the medium.

of a very old pronunciation *u*, which was perhaps that of the Homeric age, and certainly that of several dialects, as is proved by the dialectical representation of this vowel by *ov*: e.g. Boeotian οὐμές (you) = ὕμεῖς, Laconian μουνίδδει¹ (he speaks) = *μῦθίζει. It is by *u* also that Latin represents the *υ* of its oldest Greek loan-words, which were borrowed from the Doric dialects of Magna Græcia; e.g. *fūcus* = φῦκος, *purpūra* = πορφύρα. But later, in the Augustan age, when it borrowed words from the κοινή, it also introduced into its alphabet a new symbol, *y*, meant to represent *υ*, which shows that the Latin alphabet possessed no letter that could serve to represent exactly the Greek vowel as pronounced at that period. Now the sound which was then non-existent in Latin was *ū*. Hence we must infer that the old *u* had in the classical period become *ū*, and so the correct pronunciation of *υ* is that of French *u*. From this intermediate stage it passed to its present pronunciation of *i*.

It is possible that Greek had some nasalized vowels, and some dialects certainly possessed them; but as they are not distinguished in writing, it is impossible to determine precisely their pronunciation.

(24) 2. *Diphthongs*.—Greek writing represents a very large number of real or apparent diphthongs. By far the most important are those in which the vowel comes first,² among which we may distinguish the series with the semi-vowel *ι* and that with the semi-vowel *υ*.

A.—*Series αι, ει, οι—ᾱι, ηι, ωι*.

αι and *οι* are in modern Greek simple vowels, *e* and *i*; but this pronunciation is late, as is shown by the mere fact of their transliteration in Latin by *ae* and *oe*, which in the Augustan age still represented real diphthongs, e.g. in the borrowed words *aether* and *poena*. We shall not be far wrong then in pronouncing distinctly *ay* and *oy*.

ει in modern Greek is also an *i*; but beneath this uniformity of spelling and pronunciation are concealed two quite distinct sounds: (1) a diphthong *ει*, which came from Indo-European *ey* (λείπω = *λέγqō) or from the Hellenic contraction of *ε + ι*

¹ This pronunciation still remains in Tsaconian.

² Cf. *supra* 20, 3.

(πόλαι=πόλῃ), and must, at any rate originally, have been pronounced *ey*; and (2) a simple close *ē*, produced by the contraction of two *ē*'s (φίλαι=φίλλε, imperative) or by "compensatory lengthening" (τίθεις=*τιθέντις, *infra* 47 C.). The first *ε* however also became a vowel at an early period, and its transliteration in Latin, which varies between *ē* and *ī*, *Ænēas*, *Tīresias*, shows the undecided character of the pronunciation of this false diphthong.

The diphthongs with a long vowel, *āi*, *ηι*, *ωι*, underwent a peculiar treatment. The *y* was probably still pronounced in the time of Homer, and even later; for the Greek τραγῳδός, borrowed at an early date by the Latins, was spelt by them *tragoedus*, whereas μελωδιᾶ, borrowed later, was transcribed *melōdia*. However this may be, in the classical period the semi-vowel was no longer pronounced, or scarcely so; whence the custom of representing it in inscriptions only by a small symbol written close to the long vowel (ι adscript, *e.g.* Ηι). Our typography has replaced it by the ι subscript, *α, η, ω*, a mode of writing borrowed from the Greek manuscripts of the Middle Ages.

B.—Series *av*, *ev*, *ov*—*āv*, *ηv*, *ωv*.

Each of these groups must be pronounced as if it consisted of a vowel + *w*, almost like the German *au* [English *ow*]. Their transliteration in Latin and elsewhere (ἀορόν for αἰρόν and φεύγειν for φεύγειν in various inscriptions) puts this point beyond doubt in the case of *av*, *ev*, and the corresponding long diphthongs,¹ probably also in the case of *ov*, which however is very rare. *ov* is the only exception; in modern Greek it is a simple vowel *u*, and it must have been already reduced to this in antiquity.

ov, like *ei*, represents historically two distinct sounds: (1) an Indo-European *ow* (λούω=*λόωδ), a primitive diphthong, of which the two elements gradually coalesced in Greek; and (2) a long close *ō*, produced by the Attic contraction of two *o*'s (δηλοῦμεν=δηλόομεν), or by the compensatory lengthening

¹ Confirmed also by the present Greek pronunciation (*av*=*av*, *ev*=*ev*, *ηv*=*iv*), which would be inconceivable if *av* had ever been reduced to *ō* and *ev* to *ō*.

of an *o* (διδούς = *διδόντς). The close *ō* and the diphthong both imperceptibly became *ū* from classical times. In fact we know that in transliteration from one language to another, Latin *ū* and Greek *ou* are treated as exactly equivalent; e.g. Λούκιος, *Thūcydides*.

(25) Besides these diphthongs in which the vowel came first, there is no doubt that Greek possessed also numerous diphthongs, in which the semi-vowel came first (type *ya* and *wa*). This is especially shown by Greek prosody. Thus the Homeric scansion of χρύσειον or (Æolic) χρύσιον as a dissyllable, of Αἰγυπτίους as a trisyllable (e.g. Od. iv. 83), of Πηληιάδew (Ionic) with synizesis of δew, and the frequent scansion in the tragedians of θεων as a monosyllable, and ἀνθέων (Attic) as a dissyllable, point beyond doubt to a semi-vocalic pronunciation of *ε* or *ι*; so also the word *νίος*, which is always dissyllabic, must have begun with a sound very nearly akin to the English *wh*. But owing to the lack of precision in Greek writing, and the absence of other evidence, we are not able to arrive at anything beyond approximations on this point.

§ 2. *Latin.*

(26) 1. *Vowels.*—The Latin vowels are five in number, *a*, *e*, *i*, *o*, *u*,¹ and may be either short or long. The Latin alphabet has no special sign to denote a long vowel; sometimes in inscriptions the length is marked by doubling the vowel (MAARCO)² or in the case of *i* by lengthening the letter (MARID, ablative), or, lastly, by the use, very irregularly however, of the apex, a kind of acute accent placed over a vowel long by nature.

The pronunciation of the Latin vowels is much better known than that of the Greek; their equivalence in inscriptions, the

¹ *Y*, a borrowed symbol, as we have seen, ought never to appear except in Greek words which the Latins introduced into their own language; hence we shall write *pyramis*, *byssus*, *xystum*, but *silva*, *lacrima*, *inclutus* or *inclitus*.

² The quantity of the vowel must always be carefully distinguished from that of the syllable; thus the *e* of *vēctus* is reckoned as long because of its position, but it is really short; on the contrary, in *āgmen*, *lēctus*, *strūctus*, the vowel is long by nature, and quite independently of the group of consonants which follows it.

testimony of grammarians, and the evidence of the Romance languages, especially Italian, enable us to determine even the more delicate shades of distinction between them. *A*, long or short, was the ordinary *a* [of French, cf. *a* of *father*], which has been preserved very faithfully in Italian. The sound of *ē* was rather open than close, even in such words as *lēgō*, *gērō*; *ē*, on the other hand, was always close, even in final syllables, e.g. *omnēs*, and this view harmonizes with the evidence of the purely graphic variants *omnēs*, *omneis*, and *omnīs*. The sound of *ī* approached that of close *ē* (English *y* in *happy*), and the same may also be said of unaccented *ī*, often written *ei* in final syllables, *equeis*; but accented *ī* is a pure *ī*. *Ō* is an open *ō*; *ō* is a close *ō*, very near akin to *u*. *U*, which has not become *u* in any language except French, had exactly the sound of French *ou* [English *oo*] when long, but approached that of *ō* when short. *Y* represents an *u* or a mixture of *i* and *u*.

Classical Latin possessed none of the nasalized vowels which have since been developed in French and Portuguese. It is possible however that some such sounds existed in the popular language.

2. *Diphthongs*.—The true or false diphthongs in which the vowel comes first are six in number: *ai*, *ei*, *oi*—*au*, *eu*, *ou*. Some of these survived in classical Latin; all became more or less simple vowels in popular Latin.

The archaic spelling *ai* (*AIDILIS*, Ep. Scip.) and the classical spelling *ae* both represent a true diphthong which contained a semi-vowel formed by a mixture of *i* and *e*,¹ but was early reduced in the popular speech to a simple *e*. The same is the case with *oi*, classical *oe*, which however is hardly a Latin sound at all, except as a contraction of *o + e* in *coeptum*, etc.; for the archaic *oi* (*moicipiom*) regularly became either *ū* or *ī*, and survived only in a few archaisms like *moenia*, *foedus*. The later *oe* is a mere transcription of Greek *οι* in borrowed words, *poena* = *ποινή*. The Romance languages no longer make any distinction between Latin *e*, *ae*, *oe*. As to

¹ Cf. Quintilian, *Inst. Orat.* i. 7, 18.

the diphthong *oi*, it is reduced, as in Greek, to a simple *o*, *equo* = **equōi* = *īπω*.

(*Ei*) was perhaps already pronounced *ē*, even when still written *ei*: DIFIDENS = *diffidēns*. In the Augustan age the spelling was merely altered to agree with the pronunciation.

Au was a true diphthong, and has remained such in Provençal, Portuguese, and Roumanian; which proves that the very frequent interchange of *au* and *o*, revealed by inscriptions and manuscripts,¹ is to be regarded merely as a dialectical peculiarity.

The old *eu* became *ou*; hence there is no *eu* in Latin, except that which arises from the later contraction of *e + u*, and the mere fact of its having this origin is enough to show its pronunciation.

The old *ou*, whether primitive or derived from *eu*, was perhaps already pronounced *ū*, even when the spelling *ou* still survived (ABDOUCIT, Ep. Scip.). Later on it was superseded by the spelling *ū*.

The diphthongs in which the semi-vowel comes first² (*iam*, *uel*, etc.) present no difficulty. But it must be observed that there were many more of these in the popular speech than in the slow and studied pronunciation of classical Latin; for example, the classical Latin *pāriētē*, a tetrasyllable, was in popular Latin *pāriētē*, a tribrach, which, through the first syllable being long by position, became a dactyl, and the poets made use of this license to introduce words of this class into their verses. In the same way the popular words *battuere*, *trifolium*, are shown to be trisyllables (with accent on *bā*, *tri*) by the French *bâttre*, *trêfle*, which could not come from *battūere*, *trifólium*. The double scansion *tenuis* and *tēvis*, *genua* and *gēva*, are well known. Such a change is very natural. Similarly the French termination *-tion* is monosyllabic in current speech, but dissyllabic in poetry.³

¹ The Emperor Vespasian pronounced *plōstra* instead of *plaustra* (Suet. *Vespas.* 22), and scholars hesitate between the spellings *cauda* and *cōda*.

² Cf. above 20, 3.

³ [So also in Shakespeare the termination *-tion* is sometimes dissyllabic. e.g. Cor. i. 2. 15, "These three lead on this *preparation*"; sometimes monosyllabic, e.g. Ant. iii. 4. 26, "I'll raise the *preparation* of a war."]

SECTION II.

VOWELS AND DIPHTHONGS OF THE TWO LANGUAGES VIEWED IN
RELATION TO THEIR COMMON ORIGIN.

(27) The study of the diphthongs in which the vowel comes first cannot be separated from that of the vowel itself; on the other hand, the study of the diphthongs in which the semi-vowel comes first depends entirely on the development of the semi-vowel which they contain.

Hence this section will be divided under two heads: (1) vowels, (2) semi-vowels.

§ 1. *Vowels.*

(28) The vocalism which we have assigned to Greek and Latin is the same as the primitive Indo-European vocalism, which these languages reproduce, as a general rule, with remarkable fidelity. To simplify their study, it will be convenient to arrange the vowels in the following order: *i, ĭ, u, ū, e, ě, o, ō, a, a¹*

1. I.-E. *ĭ* = Gk. *ĩ* = Lat. *ĩ*: I.-E. **qi-s* (interrog.), Gk. *τίς*, Lat. *quis*; **trĩ-* (three), *τρι-σίς*, *tri-bus*; *-ĩ-*, formative suffix of substantives, **ow-i-s* (sheep), *οἷς* = **ōf-i-s*, *ov-i-s*; *-ĩ*, locative ending, Gk. *νυκτ-ĩ*, *παντ-ĩ*, Lat. *rūr-ě*, *noct-ě*, etc.

We see from the last examples that Lat. final *ĩ* becomes *ě*: *rūrě* = **rūrĩ*; so also the neuters *levě* = **levĩ* (cf. masc. *levis*) and *mare*, which correspond to the Greek types *ἰδρι* (neuter of adj. *ἰδρις*, "knowing"), *σίναμι*, etc., as is shown by the cases in which the *i* reappears, abl. sing. *levĩ*, nom. pl. *levia*. The same change of *ĩ* to *ě* takes place before *r*: Lat. *sero* (I sow) = **sĩ-sō*,² cf. Gk. *ἰσημι* = **sí-sq̃-mi*.

(29) 2. I.-E. *ĩ* = Gk. *ĩ* = Lat. *ĩ*: **wĩ-* (force), Gk. *ἰς* (force,

¹ Besides these ten vowels, comparative philology assigns to the primitive language an eleventh vowel of indeterminate pronunciation [ə], which in Greek and Latin however appears to be entirely confused with *ā*.

² Lat. *s* between two vowels always becomes *r*. Of course most of these examples presuppose an acquaintance with phonetic laws which will only be set forth later on. Phonology forms a system which must be grasped as a whole before each part of it can be understood. [Cf. *infra* 69, 1 and note.]

e.g. Π. xii. 320) = *fīs, instr. ἰ-φί = *fī-φί (by force), common in Homer, Lat. *vī-s*; Gk. *ψῖγος*, Lat. *frīgus*; -ī-, sign of the optative, I.-E. *s-ī-mēs (we may be), Gk. εἰμεν = *ēō-i-mēn, Lat. *s-ī-mus*, etc. Sometimes in Latin spelling this ī is confused with *ei*, e.g. *faxseis* = *faxīs*; but we know that the pronunciation represented by both symbols was almost the same.

(30) 3. I.-E. *ū* = Gk. *ū* = Lat. *ū*: I.-E. *dū- (two), Gk. δύ-ω, Lat. *dū-ō*; I.-E. *yūg-ō- (yoke), Gk. ζυγ-ό-ς, Lat. *jug-u-m*; I.-E. *klu- (to hear), Gk. κλυ-ρό-ς (heard of, celebrated), Lat. with prefix *in-clu-tu-s*; Gk. ὑπό, ὑπέρ, Lat. *sub*, *super*; -u-, formative suffix of nouns, Gk. ἡδ-ύ-ς (Dor. ἀδύς), Lat. *sudāvis* = *svād-ū-is, with an additional suffix, the vocalic character of which caused the change of *ū* to a semi-vowel.

We have seen that Latin *ū* was closely akin to *ō*. It seems to have retained its original labial character when a labial followed; then in course of time this pure *ū* must have passed through the intermediate stage of *ū̄* to a sound nearly approaching that of *ī*. These three stages are successively attested by variable spellings, such as *lubet* and *libet* (it pleases), *carnufex* and *carnifex*, *lacruma* (cf. Gk. δάκρυ), *lacrima* and even *lacryma*; perhaps also by the variation seen in the dative-ablatives of the fourth declension, e.g. *arcū-bus* compared with *manū-bus*. But as we are here dealing with a sound which the Latin alphabet was unable to represent with precision, it is hard to reduce these phenomena to a law.

On the other hand, *ū* becomes pure *ō* before *r*, except in a final syllable: *fō-re* (to be) = *fū-re, cf. *fū-tūru-s* and Gk. φύ-ο-μαι; *femōr-is*, *jecōr-is* (genitives), cf. *femūr*, *jecūr*, etc. We find however *fūrōr*, *nūrus* (daughter-in-law), Gk. νύος = *σνυσό-ς, Sk. *snuśā*.

(31) 4. I.-E. *ū* = Gk. *ū* = Lat. *ū*: I.-E. *mūs- (mouse), Gk. μῦς, gen. μῦ-ός (*infra* 76 B) = *mūs-ós, Lat. *mūs*, gen. *mūris* = *mūs-is, cf. Mod. Germ. *maus*, Eng. *mouse*; Gk. ἰ-ς (swine), Lat. *sū-s*; Gk. θῦ-μό-ς (passion, heart), Lat. *fū-mu-s* (smoke), cf. Sk. *dhū-mā-s* (smoke, vapour) and Gk. θύω (burn in sacrifice).¹ We cannot with certainty place here beside Greek ἔφν (he was) the archaic

¹ Etymological meaning "to smoke" still seen in δάπεδον δ' ἄπαν αἵματι θύεν (Od. xi. 420).

Latin perfect *fū-i*, which may go back equally well either to **fū-vī* or **fou-vī* (*supra* 26, 2 and *infra* 34 B β).

(32) 5. I.-E. *ē* = Gk. *ε* = Lat. *ē*. This exact agreement, which is almost absolutely regular,¹ is, as we have seen, the essential criterion of classification for the Indo-European languages. We shall examine successively simple *ē* and *ē* forming part of a diphthong.

A.—Simple *ē*: I.-E. **ēs-ti* (he is), Gk. *ἐσ-τι*, Lat. *es-t*; I.-E. **éd-ō* (I eat), Gk. *ἔδ-ω*, Lat. *ed-ō*; I.-E. **qe* (and), Gk. *τε*, Lat. *que*; I.-E. **gén-os* (birth), gen. **gēn-ēs-ōs*, Gk. *γέν-ος γένεος* = **γέν-εσ-ος*, Lat. *gen-us gen-er-is* = **gen-es-is*;² final *ē* in vocative of 2nd decl., Gk. *ἱππ-ε*, Lat. *equ-e*; final *-ē* of 2nd person singular present imperative, Gk. *ἄγ-ε*, Lat. *ag-e*; final *-tē* of 2nd person plural imperative, Gk. *ἄγ-ε-τε*, Lat. *ag-i-te*; *ē* in reduplication of perfect, *λέ-λοιπ-α*, *ce-cid-ī*.

ε in Greek always remains unchanged. But in Latin

(a) The group *ev* regularly becomes *ov* by labialization of the vowel under the influence of the labial: Gk. *νέος* = **véfos*, Lat. **nevōs*, whence *novos*; Gk. *τεός*, *ἑός* (= **sefós*) (thine, his), Lat. *tovos*, *sovos* (archaic), later *tuus*, *suus*; Gk. *ἐν-νέα* = **ēv-véf-a* (I.-E. **néw-p*), Lat. *nov-em*, etc.

(β) Unaccented *ē*, when not final, is changed to *ī*: thus we have *age* = *āye*, but *agite* = *āγετε*, *agimīnī* = *ἀγόμενοι* or *ἀγέμεναι*, and *agis* (thou dost) = **agēs*, which is perhaps equivalent to the Doric form *āyes* (common Greek *āyeis*) and certainly to an I.-E. form **āg-ēs* (cf. Sk. *bhādras* = *φέρες*).

To this change of unaccented *ē* is due the well-known weakening of the vowel in compounds: *lēgō collīgō*, **spēcīō* (cf. Gk. *σκέπτομαι* *īnspiciō*). According to the law laid down we should expect *collīgo*, but **collégere*, **īnspécere*, *īnspécio*, since in these words *ē* remains accented. But it must be observed, on the one hand, that the phenomenon may, and indeed must, have taken

¹ There is scarcely any important exception that cannot be explained, besides *ἵππος* = *equos*; but the *i* is not the only irregularity in *ἵππος*, and the rough breathing, which has nothing corresponding to it elsewhere (Sk. *āvas*), and which is not reproduced in compounds (*Λεύκιππος* not **Λεύχιππος*), points to a series of accidental alterations in this word, which still remain obscure.

² Notice the double agreement in the genitive.

place at a time when Latin accentuation had not yet assumed the form in which it has been handed down to us by the post-Augustan grammarians, and accordingly it must have taken place, partly at any rate, under the influence of an initial accentuation peculiar to Latin, which will be defined later on (§ 82); and, on the other hand, that very possibly **collegere* may have become *colligere* through the analogical influence¹ of the regular *colligo*, as conversely the regular forms *neglegere*, *intellegere* produced the presents *neglegō*, *intellegō*. In other cases the vocalism of the simple verb was perhaps wrongly introduced into the compound: thus we ought to have **répitō*, but we have *répetō* through the analogy of *pētō*. Such attractions are very common in low Latin, which created a number of forms like *refacere* (Fr. *refaire*) instead of *reficere*, *accaptāre* (Fr. *acheter*) on the model of *captāre*, and may evidently have taken place at all periods. On the other hand, the compound sometimes altered the simple verb: thus, though the conjugation is different, the Latin *plicō* certainly corresponds to the Greek *πλέκω* (I plait); hence we must admit that the vocalism of *implicō* and the other compounds contaminated the simple **plecō*.

As a following *r* changes *ǣ* to *ē*, it is natural that it should preserve unaccented *ē* from being changed to *ǣ*; and so we have *cónferō*, *génēris*, *memínērīs*, not **confirō*, etc. *ē* likewise remains unchanged in a close syllable, that is, before a group of two consonants: *col-lēctus*, cf. *col-ligo*, *haruspec* = **haruspec-s*, gen. *-spic-is*, *prae-pēs* (with rapid flight) = **prae-pēs-s* = **prae-pēt-s* (cf. Gk. *πέρ-ομαι*, I fly), and, through analogy, gen. *prae-pēt-is* = **prae-pīt-is*, etc.

(γ) Lastly, a much more obscure change of *ē* takes place sporadically before nasals; *ē* becomes *ǣ* before a group consisting of a nasal + a consonant, and this *ǣ* in its turn is sometimes lengthened in accordance with another law not yet satisfactorily explained. Cf. *ἐντός* and *ǣntus*, *πέντε* and *quīnque*, *τῆγνυμ*² (beam) and *tēgō*, *στέγω* (I cover) or *τέχνη* (originally the carpenter's craft, Sk. *takṣ*, to hew), etc. We see by this that the

¹ On the influence of analogy see *infra* 83 and 183.

Lat. *g* before *n* is a nasal (German [and English] *ng*).

two prepositions *en* and *in* may be identified, if we assume that there existed in Latin two syntactical doublets,¹ **en* and *in*; before a word beginning with a vowel **en* would not change, **en agris*, but it would become *in* before a consonant, *in domo*; then later the form *in* was extended by analogy to the former case. But we must also suppose that **en* was mostly proclitic, and consequently unaccented.

B.—*ē* in diphthongs.

(α) I.-E. *ey*=Gk. *ει*=Lat. (*ei*) *ī*: I.-E. **deyk-* (to show, say), Gk. *δείκ-νῦ-μι*, Lat. *dīc-ō*, archaic *deicō*; I.-E. **bheydh-* (to persuade, trust), Gk. *πειθ-ω*, Lat. *fid-ō*. Very rarely Greek also has *ī*: I.-E. **dey-* (to shine), Gk. *διος*=**di-fo-s*, cf. Lat. *dei-vo-s*, *dīvo-s* (god, divine).

(β) I.-E. *ew*=Gk. *ευ*=prehistoric Latin *eu*; but, as *ēv* becomes *ōv* (cf. A a *supra*), *eu*, which does not differ from it in Latin in pronunciation or even in writing, becomes *ou*, then *ū*: Gk. *φεύ-ω*, cf. *φύγ-ή*, *ἔ-φύγ-ον*; Lat. **deuc-ō* (I lead), which is not found anywhere, but evidently has the same relation to *dūc-* (from *dūx*, *dūc-is*) that *φεύ-ω* has to *φύγ-*, historically **douc-ō* (ABDOVCIT already cited), and finally *dūc-ō*.

(33) 6. I.-E. *ē*=Gk. *η*=Lat. *ē*: I.-E. **ed-ed-a* (I have eaten), Gk. *ἔδ-ηδ-α*, Lat. without reduplication *ed-ī*; I.-E. **sēmi-* (half), Gk. *ἡμι-*, Lat. *sēmi-*; I.-E. nom. **māter* (mother), Gk. *μήτηρ*=*māτηρ*, Lat. **māter*, which became *māter* through the regular shortening of every final syllable in *r* (cf. *arbōs* and *arbōr*); I.-E. **dhē* (to suck, suckle), Gk. *θη-λή* (teat), *θη-λυ-s* (female), Lat. *fē-lō* (to suck, often wrongly written *fello*), *fē-mina*=Gk. **θη-μένη* (she who suckles), cf. Umbr. *sif feliuf=suēs filiōs* (sucking-pigs); I.-E. *-iē-* optative suffix, Gk. *ἔις*=**ēσ-ίς*, old Latin *s-iē-s*, etc. Sometimes in Latin this *ē* was written *ei*, which is merely a graphic variation, *leigibus*; but it is less easy to explain the variant *ī*, found in *filius* (suckling).

(34) 7. I.-E. *ō*=Gk. *ὀ*=Lat. *ō*. This primitive agreement, which has been often interfered with by the action of analogy,

¹ By *syntactical doublet* is meant the double form which the same word may take according to the place it occupies in a syntactical group (sentence): thus, in French, *beau* and *bel*, the former before a consonant, the latter before a vowel. [So in English *a* before a consonant, *an* before a vowel.]

will only be understood later on; for the present it will be sufficient to notice the regular alternation of ϵ and δ which takes place in words of identical formation in Greek and Latin.

A. — *Simple δ* : $-\delta$ -, the sign of nouns of the second declension, Gk. ἱππ-ο-ς, Lat. *equ-δ-s*; alternation with ϵ seen in φέρω and φόρος, also in δέμ-ω (to build) and δόμ-ο-ς (house), Lat. *dom-u-s*, *pend-o* (I weigh) and *pond-u-s*¹ (weight), *sequ-o-r* and *soc-iu-s*, etc.; the same alternation in φέρω and φορά, ῥέ-ω = *ῥέφ-ω (to flow) and ῥοή = *ῥοφ-ā (stream), *teg-δ* and *tog-a*; so also in the derivative verbs φορέω (φέρω), σπουδάζω (σπεύδω), *moneō* (**mēn*-, to think; cf. *me-min-i*, *mēns*), *noceō* (**nek*-, harm, death, cf. *nec-δ*, *nex*), *voc-δ* (**ueq*-, to speak, cf. the ϵ of ἔπος = *fép-os*, word), etc.; lastly, in the vowel of many Greek perfects, οἶδα = *Foīd-a* (cf. the participle *Feīd-ώς*), λέλοιπ-α (*λείπ-ω*), πέπονθ-α (*πένθ-ος*, suffering), etc. This last grade of vocalism has nothing certainly corresponding to it in Latin, owing to the many important changes which the original perfect underwent in that language.

Greek σ remains unchanged. In Latin δ is liable to several changes which are not all clearly defined.

(α) The group *ov* almost always became *av*; cf. *av-i-s* and οἰωνός, a secondary formation = **δφ-i-ωνό-ς*, also *au-tumō*, a compound = **avi-tumō* (I augur, presume), and οἶομαι (same sense) = **δφ-i-o-μαι*. We find however *ov-i-s* (sheep) = Gk. **δφ-i-s*, Sk. *dv-i-s*.

(β) The initial group (*vδ*) in close syllables always became *vε*, though the archaic forms with δ did not entirely disappear. E.g. *vēster* = *vδs-ter*, *velle* = **volle* = **vδl-se*, cf. *vδl-δ*, and the doublets *vortō vertō*, *vortex vertex*, etc.; so also in diphthongs, *vīcus* = *veicos* = Gk. *Foīkos* (house), *vīnum* = *veinom* = Gk. *Foīnos*; but in open syllables *vocō*, *volo*, and even *vomō*, where the δ corresponds to a Greek ϵ , Gk. *έμέω* = **Feμέω* (to vomit).

(γ) In *ilico* (on the spot, immediately) = **in slδcō*,² the unaccented δ seems to have undergone a similar treatment to that of unaccented ϵ (*supra* 32 A β); but *aliquor*, *collocō*, etc.

¹ These two nouns originally belonged to the second declension, as is shown by the locative *domi* and the archaic ablative *pondō*.

² *Stilocus* is the archaic form of *locus*.

(δ) Final *ō*, which however is very rare, becomes *ō̃*; that is, if we are to regard the imperative *sequ-e-re* as absolutely identical with its Greek correlative $\xi\pi\epsilon\omicron = * \xi\pi\text{-}\epsilon\text{-}\sigma\omicron$ (follow).

(ε) But the most regular and by far the best known change of Latin *ō* is that by which it becomes *ū* in a final syllable. We find this change on a large scale in the nominative and accusative singular of the second declension, where *ūnūs*, *virūm*, *dōnūm* are the normal equivalents of *oinōs*, *virōm*, *dōnōm*, which are found in old inscriptions. So also in the neuters of the third declension, *genūs* = Gk. *γένος*, *tempūs* = **tempōs*, cf. *tempōris*; and in the third person plural present indicative, *legūnt* = Gk. (Doric) *λέγοντι*, cf. *tremonti* (*tremunt*), a doubtful form in the ancient *Carmen Saliare*.

ō was kept unchanged after an *ū*, whether vowel or consonant, until after the Augustan age, when it began to undergo the same treatment. Thus the Romans pronounced and wrote, and it would be well for us also to write, *equōs*, *servōs*, *exiguōs*, *quōm* (conjunction), not *quum*, which is a spelling belonging to the latest period of Latin, and ought to be utterly rejected. The labial consonant afterwards coalesced with the vowel of the same class: whence the spellings *ecus*, *cocus*, *cum*, etc.¹

While a following *r* seems to change *ū* to *ō*, it also preserves unaccented *ō* from being changed to *ū*; thus **tempōs* became *tempūs*, but *tempōris* remained unchanged.

(ζ) We find also sporadically *ū* instead of *ō* before a nasal followed by a consonant; e.g. *unguis*, cf. Gk. *ὄνυξ* = **ōnvχ-s*, and the variation in spelling between *honc* and *hunc*.

B.—*ō* in diphthongs.

(α) I.-E. *oy* = Gk. *oi* = Lat. *oi*, but the last diphthong did not remain permanently. When accented, it became *oe*, and then passed to the sound of *ū*. Thus *oino(m)*, found in the epitaph of the Scipios, became *ūnum*: cf. Gk. *oi-vō-s* (one), *oi-vή* (the ace in dice), *oīos* (alone) = **oi̯-fo-s* = Zend *aeva* (one), I.-E. **oy-ivo-s* deflected from a demonstrative root *i*. Similarly we may

¹ So the declension would be approximately: *ecus*, *egue*, *equi*, *ecum*, etc. But it was inevitable that analogical influences should be developed among the forms of this declension, giving rise, on the one hand, to the forms *equus*, *equum*, and, on the other, to the forms *ece*, *eci*, all historically proved.

compare *moenia* (walls) with *mūnīre*, *poena* with *pūnīre*, and we may notice that *foedus* (treaty) = **foidos* has the same relation to *feidō* (to trust) that *pondus* has to *pendō*.¹ We may be surprised that *oe* should thus have survived exceptionally in these words and possibly a few others; but *poena* is borrowed from the Greek; the archaism *moenia*, which was certainly read in the Annals of the Pontiffs, may have been restored to favour in order to avoid confusion with the regular *mūnia*, which had taken the sense of "public duties," and from the same Annals the Roman historians must have borrowed the archaism *foedus*.² Unaccented *oy* became *i*: final *-oy* in locative singular of second declension, Gk. ἱπποί, Lat. *equi*; and so also in the dative plural, Gk. ἱπποῖς, Lat. *equis*.

(β) I.-E. *ow* = Gk. *ou* = Lat. (*ou*)*ū*. We find very clearly in Greek the alternation already mentioned between *ē* and *ō*: *σπεύδω* (I hasten), *σπουδή* (zeal); *κέλεθ-ος* (road), *ἀ-κόλουθ-ος* (one who goes by the same road, travelling companion); fut. *ἐλεύσομαι* = **ἐλεύθ-σομαι* (I shall go), Homeric perfect *εἰλ-ήλουθ-α* (I have gone), etc. But the diphthong *ou* is not so easy to recognise in Latin, for *ū* may come either from *eu* or *ou*; and hence, when we see a perfect like *fūg-i* (cf. archaic *rūi*, *fūi*), we cannot tell whether it goes back to the regular **foug-i* = Gk. **πέ-φονγ-α* or to a form **feug-i* resembling *πέ-φενγ-α*, into which the vocalism of the present *φεύγ-ω* was irregularly introduced. The former alternative however seems the more likely.

(35) 8. I.-E. *ō* = Gk. *ω* = Lat. *ō*.

A.—Simple *ō*: I.-E. **gnō-* (to know), Gk. *γνω-τός*, Lat. *gnō-tu-s*, *nō-tu-s*; final *-ō* of 1st person sing. pres. ind., **bhē-rō*, *φέρ-ω*, *fer-ō*, etc.; Gk. *δῶ-πο-ν*, Lat. with different suffix *dō-nu-m*; Gk. *δῶ-τωρ* and all names of agent in *-τωρ*, Lat. **da-tōr*, later *datōr*; cf. *datōrem*, etc. We do not know the origin of the *ū* which appears in Latin in *fūr* = *φῶρ*, and in the suffix *-tōr* when it has a secondary suffix attached to it, *praetor*, *praetūra*. Weakening in an unaccented syllable gives *i* in *convīcium* (noise, insult) = **con-vōc-iu-m*. The weakened *i* in *cō-gnītus*,

¹ Cf. the vocalism of *πέποιθα* as contrasted with *πεῖθω*.

² Cf. also the classical *mūrus* = **moiros*, and the archaic liturgical form *pōmoerium* = **pōst-moir-io-m*.

etc., must go back to a lost participle which had short *o* or rather *a*, in accordance with a very common vowel-change (*infra* 41 and 117).

B.—I.-E. *ōy* gives in Greek *ω*, in which *ι* is written but no longer pronounced, and in Latin *ō*, in which the *i* is not even written: dat. sing. Gk. *ἰππῳ*=*equō*. I.-E. *ōw*, which is unimportant, is likewise reduced to *ō* in Latin; e.g. *mōtus* (motion)=**mōu-tu-s*, cf. *mōv-e-o*, *mōv-i*.

(36) 9. I.-E. *ā*=Gk. *ᾱ*=Lat. *ā*.

A.—Simple *ā*: I.-E. **āgō* (to make, lead), Gk. *ἄγω*, Lat. *agō*; I.-E. **ānti* (against, before), Gk. *ἀντί*, Lat. *anti*; Gk. *ἄγχι-ω* (to press, squeeze), Lat. *ang-ō*, cf. *angu-i-s* (snake); Gk. *ἀγ-ρός* (field), Lat. *ag-er*=**ag-ro-s*, cf. Sk. *āj-ra-s*, etc.

In Greek this *ā* undergoes no modification. But in Latin

(a) Final *ā*, which is however very rare, becomes *ē*, like final *ō*, if the instrumental *πεδ-ά*, preserved in Æolic as an adverb (with), really corresponds to a form *ped-e*=**pēd-ā*, confused with the locative *ped-e*=**pēd-ī*, perhaps also with an ablative **pēd-ēd*, and to be connected with I.-E. stem **pēd-* (foot).

(β) Unaccented *ā*, when not final, generally becomes *ē*, which remains in a close syllable, *factus confectus*, *captus acceptus*, *cap-iō au-cep-s* (bird-catcher), *cap-ut prae-cep-s*, etc.; but becomes *ī* in an open syllable, *conficio*, *accipio*, and the genitives *parti-cip-is*, *prae-cipit-is*.¹ In the latter case, however, before a labial, *ī* alternates with *ū*, gen. *au-cūp-is*, *au-cūp-iu-m* (bird-catching); and we often find both spellings in use for the same word, *mancupium* and *mancipium* (*cap-iō*), which points to the presence in these words of a vowel intermediate between *u* and *i*.² In *concutiō* (*quatiō*) and *augurium* (*garriō*, cf. Gk. *γῆρύω*=*γᾱρύω*, to cry), the *ū* may doubtless be explained as being due to the influence of the preceding consonant, complicated more or less by labialization. We also find *ū* before *l* in close syllables: *salto exsultō*, *calcō conculcō*,³ etc. Finally,

¹ A new application of the law already investigated in connexion with *ē* (cf. *supra* 32 A β).

² Cf. *supra* 30.

³ *l* in a close syllable produces labialization of the preceding vowel (cf. French *altre*, which has become *autre*, and English *false*, *all*), and we shall see that the weakening of *au* produces *u*.

this phonetic law is, of course, like every other, frequently disturbed by the influence of analogy. Thus *agō* regularly gives *adigō*; but *adāctus* and *cōgo* contracted for **cōdgo* show an irregular intrusion of the vowel of the simple verb *āctus*, *agō*.

B.—*ā* in diphthongs.

I.-E. *ay*=Gk. *ai*=Lat. (accented) *ai*, later *ae*, (unaccented) *ī*:¹ Gk. *αἶθω* (I burn), *αἶθ-ῆρ* (the upper air through which meteors pass), Lat. *aed-ēs* (room), originally no doubt "hearth," cf. the old spelling *aid-īlis*; Gk. *λαῖός*=**lai-fó-s* (left), Lat. *lae-vo-s*; **-ais*, termination of dat. plur. of first declension, Gk. *ἡμέραις*, Lat. *terrīs*, and the well-known cases of weakening *quaerō inquirō*, *uestumō existumō*, *caedō decīdō*, etc.

I.-E. *aw* (rare)=Gk. *av*=Lat. *au*, cf. Gk. *αἰξάνω* and Lat. *aug-eō aug-ustus*, in an unaccented syllable *ū*, *claudio sēclūdō*,² except where the simple verb exercises an analogical influence, *adaugēō*, *applaudō*, etc.

(37) 10. I.-E. *ā*=Gk. *ā*=Lat. *ā*: I.-E. **bhā-* (to speak), Gk. (Doric) *φᾱ-μί*, *φᾱ-μᾱ*, (Ion.-Att.) *φη-μί*, *φή-μη*, Lat. *fā-rī* (to speak), *īn-fā-n-s* (speechless), *fā-mā*³ (renown); I.-E. **stā-* (to place, stand), Gk. (Dor.) *ῖ-στᾱ-μ*, fut. *στᾱ-σω*, (Ion.) *ῖστημι*, *στήσω*, Lat. *stā-re*, *stā-bō*; I.-E. *mā-tēr* vocative (O mother), Gk. (Dor.) *μᾱ-τερ*, (Ion.) *μη-τερ*, Lat. *mā-ter*; **-tāt-*, suffix of feminine nouns of quality, Gk. *νέο-της*=**nefó-tār-s* (newness), Lat. *novi-tās*=**novi-tāt-s*, etc.

It will be seen from the preceding examples that this primitive *ā* is kept quite pure in Doric, and the same is the case also in Æolic when not influenced by other dialects. But in Ionic every primitive *ā* becomes *η*. On the other hand, Attic, a later branch of Ionic, keeps or rather restores *ā* when preceded by *ι*, *ε*, *υ*, or *ρ* (the so-called *a pure* of Attic and the *κοινή*). *E.g.* Ion. *σοφίη* (wisdom), *γενεή* (generation), *σικύη* (gourd), *ἡμέρη* (day), *πρήσσω* (I do), Att. *σοφία* *γενεᾶ* *σικυᾶ* *ἡμέρᾱ* *πᾶπτω*, etc. The exceptions are only apparent; in Attic *κόρη* (maiden) and

¹ It must be remembered that it is not the laws of classical accentuation which are in force here.

² In the two groups *ai* and *au*, unaccented *a* in a close syllable becomes *e*, according to the preceding rule, and we know that *ei* and *eu* approximate respectively to *ī* and *ū*.

³ For Latin final *ā* see remarks on declension, *infra* 193, 1.

δέρη (throat) the η was not preceded by ρ , but by a f , which was lost after the change of the \bar{a} , so that the primitive forms would be *κόρ \bar{f} ā (cf. Lesb. κόρρ \bar{a} , Dor. κώρ \bar{a} , Ion. κούρη) and *δέρ \bar{f} ā (cf. Sk. grīvā, throat, and Lesb. δέρρ \bar{a}); on the other hand, στοᾶ (porch) goes back to στοᾶ, which is also found, and Ἀθηνᾶ (the goddess) is not the same word as Ἀθήνη, but, as the accent shows, a contraction from Ἀθηνά \bar{a} = Ἀθηνά \bar{a} . The numerous nouns of the first declension like δόξ \bar{a} , μούσ \bar{a} , ἄμ \bar{a} λλ \bar{a} , etc., have a short a , and go back to quite a different origin.¹

This being the case, we should expect never to find any instances of \bar{a} in Ionic or Attic, except \bar{a} pure. Some instances however do occur; but in these the \bar{a} was not original, but was developed in Ionic alone after the separation of dialects, and consequently long after the change of Panhellenic \bar{a} to Ionic η . Thus the accus. plur. τὰς μούσ \bar{a} s goes back to an old Greek form τὰς μούσ \bar{a} s, of which instances are still found in inscriptions (Cretan). Similarly in πᾶσα = πᾶν \bar{a} , λῦσ \bar{a} = λῦσ \bar{a} , etc., the corresponding Lesbian forms ταῖς μούσαις, παῖσα, λῦσαισα, etc., show that the Ionic long vowel was not original.

\bar{a} in diphthongs is not uncommon, especially in the combination $\bar{a}y$, but presents no important peculiarity.

§ 2. Semi-vowels.

(38) Greek has no special symbol for the semi-vowel y , which is written ι , whether it occurs between two vowels or in a diphthong. The semi-vowel w is denoted by υ when occurring in a diphthong, but when used as an independent semi-vowel, is represented by the sign f , the sixth letter of the alphabet in the Æolic and Doric dialects. It was in fact only these dialects, and especially Doric,² which preserved faithfully the pronunciation of the f , which was doubtless very like that of the English w , and was lost at a very early period in the Ionic-Attic dialect.

Latin has no special symbol for y and w ; the Romans wrote *iugum*, *nouos*, just as if these words had been trisyllables.

¹ *Infra* 112 and 197.

² It will be seen that the ordinary name of "Æolic digamma" is not strictly accurate. The f no longer appears in the Lesbian poets.

The invention of *j* and *v* dates from modern times. It has not however been thought necessary to exclude these convenient symbols from these pages, as their absence might embarrass the reader. The important point to remember is that they represent respectively English *y* in *you* and *w* in *wake*.

The principle underlying this matter may be shortly stated as follows: Latin kept the primitive semi-vowels pretty faithfully; Greek, on the other hand, gradually eliminated them, until none remained except those developed subsequently in its own domain.

The antecedent semi-vowel may be either initial or medial; when medial, it may occur either between two vowels or between a consonant and vowel. It will be considered successively according as it appears in these three positions.

(39) i. I.-E. *y*.

A.—Initial *y* is kept in Latin and changed to the rough breathing (*h*) in Greek: I.-E. **yēq-rt* or **yēq-rt* (liver), Gk. ἥπ-αρ, Lat. *jec-ur*, cf. Sk. *yāḥ-rt*; I.-E. **yōro-* (time, year), Gk. ὥρο-ς (year), ὥρ-α (season, period), cf. Germ. *jahr* [Eng. *year*]; I.-E. **yó-s* (who), Gk. ὅ-ς ἢ ὅ, cf. Sk. *yá-s yá yá-d*; Gk. (Lesb.) ὅμμες = **ἰμμες*, Ion.-Att. ὅμεις (you) = Sk. *yušmā-*. The *y* of *juvenis* seems to be one of this kind, if we must connect this word with Gk. ἡβῆ, in spite of the difference in the vocalism. But Indo-European possessed also another *y*, confused with the former in Sanskrit and Latin, but distinguished from it in Greek, where it is represented initially by ζ; e.g. I.-E. **yug-* (to join), Sk. *yuj-* (to join), *yug-ā-m* (yoke), Lat. *jung-ō*, *jug-u-m*, Gk. ζεύγ-νῦ-μι, ζυγ-ό-ν. It is somewhat difficult to determine precisely the original difference between these two sounds.¹

B.—*Intervocalic y* is always lost both in Greek and Latin. Lesbian keeps it after *v*: I.-E. **tréy-es* (three, cf. Sk. *tráy-as*), Gk. τρεῖς = **τρées* = **τρέy-es*, Lat. *trēs*; I.-E. **bhū-yō* (I produce, become), Gk. φύ-ω, cf. Lesb. φύω, Old Lat. *fu-ō*, subj. *fu-ām*: and similarly λύω = **λύyω*, τίω = **τίyω*, *fīō* = **feiγō*; Gk. φορέω = I.-E. **bhoré-yō*, (cf. Sk. *bhārd-yā-mi*, I make to carry), Lat.

¹ This distinction, which appears only in Greek, may be merely due to the existence of syntactical doublets. Cf. L. Havet, *Mém. Soc. Ling.*, vi. p. 324.

mone-ō; Gk. *τιμάω* = **timā-yō*, and Lat. *amō* = **amaō* (cf. *τιμῶ*) = **amā-yō*, and so all the contracted verbs; -*yō*- after a vowel, a formative suffix of adjectives, Gk. *χρῦσε-ο-ς* = **chrūsē-yō-s*, Lat. *aure-u-s* = **ause-yō-s*, cf. Sk. *hiranyā-d-ya-s* (golden), etc. When the first vowel is a nasal or liquid, we shall see that the treatment is different.

We find however in Greek a number of cases of intervocalic *ι*, but in these cases the *ι* was not originally intervocalic, but became so in Greek itself through the loss of a primitive consonant (e.g. *καίω*, I burn = **kaifō*, *infra*), or else was restored by analogy in forms from which it must have previously disappeared. Thus in *τιθείην*, *διδόην*, instead of which we should expect **didōην*, etc., the diphthong is probably due to the analogy of *διδόιμεν*, etc., where the *ι* could not be dropped.

In Latin intervocalic *j* no longer appears except as the relic of a group of consonants which have coalesced. E.g. *mājor* = **māg-yōs*,¹ cf. *māg-nu-s* and *μακ-ρό-ς*; and *mēdō* (I make water) = **meih-yō*, cf. Gk. *δ-μῖχ-έω* and Sk. *mih migh* (same meaning), etc.

Later Greek, and especially Attic, even partially eliminated *ι*, when it had become intervocalic through the loss of a consonant: Homeric Gk. *τοίω* (of the), changed to **τόω*, then contracted (Lesb., Dor.) *τῶ*, (Ion.-Att.) *τοῦ*; Hom. Gk. *τελείω*, New Ion. *τελέω*, Att. *τελῶ*, etc.² This last process however is much less constant; hence the termination of verbs in -*είω* = -*έω*, and the well known adjectival terminations in -*οιο-*, -*αιο-*, -*ειο-*, which depend on phonetic laws not yet satisfactorily determined.

C.—Between a consonant and vowel proethnic *y* is changed to the vowel *i* in Latin; in Greek it is combined in various ways with the preceding consonant.

(a) If the preceding consonant is a spirant, nasal, or *r*, the *y* palatalizes the consonant (*supra* 22, 3 B) and gives rise to a compensatory lengthening of the preceding syllable: I.-E. **tó-syo* (gen. of the demonstrative **tó-*, cf. Sk. *td-sya*), Gk.

¹ Or better still **māh-ios-*; cf. Sk. *māh-iyān* (greater).

² So also the verb *ποιέω* must often be read *ποίω* in the tragedians, as is shown by the scansion (cf. the Latin borrowed word *poëta*).

*τό-σγo, whence *τοῖσο and τοῖo, similarly τελέω=*τελείω=*τελείσω=*τελέσ-γω (τέλεσ- end); I.-E. *owγ-o (to augur, from *owi-, bird), Gk. *ὄγ-ο-μαι, whence *οἶφομαι, οἶομαι (I think), similarly καίω=*καῖω=*κᾱf-γω (cp. the *v* of the future καύ-σω); in Lat. *ī*, *caes-iu-s* (blue), *Gāv-iu-s* (proper name), root *gāw-, cp. Gk. ἀ-γαν-ός (valiant); Gk. *κτέν-γω (I kill), Lesb. κτέννω, Ion.-Att. κτείνω; Gk. *φθέρ-γω (I spoil), Lesb. φθέρρω, Ion.-Att. φθείρω, in Lat. *ī* in *ven-iō*, *or-iō-r*, etc.

(β) If the consonant is an *l*, the *y* is assimilated to it, I.-E. *al-yo-s (other), Gk. ἄλλος, but Lat. *al-iu-s*.

(γ) If it is a labial explosive, the *y* becomes a dental explosive of the same class, Gk. τύπτω (I strike)=*τύπ-γω, but Lat. *cap-iō*.

(δ) With every other explosive *y* coalesces and produces ζ in the case of a voiced, σσ (Att. ττ) in the case of a voiceless consonant: στίζω (I prick)=*στίγ-γω, cf. fut. στίξω; Lat. *fug-iō*=Ion. φύζω; Ζεύς (sky, day)=*δγ-ηύ-s, Sk. *dyāus*, Lat. *dīēs*; ἥσσον (less), Att. ἥττον=*ἥκ-γον, cp. ἥκ-a (little) and Lat. *sēc-iu-s*; ἑλάσσον ἑλάττον (less)=*ἑλᾱχ-γον, cf. ἐλαχ-ύ-s; κρέσσων κρείττων (better, stronger)=*κρέτ-γων, cf. κρατ-ύ-s; μέσσος μέσος=*μέθ-γο-s, Lat. *med-iu-s*, Sk. *mādh-ya-s*, hence I.-E. *mēdh-yo-s. Comparatives of the class of ὠκίων (Lat. *ōcior*) and βαθίων, instead of which we should expect *ῶσσω, βάσσω (the latter form exists),¹ contain a comparative suffix -iōn- different from -yōn-, cf. Sk. *māh-īyān* (greater). So also the adjectives ἅγιο-s (holy), στυγιο-s (hateful), etc., go back, not to *ἄγ-γο-s, which would have given *ἄζος, but to ἄγιο-s, I.-E. *yāg-iō-s, with suffix -iō-, like Lat. *patr-iu-s*, Gk. πάτρ-ιο-s, Ved. Sk. *pitr-ia-s*.

(40) 2. I.-E. *w*.

A.—Initial *w*=Gk. *f*=Lat. *v*. Greek *f* is found in a very large number of inscriptions, chiefly Doric, *φέξ* (six), *φάναξ* (chief), *φίσφον* (=ἴσον, equal), etc.; and its existence is attested in the Æolic of Homer by the apparent instances of hiatus which it removes and the cases of length by position which it justifies.²

¹ Cf. *πάσσωνα* (e.g. Od. xviii. 195)=*πάχ-γον-a, comparative of παχ-ύ-s (stout)=*ping-u-i-s*.

² Cf. Havet-Duvau, *Métrique*, 42 [Monro, *Homeric Grammar*, § 388 to 405].

The Ionic dialects lost it very early, and always replaced it by the smooth breathing. *E.g.* ἔργ-ο-ν (work)=*férg-o-n*, cf. Ger. *werk* [English *work*]; ἔπ-ος (word), εἰπέ (say)=*fép-os*, *Feip-é*, cf. Lat. *vōc-s*; *ῥάσ-τυ ἄσ-τυ* (town), cf. Sk. *vās-tu* (house); *φοῖκ-ο-ς οἶκ-ο-ς* (house)=Lat. *vīc-u-s*=Sk. *vēḥ-d-s*, etc. Sometimes in Greek the rough breathing seems to correspond to Latin *v*: ἔννυμ, (Ion.) εἰνῦμ (I clothe)=**féo-nū-mi*, cf. *ves-ti-s*; ἔσπερος (west), Lat. *vesper*; ἑστία (hearth), Lat. *Vesta*; but it is probable that in this case the aspirate was developed in Greek separately, and has nothing in common with the primitive *w*.

Initial *w* before a consonant disappears in Latin: *rādīx* (root)=**wrādīc-s*, cf. Gk. *ρίζα*, Ger. *wurzel*. In some Greek dialects it remains, in others it disappears: Elean *φῶτρᾶ*=Ion. *ρήτρῃ* (agreement); *ῥέζω* (to do), Hom. *φρέζω*=**frég-yw*, cf. *férg-o-n*, etc. But even in those dialects which kept it we may suppose that in the syntactical combination of words it was assimilated to the following consonant; for example, that when Homer writes *πολλὰ λισσομένω* (*lā* being long by position), we may read either *πολλὰ φλισσομένω* or *πολλὰ λλισσομένω*.¹ Such reduplication is regular when the initial *f* becomes medial in composition: **φρήν* (sheep), gen. *φᾶν-ός*, Hom. *πολύ-ρρην* (rich in sheep); *ῥήγ-νῦ-μι* (to break), aor. pass. *ἑ-ρράγ-η*, adj. *ἄ-ρρηκ-τος* (unbreakable), etc. In this case however Æolic contracts the *f* with the preceding vowel, *ἄρρηκτος*=**ā-fρηκτος*, *εὐράγη*, etc.; and to a diphthong of the same kind must be referred the Homeric form *εὐαδε* (it pleased)=*z-fad-ε* (*e.g.* Il. xiv. 340).

B.—*Intervocalic*. Apart from this last exceptional case, intervocalic *f* was probably no longer pronounced in the language of Homer, much less in later Ionic, Attic, and the *κοινή*. But it is often found in Doric inscriptions, *Ποσειδάφωι*, *προφειπάτω*, *ἐπιφοίοις*, and it was always kept in Latin: *νέος novos*, *ένέα novem*, *οἷς ovis*, etc. In *tuus=tovos* (*supra* 32 A α), the *v* is not lost, but has coalesced with the unaccented *o*:² as in *dēnuō*=**dé novō*: cf. *auceps*=*avi-ceps*, etc.

¹ Homeric impf. *ἐλλίσσέτο* (he entreated), but also sometimes *ἐλίσσέτο* (Il. i. 15).

² The possessives, like the pronouns from which they are derived, are often enclitics.

C.—*Between a consonant and vowel.* Here the combinations are very varied, and we must confine ourselves to glancing at the most important.

(α) Nasal or liquid + *w*: in Latin *u* or *v* alternating according to laws not yet fully determined; in Greek, according to the dialect, *f* is assimilated, or lost with compensatory lengthening, or lost without compensation: Lat. *genu-a* (knees, also *genva*), Gk. *γόνf-ατα, whence Æol. γόνvατα, Ion. γούνατα, Att. γόνατα; Gk. *ξένf-o-s (foreigner), Æol. ξέννος, Dor. ξήνος, Ion. ξείνος, Att. ξένος; Gk. *πολ-f-ό- (much), Æol. πόλλο-, Att. πολλό-, cf. Ion. πουλύ. (Hom.); Gk. *σόλ-f-o- (whole), Æol. probably *δῖλλος, cf. Lat. *sollus*, *sölus*, Ion. οὔλος, Att. ὄλος = I.-E. *sol-wo-s, cf. Lat. *sälvos*¹; Gk. *κόρfā (maiden), Att. κόρη (*supra* 37).

(β) *k + w* = Gk. ππ, ἱππ-ος (also ἱκκ-ο-ς); Lat. *qu*, *equ-o-s*, where the *u* is treated neither as a vowel, inasmuch as it does not form a syllable, nor as a consonant, inasmuch as it does not make the *e* long by position.

(γ) *t + w*: Gk. (Cretan) τρέ accus. "thee," Dor. τέ (simple loss), Ion.-Att. σέ = *σσέ, cf. τέσσαρες = *τέτfαρες, Sk. catvāras (four); in Latin, *w* is simply lost in *tē*, but is vocalized in *quattuor*, *quatūor*.

(δ) *d + w*: Gk. *δfίς (twice), later δίς (cf. δώδεκα), which no doubt stands for *δδίς, if we may judge from the reduplication in ἔδδειςεν (Hom.) = *ξ-δfει-σεν, δέδδια (written δείδια) = *δέ-δfι-a, both forms from the root δfει (to fear); in Latin, vocalized in *duodecim* (probably through the influence of the vocalism of *duō* = I.-E. *du-ō, Gk. δύω), but generally *dv*, which becomes *b*, *bis* = *dvis, *bellum* = *dvellum, cf. *duellum*, *bonus* = *dvonus* and (arch.) *dven-o-s*. This change was late enough for the Latins to retain the recollection of it up to the time of Varro.

(ε) *s + w* = in Greek σf, if initial, *infra* 68, 2: when medial, it becomes σσ, ἴσος, ἴσος (equal) = *fisfos*, Sk. *vīḡva-* (all); in Latin *svē* becomes *sō*, *sōror* = *svēsor, Sk. *svāsar-* (sister), cf.

¹ It is probable that *sollus salvi*, just like *ecus equi*, and also *deus divi*, are two cases belonging to the same declension, which through analogy was split up into two declensions. For *salvi* = *solvi, cf. 34 A a and ε note.

Ger. *schwester*¹; *somnus* = **sop-no-s* (cf. *sōp-tre*) = **svep-no-s*, Sk. *svd̥p-na-s* (sleep), I.-E. **swép-no-s*.

The sound *w* in Greek is not always written *f*; we often find *β*, e.g. *βρίσδα* = *ρίζα*, which seems to show a tendency to change *w* into consonantal *v*; its representation in Æolic by *v* has been already noticed; the forms under which it appears in manuscripts, *γ*, *τ*, *ρ*, are mere errors due to late copyists, who no longer understood the meaning of the symbol *f*.

SECTION III.

VOWEL-GRADATION [ABLAUT].

(41) If we consider any syllable whatever containing one of the sounds already studied, we shall easily perceive that, both in Greek and Latin, and in any other language of the Indo-European family, the vowel may assume different forms, which, though distinct, are yet closely akin to one another, and show an exact correspondence in different languages. This phenomenon, which can nowhere be better seen than in Greek syllables containing a diphthong, *λείπ-ω* *ἔ-λπ-ον* *λέ-λοιπ-α*, *ἔ-λει(θ)-σο-μαι* *ἦλυθ-ον* *εἰλ-ήλουθ-α*, has received the name of vowel-gradation [*apophonie vocalique*, *Ablaut*]. We may distinguish three chief grades, the normal grade, the weak or reduced grade, and the deflected grade (*fléchi*).²

It is the province of morphology to determine the etymological or grammatical forms in which each of these grades regularly appears. Here it need only be said that, apart from the disturbing influences of analogy, each of these grades always characterizes formations of the same class, either in the same language or in different languages.³ Hence the pro-

¹ [According to Prof. Skeat, the English *sister* is a Scandinavian form from Icelandic *sys-tir*, allied to Anglo-Saxon *sweos-t-or*, Gothic *swis-t-ar*.]

² [The author strongly objects to the terms "middle" sometimes applied to the *e* grade, and "strong" to the *o* grade; the *e* grade was probably the strongest of all, the *o* grade being probably a weakening of it; contrast the accentuation of *φέρω* *φορά*, *φρήν* *ἄφρων*, *δοτήρ* *δώτωρ*, etc.]

³ Thus the alternation of *δ* and *ε* in conjugation, *λέγο-ντι* *λέγε-τε*, *legu-nt legi-tis*, the deflected grade in the perfect stem, the normal grade in the present in *-δ*, *λείπ-ω*, *dic-ō* = *deic-ō*, etc.

cess must undoubtedly go back to the parent-speech. The syllables in question may be classified according as they contain in the normal form (1) an *ē*, whether alone or forming part of a diphthong; (2) any other short vowel, whether alone or forming part of a diphthong; (3) a long vowel.

1. *Normal form ē*. The gradation is here so clear as to leave nothing to be desired. In the deflected grade *ē* becomes *ō*; in the weak grade it entirely disappears. In this case, if the *ē* forms part of a diphthong, the semi-vowel of the diphthong becomes a vowel in order to support the syllable; if the *ē* stands by itself, the syllable disappears along with it, provided that the consonants which it supported have any other vowels close by to support them; but if the weakening would result in an unpronounceable group of consonants, the *ē* is retained by this group and then the weak is not distinguished from the normal grade. We will now examine these different positions:

A.—*ēy*. I.-E. types, **bhēydh* (to trust), weak **bhīdh*, deflected **bhōydh*.

(α) In root. Gk. *παίθ-ο-μαι*, aor. *ἐ-πιθ-ό-μην*, perf. *πέ-ποιθ-α*, Lat. *fīd-ō* and *fīd-us*, *fīd-ēs* and (*per-*)*fīd-u-s*, *foed-us*; Gk. *φαῖδ-ος* (shape), *φιδ-έ* (imperat., see), perf. *φοῖδ-α*, Lat. *vīd-eō*, perf. *vīd-ī* = **void-ī* (? *supra* 34 A β).

(β) In suffix. Gk. *πόλ-ι-ς*, nom. pl. *πόλ-ε-ες* = **πόλ-εγ-ες*, Lat. *av-i-s*, nom. pl. *avēs* = **av-ē-ēs* = **av-ēy-ēs*, etc.

B.—*ēw*. I.-E. types, **bhēwg* (to flee), weak **bhūg*, deflected **bhōwg*.

(α) In root. *φεύγ-ω φυγ-ή*, cf. Lat. *fūg-ī*¹ and *fūg-a*; *ἐ-ρευθ-ος* (redness) and *ἐ-ρυθ-ρό-ς* (red), cf. Lat. *rūb-er* = **rub-ró-s*, and *ruf-u-s* = **réuf-o-s* or **rouf-o-s*.

(β) In suffix. Gk. *ῆδ-ύ-ς*, fem. *ῆδεῖα* = **ῆδ-έ-ια*.

C.—Simple *ē* liable to disappear. I.-E. types **gēn* (to produce, be born), weak **gn*, deflected **gōn*.

(α) In root. Gk. *γέν-ος*, reduplicated present *γί-γν-ο-μαι*, perf. *γέ-γον-α*, Lat. *gen-us* and *gē-gn-ō*; Gk. *φέρ-ω*, in composition (*δί-*)*φρ-ο-ς* (seat for two persons), subst. *φορ-ύ-ς*, *φορ-ᾶ*,

¹ Cf. *supra* 34 B β.

Lat. *fēr-ō* and probably (*candēlā*)-*br-u-m*¹ (that which bears a candle); certainly *pēnd-ō* and *pōnd-us*.

(β) In suffix. Gk. *κύων*, voc. *κύον*, gen. *κυνός*, cf. Lat. *car-ō* *car-n-is* (reduced), *hom-ō* *hom-in-is*; Gk. accus. *πατέρ-α*, gen. *πατρός*.

D.—Simple *ē* not liable to disappear. I.-E. types, **spēk* and **skēp* (to see), weak **spek* and **skep*, deflected **skop*; Gk. *σκέπτομαι* and *σκοπή* (watchtower), (*ἐπί*)-*σκοπ-ος* (overseer); Lat. *tēg-ō* and *tōg-a*, etc.

2. *Normal form ā, ō*. Here the question is complicated, for it is not even certain that a syllable in the normal form can contain any short vowel except *ē*; hence the degree here called normal may possibly have been originally a reduced form. The following are some of the most certain gradations: (1) *ā*, Gk. *ἄγω* (*σπαρ-*)-*ἄγ-ός* *ἄγ-ωγ-ή*, Lat. *āg-ō* (*amb-*)-*āg-es* and *ēg-i*; Gk. *αἶθω* (to burn) *ἰθ-αρός* (clear), Lat. *aed-es* *aes-tu-s* (heat) *īd-ūs* (pl., nights when there is a full moon); (2) *ō*, *ὄπσομαι* (I shall see), perf. *ὄπωπα*, with no other grade; in Latin, only one grade, *ōc-ulu-s*.

3. *Normal form ā, ē, ō*. *ā* is reduced to *ā* and deflected to *ō*. I.-E. **bhā* (to speak), reduced **bhā*, deflected **bhō*: Gk. *φᾶμι*, *φᾶμᾶ*, *φᾶμέν* 1st plur., *φωνή* (voice), Lat. *fā-rē* and *fā-teor*; Gk. *ἵσταμι*, aor. *ἔσταν*, but *στᾶρός*, etc., cf. Lat. *stā-re*, *stā-men* (warp), and *stā-tu-s* (state), *stā-tu-s* (fixed), *stā-bili-s*, *stā-tu-ō*. There is even perhaps in *στύω* (I place) = **στ-τύ-ω* a trace of a grade reduced still further by the complete disappearance of the *ā*.

This ultra-reduced grade also exists in the case of *ē* and *ō*; the deflected grade is *ō*, coalescing in the case of *ō* with the normal grade. Everything tends to show that the ordinary reduction resulted in *ā*, a gradation which is observed pretty faithfully in Latin; e.g. *sē-men* *sā-tu-s*, *dō-nu-m* *dā-tu-s*. But Greek, in imitation of the relation of *ἵσταμι* to *στᾶρός*, created a gradation *τίθημι* *θερός* and *δίδωμι* *δορός*, which is equivalent to saying that in Greek *ē* was generally reduced to *ē* and *ō* to *ō*:

¹ *Br* being equivalent to *bhr*, reduced form of the root **bher* (to bear). So also *πᾶλομαι* (I am), aor. *ἔπλ-ό-μην*, *πέτομαι* (I fly) and *ἐπτόμην*, etc.

CHAPTER III.

NASALS AND LIQUIDS.

SECTION I.

GRADATION APPLIED TO THE CONSONANT-VOWELS.

(43) When a syllable capable of gradation is supported by an *ε*, it may, and indeed often does happen, that this vowel is accompanied by a nasal or liquid, *γέν-ος*, *pend-δ*. In this case the syllable can be deflected without difficulty; reduction will be equally easy, if the resulting group of consonants finds a vowel to support it in the neighbouring syllable; we have already seen *γέ-γον-α* and *γί-γν-ομαι*. But what will happen if the nasal or liquid is shut in between two consonants, thus forming an unpronounceable group without a vowel? The answer is forced upon us: it must itself become a vowel in order to support the neighbouring consonants: in other words, just as in *λείπω* *ἔλιπον*, *φεύγω* *ἔφυγον*, the semi-vowels *ι* and *υ* become vocalized when they cease to be supported by the *ε*, so also to an I.-E. present **dérk-δ* (I see) there must have necessarily corresponded an aorist **e-drk-ό-m* (Gk. *δέρκ-ομαι* *ἔδρακ-ον*), and the gradation of the perfect **wóyd-a* **wid-més* (Gk. *φοῖδ-α* *ἔιδ-μεν*) irresistibly calls for a parallel gradation **ge-gon-a* *ge-gñ-més* (Gk. *γέ-γον-α* *γέ-γα-μεν*).

Sanskrit alone has preserved the vocalic *r*, the last relic of the primitive vocalism; corresponding to *ἔδρακον*, it has *ddr̥cam*, to *πατράσι* *pitr̥śu*. But, even apart from this valuable evidence, the analogy of the rest of the declension, *πατέρα*, *πατρός*, etc., would by itself be sufficient to enable us to recognise in *τρά* of *πατράσι* the same vocalic degree as in *τρ* of *πατρί*, merely modified by the accidental fact that in *πα-τρ-ί* the *r* is supported by the *ι*, whereas in **πα-τρί-σι* the *t* is forced to rest for support on

the *γ*. So also the evident parallel between *λείπω* *ἐλίπον* *λέλοιπα*, *ἐλεύσομαι* *ἤλυθον* *εἰλήλουθα*, and *δέρκομαι* *ἔδρακον* *δέδορκα*, *πείσομαι* (= **πένθ-σο-μαι*, cf. *πένθ-ος*, grief) *ἔπαθον* *πέπονθα*, would be enough to show that *δρα* is the reduced form of *δερ*, and to prove the presence of a latent nasal in the stem of *ἔπαθον* = **ἔ-πῆθ-ο-ν*.¹

Thus from historical phonetics we gain a complete confirmation of the principle we have already learned from physiological phonetics,² namely, that the nasals and liquids are consonants when they rest for support upon a vowel, vowels when a consonant rests for support upon them.

SECTION II.

NASALS AND LIQUIDS CONSIDERED IN EACH LANGUAGE SEPARATELY.

(44) Neither Greek nor Latin possesses nasal or liquid sonants (vowels). We shall see how they have changed those of the Indo-European language.

Greek has three nasal consonants, denoted respectively by the letters *γ*, *ν*, and *μ*. Before a guttural explosive (*ἄγγελος*, *ἄγκυρα*, *ἄγχι*), *γ* is the regular mode of writing the guttural nasal (*supra* 21, 2), which never appears except in this position.³ *ν* is the dental nasal, *μ* the labial nasal, and neither of these sounds presents any difficulty. They are often interchanged in writing; e.g. *ἄνγελος*, *ἀνφοτάροις*, etc.

Latin has likewise three nasals: the guttural, written *n* before a guttural, *angulus* (= *añgulus*),⁴ and *g* before a nasal, *dīgnus* (= *dīñnus*), the dental *n* and the labial *m*. These two signs are frequently interchanged in inscriptions. Often also the nasal is not written (*fēcērut*, *mēsēs*); this is especially the case with final *m* in archaic inscriptions: *οἰνδ*, *virδ* (Epit. Scip.). The reason is that final *m* was only pronounced very

¹ [In such cases *γ*, *λ*, *η*, and *υ*, being used as vowels, are called "sonants."

² *Supra* 19, 4-6.

³ *γ* followed by a nasal however (*ἄγμα*) was probably a guttural *ñ*.

⁴ We find in archaic writing also *aggulus*, *agceps*, introduced by the Hellenizers.

slightly, so slightly, in fact, as not to prevent the elision of the syllable containing it before a following vowel. According to the evidence of grammarians, it was only a very weak nasal sound, and there is not a trace of Latin final *m* in any of the Romance languages.

Greek has two liquids, ρ and λ . $\rho = r$ was in all probability lingual; but evidence is lacking as to the exact pronunciation of initial ρ , which the Latins represented by *rh*. λ is an alveolar *l* akin to *d*. The two corresponding liquids in Latin, *r* (lingual) and *l*, present no difficulty.

SECTION III.

NASALS CONSIDERED IN RELATION TO THEIR COMMON ORIGIN.

(45) A general observation which applies to all the following cases of correspondence is that both in Greek and Latin a nasal followed by a consonant is always adapted to the character of the consonant following it. Thus the \tilde{n} of **péñqe* (five) remains guttural in the Latin *quínque*, where it precedes a guttural, but becomes dental or labial respectively in $\piέντε$ and (Æol.) $πέμπε$, where primitive *q* has become *τ* or π . We all know the juxtapositions, Gk. $ἐντέλλω$, $ἐγκαλέω$, $ἐμπόδων$, Lat. *intendō*, *ignōscō* (= **ñ-gnōscō*), *impediō*, and the same phenomenon took place in the syntactical combination of two distinct words, Lat. *eandem*, and Gk. $τὴμ πόλιν$, $τὸγ κόλπον$ (a pronunciation still current), as is testified by numerous transcriptions.

This tendency to assimilation partly goes back to Indo-European, which already had nasals, both consonantal and sonant (vocalic), corresponding to each of the four classes of momentary consonants; namely velar, palatal, dental, and labial.

§ 1. Consonants.

(46) 1. Primitive \tilde{n} (velar or palatal) remains \tilde{n} in Greek and Latin, so far, that is, as the following consonant remains a guttural (*supra*): Gk. $ὄγκος$ (hook), $ἄγχω$, Lat. *uncus*, *angō*, etc.

(47) 2. I.-E. *n* = Gk. ν = Lat. *n*: Gk. $νέος$, Lat. *novos*; Gk. $νύω$ (nod), Lat. (an-) *nu-ō*; Gk. (Dor.) $ἄγοντι$, Lat. *agunt*; Gk.

φέρων, Lat. *fer-ēn-s* (the final *s* is not original, *infra*). This Greek or Latin *n* is liable to the following modifications:

A.—The group *ln* is assimilated to *ll*: Gk. ὀλλῦμι (I destroy) = *ὀλ-νῦ-μι, cf. the verbs in -νῦ-; Lesb. βόλλομαι (I wish) = *βόλ-νο-μαι;¹ Lat. *collis* = *col-*n-is*, cf. κολωνός, and probably *pellō* = *pel-*nō*, cf. the verbs in -*nō*. In Ionic-Attic compensatory lengthening is usually substituted for *λλ*; e.g. βούλομαι.

B.—The pronunciation of the group *nr* develops between the two consonants a transitional ground, which Greek denotes by δ: ἀν-ήρ, gen. *ἀν-ρ-ός, whence ἀνδρός; cf. in French *gendre* = *gēnrō = *gēnerum*,² and *infra* μβρ from μρ. At a later period, *nr* was assimilated to *pp* and *nl* to *ll*: συρράπτω = *συν-ράπτω, συλλέγω = *συν-λέγω. So also in Latin *irruō*, *illūstris*.

C.—The group formed by a nasal + *s* rarely remains; its treatment is somewhat complicated.

(α) When this group is proethnic and medial, the *s* disappears in Greek, and the preceding nasal is doubled; then this reduplication, which remains in Lesbian, is superseded in the other dialects by a compensatory lengthening of the preceding vowel: Lesb. ἔκτεννα, Ion. ἔκτεινα (aor. of κτείνω) = *ἔ-κτεν-σ-α, and so also ἔμεινα from μένω, ἐνείμα = *ἔ-νεμ-σ-α from ἱέμω, ἔφῆνα = ἔφᾶνα = *ἔ-φᾶν-σ-α from φαίνω; besides the aorists, χήν (goose), gen. χην-ός = *χᾶν-σ-ός, cf. Sk. *hamsas* (swan), and Lat. *hānser ānser*; ὤμος (shoulder) = *ὄμσος, cf. Sk. *dmsas*, Umbr. *onsus*, and Lat. *umerus* = *omesos, etc.

(β) If the group is proethnic and final, or if it has arisen exclusively in Greek, it remains in Cretan and Argive, in which dialects we find τόνς (acc. pl.), πάνσα (fem., Att. πᾶσα); in all other dialects, if the preceding vowel is short, the *ν* disappears with compensatory lengthening of the preceding vowel. In this case, *ι* and *υ* always become *ī* and *ū*; but *ᾱ*, *ε*, and *ο* give respectively, in Lesbian *αι*, *ει* (diphthong), *οι*, in Doric *ā*, *η*, *ω*, in Ionic-Attic *ā*, *ει* (vowel), *ου* (vowel). E.g. acc. pl. *πόλι-ν-ς, *ιχθυ-ν-ς, then πόλις (Herodotus), ιχθυς; τόνς τάνς, whence (Æol.) τοίς ταίς, (Dor.) τώς τᾶς, (Ion.-Att.) τούς τάς; fem., *πάντ-γα,

¹ Cf. Homeric βόλεται (Il. xi. 319), βόλεσθε (Od. xvi. 387).

² [Cf. Eng. *thunder* with Anglo-Saxon *thunor*; *kindred* with M. E. *kinrede*, A.-S. *cyn-ræden*; *spindle* with M. E. *spinel*, A.-S. *spīnl*].

whence **πάνσσα* (*supra* 39 C δ), *πάνσα*, Lesb. *παῖσα*, Dor.-Ion.-Att. *πάσα*, and so also *ιστάσα*, *τιθείσα*, *λυθείσα*, *διδούσα*, *δεικνύσα*, etc. When the group *vs* is itself followed by a consonant, the *v* disappears without lengthening; e.g. Ἀθῆνᾶζε (towards Athens) = *Ἀθῆνᾶνσ-δε: hence the forms of the acc. pl. in *os* for *ovs*, τὸς θεός, and the syntactical doublets of the preposition εἰς (into), εἰς αὐτό and εἰς τοῦτο.¹

(γ) The group *ns* in Latin, when medial, remains, except before *l*, in which case it disappears entirely with compensatory lengthening: *scāla* (ladder) = **scānsla* = **scānd-sla*, cf. *scānd-ō* and *ūlico* = **in slocō*. If it is final, *n* always disappears with compensatory lengthening: acc. pl. *terrās* = **terrā-ns*, *equōs* = **equō-ns*, *manūs* = **manū-ns*, etc.² The almost absolute validity of this law is of itself enough to show that the type *ferēns* must be a late formation.

(δ) It is sometimes said that a final *n* has been dropped in *tēmō*, *homō*, *carō*, as contrasted with *λειμών*, *κύων*, etc. But, on the contrary, it is rather the type *homō* which faithfully represents the old Indo-European nominative; the type *λειμών*, if not an old syntactical doublet, owes its *v* to the analogy of the oblique cases.

(48) 3. I.-E. *m* = Gk. *μ* = Lat. *m*: I.-E. **mé-* (me), Gk. *μέ*, Lat. *mē*; Gk. *νέμ-ος* (forest), Lat. *nem-us*; Gk. *μέλ-ι*, Lat. *mel*; cf. also *μήτηρ* *māter*, *μῦς* *mūs*, and in suffixes *ὄνο-μα* *nō-men*, *ἀγό-μενοι* and *ἀγί-μινι*, *φίδ-μες* (Dor.) and *ᾠδι-mus*.

A.—Final *m* becomes *v* in Greek: acc. sing. masc. ἵππον = *equom*; nom.-acc. sing. neut. ζυγόν = *jugum*; *ἔν* = **ἐμ* = I.-E. **sém-* (one), cf. Lat. *sem-el*; nom. χιών (snow) = **χιώμ* = Lat. *hiem-s*.

B.—To the epenthesis of *d* in the group *nr* corresponds in Greek the epenthesis of *b* in the group *mr*³: *γαμβρός* (con-nexion by marriage) = **γαμ-ρό-s*, cf. *γαμ-έω*; *ἄμβροτος* (immortal),

¹ The two forms of the word were afterwards used indifferently, or one prevailed over the other according to the dialect, much as if in French it had become allowable to say "un beau homme" or "un bel cheval" [or in English "an book," "a age."]

² Cf. the doublets *quotiēns*, *quoties*.

³ [A similar epenthesis of *b* occurs in English *embers* = M. E. *emeres*, A.-S. *æmyrian*; *slumber* = M. E. *slumeren*, A.-S. *slum-rīan*; and of *p* in *empty* = A.-S. *æmtig*.]

ἀμβροσίᾱ (drink of immortality) = *ǎ-μρο-το-s, cf. Lat. *mor-s*. When the *m* is initial, it coalesces with the following labial and disappears: βροτός (mortal) = *μβροτός = *μροτός; and so also before λ: βλώ-σκω (I go) = *μλώσκω, cf. fut. μολ-οῦμαι and perf. μέμβλωκα = *μέ-μλω-κα. Latin also shows a labial epenthesis before *l*: *ex-emp-lu-m* (sample), cf. *em-ō*; and before *s*, *sump-sī*, cf. *sūm-ō*.¹

§ 2. Sonants (Vowels).

(49) All the Indo-European nasal sonants (nasal-vowels) produce, in Latin always, and in Greek in certain positions, a vowel (Lat. *e*, Gk. ǎ) followed by a nasal consonant which we represent generally by *n*, *ν*, but which of course varies according to the nature of the following consonant. This being assumed, the laws regulating the changes of the nasal sonants become extremely simple. There are three chief cases:

1. I.-E. *ǵ* accented (very rare)² = Lat. *en* = Gk. *av*: Gk. ἴασι = *ἴαντι (they go) = I.-E. *iy-ǵti, cf. Sk. *yānti*; Old Lat. *sient* (let them be) = *s-i-ent* = I.-E. *s-iy-ǵt*.

2. I.-E. *ǵ* before *y* = Lat. *en* = Gk. *av*, after which the group *avγ* is treated in the usual way (*supra* 39 C α): Gk. βαίνω = *βάν-γω = *βῆ-γω = Lat. *ven-iō*; fem. of θεράπων (servant) = *θεραπ-ῆ-γα, whence θεραπεία, and all the feminines in -αῖνα.

3. I.-E. *ṇ* (*m*) generally = Lat. *en* (*em*) = Gk. *a* (the nasal sonant first developed a vowel before itself, then in Greek the nasal sound was merged in the vowel; so also in Sanskrit): I.-E. *sé_m- (one) reduced *sm̥, Gk. ἄ-παξ = *sm̥-παξ (once), ἁ-πλόος (simple), Lat. *sim-plec-s*, *sin-gulī*, *sim-ul*,³ *sem-el*; I.-E. *km̥-tó-m (hundred), Gk. (ἐ)-κα-τό-ν, Lat. *cen-tu-m* [Eng. *hundred*]; I.-E. *ne (negative particle), reduced *n*, and before a consonant *ṇ*, Sk. *a-* privative, Gk. *ἀ-* privative, Lat. *in-* privative, cf. Germ. [and Eng.] *un-*; I.-E. *-*m* termination of accus.,

¹ *Sumptus* is a new formation; the law regulating the character of the nasals would require **suntus*, but *sumptus* was formed on the model of *sumpsi* = *sumsi*.

² According to what has been stated above (42 and 43), the nasal sonants ought to appear only in unaccented syllables; but from the Indo-European period disturbances of accent took place, which shifted the accent on to the reduced syllable.

³ For Lat. *in* = *en*, cf. *supra* 32 A γ.

after a vowel **m* (πόλι-ν, *equo-m*), but after a consonant **m*, Gk. πόδ-α = **πόδ-m*, Lat. *ped-em* = **ped-m*; under the same conditions **m* and *m*, termination of 1st pers. sing., Gk. ἐ-λυ-ο-ν = **ἐ-λυ-ο-m*, but ἐ-λυ-σ-α = **ἐ-λυ-σ-m*. Cf. also Gk. τα-τί-ς and Lat. *ten-tu-s*,¹ Gk. βέθ-ος (depth) and βαθ-ύ-ς (deep), Gk. ἄ-τερ = **ἄ-τερ*, and Old High German *sundar*, Germ. *sonder* (without) [Eng. *sunder*], etc., etc.

Besides the short nasal sonants, Indo-European certainly possessed long nasal sonants,² the origin of which, and the laws regulating their correspondence, have not yet been entirely elucidated. [E.g. initially Gk. νᾱ (Ion.-Att. νῆ), Lat. *an*, νῆ-privative, νῆσσα = *anas*; medially Gk. ᾱ (ῆ), ἔβῆτε, Lat. *nā*, *gnā-tu-s*.]

SECTION IV.

LIQUIDS CONSIDERED IN RELATION TO THEIR COMMON ORIGIN.

(50) Indo-European had the two liquids *r* and *l*, which were sometimes confused in the daughter languages, but are reproduced in Greek and Latin with considerable exactness.

§ 1. Consonants.

(51) I.-E. *r* = Gk. ρ = Lat. *r*: Gk. ἄρ-ό-ω (to plough), Lat. *arō* = **ar-a-ō*, *ar-vo-m*, etc.; Gk. πατήρ, δῶτωρ, κέντρον, Lat. *pater*, *dator*, *claustrum*.

I.-E. *l* = Gk. λ = Lat. *l*: Gk. λέχ-ος (bed), Lat. *lēc-tu-s*; Gk. λευκ-ός (white), Lat. *lūc-e-ō*; Gk. ὄλλος ὄλος, Lat. *sollus*, etc.

The following are the only modifications:

1. **Epenthesis.**—A. In Greek, the pronunciation of initial *r*, and sometimes of initial *l*, develops a prothetic vowel of indeterminate character, *a*, *o*, *ε*; e.g. ἐρυθρός and *ruber*, ελεύθερος and *liber*, ἀλείφω (to anoint) and adv. λίπα,³ ὀρέγω (to stretch, direct) and *rēgō*.—B. In Latin, a guttural or labial followed by *l* develops an intermediate labial epenthesis: cf. *saeclum* and *saeculum*, acc. *populum* = Umbr. *poplom*, Old Lat. *poploe*

¹ It will be noticed that in Latin, in syllables containing nasals, the reduced degree cannot differ from the normal form.

² Discovered by F. de Saussure.

³ The alternate presence and absence of prothesis must be due to the existence of syntactical doublets.

(nom. pl.) cited by Festus; *-bulo-* suffix (*sta-bulu-m*) = **-blō-* = Gk. *-θλο-*.

2. **Dissimilation.**—In both languages, but especially in Latin, there is a marked tendency to interchange *r* and *l*, in order to prevent two syllables containing the same liquid from following one another; e.g. *saeclum* and *fulcrum*, *cercalis* and *populāris* (cf. however *filialis*), *caeruleus* = **caeluleus*, cf. *caelum*; and even at a distance of two syllables apart, *militāris*, etc.

3. **Assimilation.**—Latin *l* assimilates a preceding nasal or *r*: *asellus* = **asen-lo-s*, cf. *asin-u-s*; *stella* = **ster-la*, cf. Gk. *ἀ-στὴρ*, Germ. *stern* [Eng. *star*], etc.

4. The groups *σρ* and *φρ*, when medial, are assimilated to *ρρ*; when initial, they become *ῥ*: *ῥέω* (to flow) = **σρέφ-ω*, cf. Germ. *strom* [Eng. *stream*]; *ῥήγνυμι* (to break) = **φρήγνυμι*, cf. *Æol. φρήξις*. Then the spelling was influenced by analogy, so that the rough breathing came to be regarded as the necessary appendage of initial *ρ*, and it was written there even where the etymology does not seem to demand it; e.g. *ῥέω* and *ῥύομαι*.

§ 2. Sonants (Vowels).

(52) I.-E. *r* = Gk. *αρ* (initial and final), *ρα αρ* (medial), Lat. *or ur*: Sk. *ṛkṣā-s* (bear), Gk. *ἄρκτο-s*, Lat. *ūr(c)su-s*; Gk. *καρδ-ία* (heart), Lat. gen. *cōrd-is*; Gk. *ἥπαρ* (liver), Lat. *hec-ūr* = Sk. *yákṛt*, etc.

I.-E. *l* (always medial) = Gk. *λα αλ* (medial) = Lat. *ol ul*: Gk. *τέ-τλα-μεν* (we have borne), the same group *tl̥* in *tol-lō* and *tulī* = **tl̥l-t̥*; Lat. *pel-lō*, the same syllable reduced in *pul-su-s* = Gk. *παλ-τό-s* (hurled), etc.

A liquid developed from a sonant is treated in every respect like a consonantal liquid under the same conditions. Thus *ἐχθ-ρό-s* (enemy) has a derivative **ἐχθρ-γω* (to hate), whence **ἐχθάρ-γω* and *ἐχθαίρω*; and the group *βλ̥-γω* (to throw, cf. the normal form of the root in *βέλ-ος*, dart) becomes first **βάλ-γω*, then *βύλλω*, just like *στέλλω* (*supra* 39 C *α* and *β*).

Indo-European also possessed long liquid sonants. [*E.g.* Gk. *ορ, ρω*, Lat. *ar, rā*: *ὀρθό-s* = *arduo-s*, *στόρν-υμι, στρω-τός* = *strā-tu-s*.]

CHAPTER IV.

CONSONANTS.

(53) As several consonants which were originally explosives became spirants in Latin, it will be convenient first of all to take a general view of the consonants in each language.

SECTION I.

THE CONSONANTS CONSIDERED IN EACH LANGUAGE SEPARATELY.

§ 1. *Greek.*

(54) *Explosives.*—Greek has nine explosives: namely, in each of the three classes (guttural, dental, labial), one voiced, one voiceless, and one voiceless aspirate: γ, κ, χ — δ, τ, θ — β, π, ϕ . The three voiced consonants have, in modern Greek, become spirants (corresponding to *y*, English soft *th*, and *v*); but hardly any one denies that, in ancient Greek, they were pronounced like *g, d, b*, though this statement does not exclude the possibility of dialectical variations. The pronunciation of the voiceless consonants, *k, t, p*, presents no difficulty.

The aspirates are now only spirants (corresponding to Germ. *ch*, English hard *th*, and *f*), and we also have become accustomed to pronounce ϕ as *f*. This pronunciation however is incorrect, and we must beware of transferring to ancient Greek the modern pronunciation of the aspirates; for everything tends to show that χ, θ, ϕ , were really voiceless aspirates; that is to say, κ, τ, π , followed by *h*, as they are actually represented in those inscriptions in which H denotes the rough breathing, KH, ΠH. It was only in very late Greek that the aspirate absorbed the explosive preceding it and coalesced with it into a spirant; the change took place sooner in the case of ϕ than of the

others, and yet, in the time of Quintilian, the pronunciation of ϕ was still very different from that of f .¹ This is proved also by the fact that the Latins never transliterated it by f ; having no voiceless aspirates, they simply used the unaspirated voiceless consonants in those Greek words which they borrowed, *Acilēs* = Ἀχλλής, *Corintō* (Tab. Mumm.) = Κορίνθω, *purpura* = πορφύρα; afterwards, aiming at greater precision, they wrote *ch*, *th*, *ph*, which however does not imply that they pronounced the *h*. In fact, one of the chief mistakes of the "barbarians" who mispronounced Greek consisted in not aspirating the aspirates, and Aristophanes delights to ridicule this tendency of theirs, when he brings them on the stage.² This mispronunciation would be inconceivable if the pronunciation of the aspirated had been quite different from that of the unaspirated consonants. Lastly, combinations like ἀφ' οὖ = ἀπ' οὖ evidently require the pronunciation *ap'* *hū*, and the group $\phi\sigma$ is written ψ , just like $\pi\sigma$.

These remarks do not exclude the possibility of particular dialects having treated the aspirates as spirants from ancient times. Indeed, we know that this was the case with θ in Laconian: σιός = θεός, and μονσιῖδε λαλεῖ (Hesych.) = *μυθίζει.

2. *Spirants*.—Greek had three spirants: the voiceless dental σ , of Indo-European origin; the voiced dental ζ , pronounced *dz*, *zz*, *zd* according to the dialect, but always regarded as a double letter, and arising from various phonetic combinations; the voiced labial ψ , already studied as a semi-vowel. To these may be added the sound *h*, represented by the rough breathing.

§ 2. *Latin*.

(55) 1. *Explosives*. Latin has only six explosives, the voiced and voiceless unaspirated consonant in each of the three classes.

A.—*Gutturals*. The voiceless guttural is written *k*, *c*, or *q*; these three signs are exactly equivalent. The sign *c* is the most usual, and it is hardly necessary to observe that it was

¹ *Instit. Orat.* xii. 10, 28.

² *Thesmophor.* 1001 seq.

pronounced *k* before all vowels; the assibilation of *c* before *i* and *e* belongs to the Merovingian period. The archaic letter *k* was scarcely used except at the beginning of certain words, especially before *a*, *kalendae*, *Kartägō*. Lastly, *q* was written before consonantal *u*, and sometimes before vocalic *u*, *jequr*. The voiced guttural was in Old Latin written *c*, and this inconvenient spelling was retained in *C*. and *Cn.*, which are abbreviations of *Gaius* and *Gnaeus* respectively; but in every other case the sign used was *g*, which was pronounced before *c* and *i* in the same way as before *a*, *o*, *u*.

B.—*Dentals*: *t*, *d*. *T* before *i*+vowel (terminations *-tiō*, *-tius*) was only assibilated at a very late period.

C.—*Labials*: *p*, *b*, which present no difficulty.

2. *Spirants*. Besides *h* Latin had five spirants; namely, the voiced palatal *j*, already studied as a semi-vowel; the voiceless dental *s*, of Indo-European origin; the voiced dental, resulting from the softening of this, also written *z* (generally only in words borrowed from Greek); the voiceless labial *f*, arising from the Indo-European aspirated explosives; and the voiced labial *v*, already studied as a semi-vowel.

SECTION II.

THE ORIGINAL EXPLOSIVES AND THEIR DEVELOPMENT.

(56) Indo-European probably had as many as sixteen explosives, inasmuch as each of the four classes (velars, palatals, dentals, labials) included four consonants; namely, one voiceless, one voiceless aspirate, one voiced, and one voiced aspirate. From these sixteen explosives arose, on the one hand, the nine Greek explosives, on the other, the six Latin explosives, together with *h* and *f*.

§ 1. *Velars*.

(57) I.-E. *q*, *qh*, *g* *gh*. It is mainly Sanskrit which has rendered it possible to clearly distinguish the primitive velars from the palatals.¹ In certain European languages, including Greek

¹ *E.g.* I.-E. *q* becomes in Sk. *k* or *c*, whereas I.-E. *k* is changed to the spirant *ç*.

and Latin, there was liable to be developed after the velars a labial sound, which may be represented by *w*, though it must be remembered that it was much less perceptible than the *w* already investigated. This change is a sporadic phenomenon, the irregular occurrence of which is still unexplained; but both in Greek and Latin it is much more common than the retention of the pure guttural.

1. I.-E. *q*. A.—*Not labialized*: =Gk. *κ*=Lat. *c*: *καρπ-ός* (fruit)=I.-E. **qrp-ós* (?), cf. Lat. *carp-ō* (to pluck) and Germ. *herb-st*=Eng. *harv-est*.

B.—*Labialized*: (α) Before nasals, liquids, dentals, and the vowel *o* = Gk. *π* = Lat. *qv*: Gk. *πό-* (interrogative pronoun), Sk. *ka-s*, cf. Lat. *quī*; Gk. *λείπ-ω λειπ-τός*=I.-E. **léyq-ō*, Lat. *lingu-ō līc-tus*; Gk. *πέμπ-τος* (fifth)=I.-E. **pénq-to-s* (cf. *πέντε infra*)=Lat. *quīnc-tu-s*; Gk. *ἥπ-αρ* (liver)=Lat. *jec-ur*=**jequ-ur*; ¹ Gk. *ἔπ-ο-μαι* (to follow)=Lat. *sequ-o-r*, etc. (β) Before *e* and *i* = Gk. *τ*=Lat. *qv*: I.-E. **qe* (and)=Gk. *τε*=Lat. *que*; I.-E. **qt-s* (who)=Gk. *τί-s*=Lat. *qui-s*=Osc. *pi-s*; ² I.-E. **pénqe* (five)=Gk. *πέντε* ³=Lat. *quīnque*; Gk. *τί-ω* (to punish) *τί-sis* (vengeance), cf. the same syllable deflected in *ποι-νή*=Zend *kaena*=I.-E. **qoy-nā*, etc. (γ) Sometimes Gk. *κ*, especially before *v*, *λύκο-s* contrasted with the Samnite word *lupu-s*, which passed into Latin, and in the peculiar New Ionic *κό-*, which replaces the old interrogative *πό-*, the only form known to Homer.

2. I.-E. *qh*: very rare, and of no importance.

3. I.-E. *g*. A.—*Not labialized*: =Gk. *γ*=Lat. *g*: cf. Gk. *ἀγείρω* (to assemble)=**ā-γép-yw*, *ἀγορά*, and Lat. *grex*=**grĕg-s*.

B.—*Labialized*: In Latin always becomes *gv*, but initially this group is reduced to *v*, and medially before a consonant to *g*; in Greek, we find under the same conditions as for *q*: (α) the labial *β*, cf. *βopά* (food) and *vorō*=**gvora-yō*, *βαίνω* and *veniō*,

¹ The labialization disappears in Latin before a consonant and *u*, whence *luctus*, *quinctus*, *jecur*, and also *secūtus*, *locūtus*=**loquūtus*.

² The Oscan labial justifies us in thinking that *popina* and *palumbēs*, Latin doublets of *coquina* and *columba*, are borrowed from Oscan.

³ Æol. *πέμπε* is a new formation based on *πέμπτος*. On the other hand, phonetics would require the conjugation *ἐπομαι*, **ἐτεται*, and the perfect of *τίω* should be **τέ-ποι-α*. Analogy wrought great havoc in formations diverging so widely from one another.

βαρ-ύ-s (= I.-E. **grr-ú-s*) and *gra-v-i-s*, *ἀ-μείβ-ω* (to exchange) and *mig-rō*, etc.; (β) the dental δ, cf. Dor. *δῆλεται* (he wishes) contrasted with Lesb. *βόλλεται*, Lat. *vol-ō* = **gvol-ō*;¹ (γ) sometimes the guttural, e.g. *γυνή* (woman) = Bœot. *βανᾶ*, cf. Goth. *qinō* [Eng. *queen*].

4. I.-E. *gh*. As a general rule, the Indo-European voiced aspirates become in Greek voiceless aspirates; their treatment in Latin is much more complicated, and will receive special notice later on, the hints which follow being only provisional.

A.—Not labialized: = Gk. *χ* = Lat. *h*: I.-E. **ghend* (to seize), Gk. (fut.) *χέισομαι* = **χένδ-σο-μαι*, (pres.) *χανδ-άν-ω*, Lat. (*pre-*) *hend-ō*.

B.—Labialized: Lat. *hv* medially, then the aspirate disappears (*nivem* = **nihv-em*), unless the group *ghv* is preceded by a nasal, in which case the *g* simply loses its aspiration (*ninguit*, it snows = **niñghv-ī-t*); *f* initially and before *r*; in Greek, φ, θ, χ, according to the position: (α) I.-E. **ghen-* (to strike, kill, cf. Sk. *han-*), Gk. *φόν-ος* (murder), *ἐ-πε-φν-ο-ν* with reduplication (I killed); *νίφ-α* (acc., snow), *νείφ-ει*² *νίφ-ει* (it snows), cf. *nivem*, *ninguit*. (β) The same I.-E. **ghén-* in the normal form in *θείνω* = **θέν-γω* (I strike), cf. Lat. (*of-*) *fen-dō*; Sk. *ghar-mā-s* (hot), Gk. *θερμός-s*, *θέρ-ος* (summer), Lat. with reduced syllable *for-mu-s* (hot), *fur-nu-s* (oven), etc. (γ) Sometimes χ; e.g. *ἄνυχ-ος* (gen.) = Lat. *ungu-i-s*, and *ἐ-λαχ-ύ-s*, cf. Lat. *levis* = **leh-v-i-s*.

§ 2. Palatals.

(58) I.-E. *k*, *kh*, *g*, *gh*. To these, as to the non-labialized velars, correspond the three Greek gutturals and Latin *c*, *g*, *h*, and *f*.

1. I.-E. *k* = Gk. *κ* = Lat. *c*: I.-E. **nek* (to die), Sk. *naç-*, Gk. *νέκ-υ-s* *νεκ-ρό-s* (dead), Lat. *neç* = **nēc-s*, *nec-ō*, *noc-eō*, etc.;

¹ *βέλος* (dart) ought therefore to have been **δέλος*; it has yielded to the influence of *βάλλω*.

² We should expect **νείθει*, but the consonant of **νίφα* has caused the alteration. These observations might be extended *ad infinitum*.

I.-E. **dékṃ* (ten)=Gk. *δέκα*=Lat. *decem*, cf. Sk. *dāṣa*; Gk. *κλυτός*, Lat. (*in*-)*clu-tu-s*; Gk. *κέρας*, cf. Lat. *cor-nu*.

2. I.-E. *kh* (very rare)=Gk. *χ*=Lat. *c*. Cf. *σχιζω*=**σχιδyw* and Lat. *scind-ō*, Sk. *chindā-mi* (I tear).

3. I.-E. *g*=Gk. *γ*=Lat. *g*: I.-E. **gōn-ū* or **gēn-ū* (knee), Sk. *jānu*, Gk. *γόνυ*, Lat. *genu*; I.-E. **wérg-o-m* (work), Gk. *ἔργον*, cf. also *γινώσκω* and (*g*)*nōscō*, *ἄγω* and *agō*, *ἐγώ* and *ego*, *ἀργός* (white), *ἄργυρος*, and *arg-entum*, etc

4. I.-E. *gh*=Gk. *χ*, according to the law already known. The *χ* of ancient Greek has become a simple spirant in modern Greek, and a similar change took place in pre-historic times in Latin, so that in Latin *gh* initially and medially is represented by a simple *h*,¹ and even this was dropped in pronunciation and often in writing. After a nasal however the guttural remained, losing its aspiration, whence Latin *g*. E.g. I.-E. **dñgh-ō* (I press), Gk. *ἄγχω*, Lat. *ang-ō*; I.-E. **migh-* (to make water, cf. Sk. *mih-*), Gk. *ὀμιχέω*, Lat. *mēio*=**meih-ō* or **meih-yō*, but *ming-ō* without aspiration; Gk. *χόρος* (grass), Lat. *hortus*; Gk. *ἔχω*=*féχω* (to convey), the meaning of which has been preserved at any rate in Homeric *ὄχος* (chariot), cf. Sk. *vāh-ā-mi*, Lat. *veh-ō* and *via* (carriage road)=**veia*=**veh-ia*; the same loss of *h* in *mī*=*mihī*, cf. Sk. *māhyam* (to me).

§ 3. *Dentals.*

(59) I.-E. *t*, *th*, *d*, *dh*; Gk. *τ*, *δ*, *θ*; Lat. *t*, *d*, *f*.

1. I.-E. *t*=Gk. *τ*=Lat. *t*: Gk. *τρέις*, Lat. *trēs*, Gk. *τείνω*=**τένω*, *τατός*=**τητός*, Lat. *ten-dō*, *ten-tu-s*; Gk. *ἔτι* (besides), Lat. *et*; Gk. *ἔτος* (year), Lat. *vet-us*, etc. Gk. *τ* before *ι* is assibilated and becomes *σ* in all dialects, except Doric² and Boeotian: e.g. *δίδω-σι* (he gives), Dor. *δίδω-τι*, Sk. *dādāti*, Lat. *tremonti* (?); *πλούσιος* (rich), Dor. *πλούτιος*, cf. *πλούτος*; -σι-, suffix of feminine nouns of action, *βά-σι-ς*, *φύ-σι-ς*, etc., in Sk. -*ti-*, in Lat. -*ti-* in *gens*=**gen-ti-s*, *pars*=**par-ti-s* (acc.

¹ The cases in which an initial *f* alternates with an *h*, e.g. *folus holus* (vegetable), may be due to Sabine doublets. Cf. however *fu-nd-ō* and *χέ-ω*=**χέφ-ω*, aor. *ἔχυ-το*.

² There are however numerous instances of assibilation in Doric.

par-ti-m, adv.), and with a secondary suffix in nouns in *-ti-ō*.¹ The group *στ* however remains unchanged, e.g. *ἐστ-ί* (he is), *πίσ-τι-ς* (faith) = **πίθ-τι-ς*, cf. *πείθ-ω*. The numerous cases in Ionic-Attic in which *τ* has not been assibilated before *ι* may generally be attributed to the disturbing influence of analogy.²

2. I.-E. *th* cannot be restored with any certainty except in the suffix of the second pers. sing. of the perfect: Sk. *vēt-tha* (thou knowest), hence I.-E. **wóyd-tha*, corresponding to which Greek has *θ* and Latin (much corrupted however) a simple *t*: *foiō-θα* *vid-is-ti*.

3. I.-E. *d* = Gk. *δ* = Lat. *d*. To the examples already given (*δóμος domus*, *δώωρ dātor*, *οἶδα vidē*, etc.) may be added *δεξι-ώ-ς* and *dex-ter*, *δόλ-ο-ς* (trick) and *dol-u-s* (*sēdulō* = **sē dolō*, without fraud), *ιδίω=σφιδ-ίω* and *sūdō*, cf. Germ. *schwitzen* [Eng. *sweat*], *βραδύς=μῦθ-ύ-ς*, Sk. *mydús*, and *mollis* = **mold-v-i-s*, cf. *ἰήδύς* and *suāvis*. We see from the last instance that Lat. *ld* becomes *ll*. The same is the case with Lat. *dl*: *sella* (chair) = **sed-la*, cf. *sed-eō* and *ἔδ-ος*. Sometimes a simple *d* appears under the form *l* in Latin, which must be due to a mixture of dialects: *lacru-ma*, arch. *dacru-ma*, Gk. *δάκρυ*; *oleō*, *odor*; *lingua* = **dingua* = I.-E. **dṛghwā*, cf. Eng. *tongue*, Germ. *zunge*; *sol-um*, *ἔδ-αφος* (soil), and *cōn-sul-ēs* (those who sit together), *ex-sul* (= *qui extra sedet*), etc. Greek does not seem to be exempt from this change; for the borrowed word *Ulyssēs* perhaps comes from some Doric dialect of Magna Græcia in which **Ὀδυσσεύς* was pronounced **Ὀλυσσής*.³

4. I.-E. *dh* = Gk. *θ* = Lat. *f* initially. When medial, præ-Italic *f*, which is kept in other dialects, cannot remain in Latin; when arising from I.-E. *dh*, it generally becomes simple *d*; but after *u* or *v*, before *l*, and before or after *r*, it becomes *b*, in the same way as *f* arising from *bh* (*infra*).

¹ Notice that this suffix in its turn has been assibilated in the Romance languages.

² For example, in declension, when *τ* was not followed by *ι*, it remained. Hence the proper declension would be *φύσις* **φύτεος* = **φύ-τεγ-ος*; but the analogy of *φύσις* produced *φύσεος φύσεως*. On the other hand, the analogy of *φάτεος* restored the forms *φάτις*, *μήτις*, etc. So also the Greek locatives *φέροντι*, *δρύματι*, etc., are to be explained by the analogy of *φέροντα*, *δρύματος*.

³ **Ὀλυττεύς* is found in an inscription on an Attic vase; still it is possible that the corruption *Ulyssēs* is of purely Latin origin.

A.—*Initial*: I.-E. **dhē-* (to suckle), Sk. *dhdy-a-ti*, Gk. *θη-λή*, *θη-λυ-s*, Lat. *fē-lā-re*, *fē-mina*, *fī-lius*, etc.; Gk. *θῦ-μός-s*, Lat. *fū-mu-s*, cf. Sk. *dhū-mā-s*; Gk. *τί-θη-μι*, *θε-τός-s*, Lat. *fa-ci-ō*, cf. Sk. *dā-dhā-mi*, etc.

B.—*Medial*, Lat. *d*: I.-E. **bhēydh-ō* (I persuade, believe), Gk. *πειθ-ω* = **φείθ-ω*, Lat. *fīd-ō* = **fīf-ō*; I.-E. **médh-y-os*, Sk. *mādh-ya-s*, Gk. *μέσσο-s* = **μέθ-yo-s*, Osc. *mefiai* (in *mediā*), Lat. *med-iu-s* = **mef-iō-s*.

C.—*Medial*, Lat. *b*: I.-E. **owdhy* (teat), Gk. *οἶθαρ*, Lat. *ūber* = **oufer*, cf. Germ. *euter* [Eng. *udder*]; suffixes of nouns denoting instrument, Gk. *-θλο-*, *θύσ-θλο-ν* (sacrificial instrument), Lat. *-bulo-* = **blo-*, *sta-bulu-m*, and Gk. *-θρο-*, *ἄρ-θρο-ν* (joint), Lat. *-bro-*, *flā-bru-m* (blast), cf. Osc. *Venā-fro-m* (perhaps "hunting-land"); I.-E. **rudh-rō-s* (red), Gk. *ῥυθ-ρός-s*, Lat. *ruber* = **rub-ro-s*, cf. *rūf-u-s*, which was probably borrowed from another dialect, etc.

§ 4. Labials.

(60) I.-E. *p*, *ph*, *b*, *bh*; Gk. *π*, *β*, *φ*; Lat. *p*, *b*, *f*.

1. I.-E. *p* = Gk. *π* = Lat. *p*: Gk. *πα-τήρ*, Lat. *pa-ter*; Gk. *πέτ-ο-μαι* (to fly), Lat. *pet-ō*; Gk. *ἑπτά*, Lat. *septem* = I.-E. **séptm*; Gk. *ὑπέρ*, Lat. *super*; Gk. *ἔρπω*, Lat. *serp-ō* (to creep). Lat. *quīnque* = I.-E. *péñqe* (Gk. *πέντε*), *coquō* = **quēquō* = **pēquō* (Gk. *πέσσω* = **πέκ-yω* and *πέπτω* = **πεqu-yω*), *bibō* = **pibō* (Sk. *pi-bā-mi*), are instances of sporadic corruption due to the assimilation of the first syllable to the second.

2. I.-E. *ph*: very rare, and of no importance.

3. I.-E. *b* (very rare) = Gk. *β* = Lat. *b*: cf. *βάρβ-αρο-s* (one who speaks an unintelligible language) and *balb-u-s* (stammering); perhaps *τι-θαιβ-ώσσω* (to work) and *fab-er* (artisan).

4. I.-E. *bh* = Gk. *φ* = Lat. *f*, which remains initially and becomes *b* medially: I.-E. **bhēr-ō* (I bear), Sk. *bhār-ā-mi*, Gk. *φέρ-ω*, Lat. *fer-ō*; Sk. *bhū* (to be), Gk. *φύ-ω*, Lat. *fu-ī*; Sk. *bhrātār-* (brother), Gk. *φράτωρ*, Lat. *frāter*; Gk. *ἄμφί* (around), Lat. *amb-īre*, cf. Osc. *amfret* (ambiunt); Gk. *ἀλφ-ός-s* (white leprosy), Lat. *alb-u-s* (white), Umbr. *ālfu*, cf. the proper names

Albius and *Alfius*; Lat. *ti-bi*, *si-bi* = Umbr. *tefe*, *sefe* = Osc. *tifei*, *sifei*, cf. Sk. *tū-bhyam* (to thee), etc.¹

§ 5. Supplementary Laws.

(61) 1. **Deaspiration.** In Greek, as in Sanskrit, two consecutive syllables cannot begin with an aspirate; hence the first loses its aspiration: I.-E. **bhéydh-ō*, Lat. *fid-ō*, Gk. *πείθ-ω*² = **φείθ-ω*; I.-E. **bhudh-* (to ask, know), Sk. *bōdh-a-ti* (he observes), *buddha-* (learned), Gk. *ἐ-πυθ-ό-μην* (I asked); Gk. *ἐ-θην*, passive *ἐ-τέ-θη-ν* (I was placed); Gk. *θρίξ* (hair) = **θρίχ-s*, gen. sing. *τριχ-ός* = **θριχ-ός*, but loc. pl. *θριξί*; Gk. *τρέφ-ω* (to nourish) = **θρέφ-ω*, cf. the fut. *θρέψω* and perf. *τέθραμ-μαι* = **θέ-θρφ-μαι*; *ἔχ-ω* (I hold, have) = **ἔχ-ω* = **σέχ-ω*, cf. Sk. *sdh-ā-mi*, aor. *ἔ-σχ-ο-ν*,³ and fut. *ἔξω*; in compounds, *ἐκεχειρία* (truce) = **ἐχε-χειρία*; reduplication of the voiceless aspirate by means of the corresponding non-aspirated consonant, in the present and perfect, *κιχάνω*, *τέθεικα*, *πιφαύσκω*, etc.

To this phenomenon is perhaps due the Greek *ā*-copulative, often used instead of *ā*-, which is the only regular form in this function, inasmuch as it represents the primitive group **sm-*;⁴ e.g. *ἀ-θρόο-s* (crowded together, dense) = *ā-θρόο-s* = **sm-θρόο-s*, cf. *ἄπαξ*, *ἄπας*, etc. It is even possible that the aspirate sometimes produced the same effect at a distance of two syllables: *ἀ-λοχο-s* (wife, cf. *λέχος*, bed); and from these cases analogy may have transferred the smooth breathing to cases where the rough breathing ought to have remained, e.g. *ἄ-κοιτι-s* (wife), *ἀκόλουθο-s*, etc.⁵

The very rare cases in which two aspirated syllables follow one another occur either in compounds whose formation dates from a period later than the operation of this law, e.g. *ὀρνι-θο-θήρᾱ-s* (bird-catcher), or in forms contaminated through a

¹ The strict character of these correspondences throws suspicion on the connexion of Lat. *herb-a* and Gk. *φορβ-ή* (fodder).

² The same rule holds good even when the second aspirate afterwards disappeared: *πιστός*, *πίστις*.

³ *σχ* is of course the reduced form of the syllable *σεχ*.

⁴ **sm* is the reduced form of **sem-* (one), *supra* 41 and 49, 3.

⁵ On the other hand, if *ἀθρόος* (Att.) is not an incorrect form, it must owe its rough breathing to the analogy of *ἄπας*, *ἄπλος*.

very natural process of analogy, e.g. ἐχύθη (it was poured), cf. ἐχυτο, etc.

It is hard to explain the deaspiration of the second aspirate instead of the first in the type λύθητι (be loosed) = *λύ-θη-θι. The most probable explanation is that λύθητι for *λύ-τη-θι is due to the analogy of the third person λυθήτω.

(62) 2. Assimilation. We may distinguish two chief cases of assimilation: A.—the explosive does not change its nature, but a voiceless consonant is replaced by the corresponding voiced consonant, or *vice versa*; B.—the explosive is changed to a nasal or spirant.

A.—(a) As a general rule, in Greek and Latin, a voiced followed by a voiceless consonant becomes voiceless, and a voiceless followed by a voiced consonant becomes voiced, and the evidence of the grammarians justifies us in asserting that this change regularly took place in pronunciation, even when not denoted in writing: Gk. ἐγβιβάζων (inscr.), usual spelling ἐκβιβάζων, κάππεσε (he fell) = *κάτ πεσε, with assimilation of the dental to the labial, but κάββαλε (he threw down), etc.; Latin prefixes *ap-* and *op-* in *ap-erīō* and *op-erīō*, but *ab-dūcō*, *ob-dūcō*, *sub-dūcō*, etc., and the wrong spelling *ob-tineō* did not prevent the pronunciation *optineō*.¹ Hence these prepositions as used separately (cf. Gk. ἀπό, ὑπό), must be regarded as syntactical doublets; the Latins first said regularly *ab domo*, *sub gremiō*, then through analogy *ab urbe*, *sub iove*; but in spite of the spelling, they never ceased to pronounce *sup caelō*, *sup tectō*.²

(β) In accordance with the same law, the groups, Gk. γσ, Lat. *gs*, become κσ, *ks*, written ξ and x; Gk. βσ, Lat. *bs*, become πσ (written ψ) and ps; Gk. φλόξ (flame), cf. gen. φλογ-ός; Lat. *rēx*, cf. gen. *rēg-is*; Gk. φλέψ (vein), cf. gen. φλεβ-ός; Lat. *plēps* (written *plebs*), cf. gen. *plēb-is*; *scrīb-ō*, but *scrīp-sī*, *scrīp-tu-s*, etc.

(γ) So also the Greek groups φσ and χσ are written ψ and ξ,

¹ In French also *abcès* is pronounced *apcès*; *obtenir*, *optenir*, etc.

² Cf. also the Homeric forms κάκ κεφαλῇν, κάγ γόνυ, ὑββάλλειν (Il. xix. 80), and many others. In Latin inscriptions the spellings *set*, *aput*, etc., are often found, not only before a voiceless consonant, but in other cases also; the Latins said *aput tē*, *set contrā*, and hence *aput mē*, *set mihi*, etc.

which seems to show that the first letter loses its aspiration, as is also presupposed by the initial aspirates of $\xi\acute{\xi}\omega$ and $\theta\rho\acute{\epsilon}\psi\omega$. It must however be observed that in the old Attic alphabet, in which the double consonants had not yet been developed, these groups were always written $\phi\sigma$ and $\chi\sigma$, whatever their origin.

(δ) In Greek a non-aspirated explosive, when followed by an aspirated explosive, becomes aspirated: $\lambda\acute{\epsilon}\iota\pi\omega$ $\acute{\epsilon}\lambda\acute{\epsilon}\iota\phi\text{-}\theta\eta$, $\sigma\tau\acute{\iota}\zeta\omega$ = $\ast\sigma\tau\acute{\iota}\gamma\omega$ $\acute{\epsilon}\sigma\tau\acute{\iota}\chi\text{-}\theta\eta$, etc. This assimilation however seems to have existed merely in writing; the first explosive must have been a simple voiceless consonant.

(ε) Before a nasal, a voiceless guttural becomes voiced: Gk. $\pi\rho\acute{\alpha}\sigma\sigma\omega$ = $\ast\pi\rho\acute{\alpha}\kappa\gamma\omega$, $\pi\rho\acute{\alpha}\gamma\mu\alpha$, $\beta\rho\acute{\epsilon}\chi\omega$ (to moisten), perf. $\beta\acute{\epsilon}\beta\rho\epsilon\gamma\mu\alpha\iota$; Lat. *sec-āre* (to cut), *sēg-mentu-m*, etc.¹

(ζ) These regular alternations of voiced, voiceless, and aspirated consonants in formations obviously related to one another naturally gave rise to analogical confusions, which caused each sound to spread outside its proper sphere. Thus, by the side of $\acute{\alpha}\lambda\lambda\acute{\alpha}\tau\tau\omega$ = $\ast\acute{\alpha}\lambda\lambda\acute{\alpha}\kappa\gamma\omega$, we find the aor. pass. $\eta\lambda\lambda\acute{\alpha}\gamma\text{-}\eta\text{-}\nu$ and the substantive $\acute{\alpha}\lambda\lambda\alpha\gamma\text{-}\eta$, based on the regular $\eta\lambda\lambda\alpha\gamma\text{-}\mu\alpha\iota$; $\pi\rho\acute{\alpha}\gamma\mu\alpha$ gave rise to a perfect $\pi\acute{\epsilon}\pi\rho\acute{\alpha}\gamma\alpha$, and the aspirated perfects of Attic and the κοινή ($\tau\acute{\epsilon}\tau\rho\acute{\iota}\phi\text{-}\alpha$ from $\tau\rho\acute{\iota}\beta\omega$, $\pi\acute{\epsilon}\pi\lambda\epsilon\chi\text{-}\alpha$ from $\pi\lambda\acute{\epsilon}\kappa\omega$) are doubtless due to analogy. We need only compare $\acute{\alpha}\rho\pi\text{-}\alpha\zeta$ $\acute{\alpha}\rho\pi\text{-}\alpha\gamma\text{-}\omicron\varsigma$ with the other Greek nouns in $\text{-}\alpha\zeta$, which form their genitive in $\text{-}\alpha\kappa\text{-}\omicron\varsigma$, and with the Latin nouns of the same type, *vor-āx* *-āc-is*, to be convinced that in the Greek word the voiced guttural cannot be original; on the other hand, *vor-āg-ō* (whirlpool), which is connected with *vor-āx*, seems to point to a primitive declension $\ast\text{vor}\acute{\alpha}\kappa\acute{\omicron}$ $\ast\text{vor}\acute{\alpha}\gamma\eta\eta\text{-}\nu\text{-}\iota\varsigma$, the *g* being afterwards introduced by analogy into the nominative. So again the guttural of *pax* *pac-is* was softened quite regularly in *pangō* (to fix, fasten, cf. $\pi\acute{\eta}\gamma\text{-}\nu\bar{\nu}\text{-}\mu\iota$), which doubtless arose from $\ast\text{pac-n}\acute{\omicron}$, later $\ast\text{pa}\eta\eta\gamma\text{-}\nu\acute{\omicron}$ (*infra*), and this softening in its turn was wrongly extended to *pe-pig-i*. A very slight acquaintance with either language will suffice to furnish many other examples.

(63) B.—(a) In Greek and Latin, a guttural or labial explo-

¹ Cf. also *dig-nu-s* as contrasted with *dic-er-e* or rather *dec-et*, and see the further investigation of this guttural later on.

sive followed by a nasal is changed to a nasal of the same class. In the case of a guttural, the change is not denoted in writing; but the grammarians inform us *dignus* and *ignoscō* were pronounced *dīgnus*, *īgnoscō*, and there is the same reason for thinking *πᾶγμα* was pronounced *πᾶήμα*; the well-known dialectal spellings *γῖνομαι* *γινώσκω* are directly due to the pronunciation *γίηνομαι*, which sooner or later superseded *γίγνομαι*. *Pm* and *bm* = *mm*: Gk. *ὄμματα* (eyes) = **ὄπ-ματα*, cf. Lesb. *ὄπματα* and perf. *ὄπωπα*; Gk. perf. *τέ-τριμ-μαι* from *τριβ-ω*, *γέ-γραμ-μαι* from *γράφ-ω*; Lat. *summus* = **sup-mo-s* from *super*, *submoveō* and *summoveō*, etc. *Pn* (unchanged in Greek) and *bn* = *mn*: Gk. *ἀμνός* (lamb) = **ἄβ-νό-s*, the *β* representing the velar guttural of I.-E. **ag-nó-s*, which is found in the Latin word *ag-nu-s*; Gk. *σέβ-ο-μαι* (to venerate), and *σεμ-νό-s*, but *ἕπνος* (sleep); Lat. *somnus* = **sop-no-s*, *Sab-inī* and *Sam-niu-m*, *scab-ellu-m* and *scam-nu-m* (bench), etc. This law was often modified by the influence of analogy.

(β) Every dental explosive followed by an *s* is completely assimilated to it: Gk. loc. pl. *ποσσί* = **ποδ-σί*; perf. *πέπυσσαι* (thou hast learned, thou knowest) = **πέ-πυθ-σαι*; *ἐλπίς* (hope) = **ἐλπίς* = **ἐλπ-ιδ-ς*; Lat. *concoro* = **con-cord-s*, *mīlēs* (gen. *mīl-it-is*) = **mīless*¹ = *mīl-ēt-s*, etc.

(γ) The Latin groups *cf*, *df*, *bf*, etc., become *ff*, e.g. *effero* = **ec-fero* (Gk. *ἐκ*), *affero*, *offerō*, etc.

(64) 3. Reduction of Groups of Consonants.

A.—The most remarkable instance of this kind of reduction is furnished in Latin by the group *tst*, which must have been developed, before Greek and Latin yet existed, from the meeting of a dental explosive with a *t*. For from *φοῖδ-α* we should have regularly had 2nd sing. **φοῖδ-θα*, 2nd pl. **φιδ-τέ*, and Greek has *οἶσθα ἵστε*, which presuppose the intermediate forms **φοῖτσθα* **φῑτστε*, with parasitic *σ*. In this case the first dental is assimilated to the *σ*, and so in the end the result is the same as if it had been originally changed to *σ* before a dental; indeed, the law is often stated in this form, which is quite admissible in Greek taken by itself.² But in Latin the phenomenon is much

¹ The last syllable is still sometimes scanned as long in Plautus.

² This *σ* was afterwards extended by analogy to positions where it was

more complicated, as will be obvious at once from the contrast between **quat-tu-s*, which would be the regular participle, and *quassus*, which is the real participle of *quat-iō*.

The process is as follows: **quat-to-s* with the sigmatic insertion became **quatstos*; then the group *tst* was reduced to *ss*, except before *r*, when the group was reduced to *st*; finally, after a long vowel, the group *ss* was reduced to a single *s*: cf. *quāssus*, *claustrum*=**claud-(s)tro-m* and *clausus*=**claussus*, and the double spelling *caussa* and *causa*. This explains the origin of the numerous Latin participles in *-su-s* and *-sūru-s*, and the substantives in *-sor* (*sūdsor*) and in *-sūra* (*mēnsūra*).¹

B.—In Latin the initial groups *spl* and *stl* are reduced to a simple *l*: *liēn*² (spleen), Gk. σπλήν; archaic *stlīs stlocu-s*, in later Latin *lis locus*. The same is the case with *tl*, when initial: *lātu-s* (borne)=Gk. τλη-τό-ς, from τλά-ω. When medial, *tl* becomes *cl*, if, as is very probable, the nouns of instrument in *-clo -culo* correspond to the Greek neuters in *-τλο-*. The groups *tc* and *tp* are reduced to *cc* and *pp*: *ac-currō*, *ap-petō*; so also *pc* becomes *cc*, *oc-currō*.

C.—Among the other most important reductions in Latin may be mentioned: (α) The loss of the group *cs* before every voiced consonant, with compensatory lengthening, *ē-luō ē-gredior*, etc. (= *ēx*), *subtēmen* (weft)=**tēx-men*, etc. (β) The simple loss of an explosive in too complicated groups: *discō*=**dīc-scō*, cf. *di-dic-ti*, so also in Greek διδάσκω=**δι-δάκ-σκω*, cf. fut. διδάξω; *poscō*=**porc-scō*, cf. *prec-or*;³ perf. *sparsē*=**sparg-sē*, cf. *sparg-ō*, and many others.

(65) 4. Final Explosives. Greek does not allow the presence of any explosive at the end of a word; all final explosives disappear without compensation: voc. *ἄνα*=**ἄνακτ*, cf. *ἄνακτ-ος* gen.; nom. *γάλα* (milk)=**γάλακτ*, cf. *γάλακτ-ος*;

not required for phonetic reasons: thus *ιστε* produced (Att.) *ισμεν*=*ιδμεν*, and the regular *ἐ-σχισ-ται* (= **ἐ-σχιδ-ται*) is reflected in *ἐ-σχισ-μαι*; in *ἡκουσται* for **ἡκου-ται* (*ἀκούω*) the *σ* has not even this justification.

¹ Of course this termination also was spread by analogy outside its proper sphere: *sparsus* (for **sparc-tu-s*) on the analogy of *sparsi*, etc. So also *pulsus* for **pul-tu-s*=*παλ-τό-ς*, *lapsus*, etc. (cf. the regular *scriptus*).

² The group is retained in *splendēre* and the kindred words; why?

³ *porc* is the reduced grade of the syllable *prec*, cf. Sk. *prcchāmi*=**prk-skā-mi*.

3rd sing. ἔλεγε = *ἐλεγ-ετ, cf. Lat. *leg-it*; 3rd pl. ἔλεγον = *ἐλεγ-οντ, cf. *leg-unt*; abl. adv. οὕτω (so) = *οὕτωδ, cf. O. Lat. *is-tōd*, etc. The numerous cases in which this final δ seems to be represented by σ—e.g. the doublet οὕτως and all the adverbs in -ως derived from adjectives, καλῶς = *καλῶδ, cf. Lat. *certō*—must be due to the existence of syntactical doublets.¹

Latin only drops the last explosive in a final group, e.g. *lāc* = **lact*. Final *d* however, which remains after a short vowel, *sed*, *apud*, *quod*, is dropped in the classical period after a long vowel: abl. *equō* = **equōd*, *marī* = **marīd*, imper. *legītō* = **legītōd*, cf. Gk. φερέ-τω and Sk. *bhāra-tāt*. This *d* is still found in all old inscriptions, and the metre often requires its restoration in Plautus.

(66) 5. The Aspirates in Latin. The fate of the aspirates in Latin is remarkable. It is not unnatural that *gh* should be changed by deaspiration to *g*, or that, on the other hand, the aspiration should prevail, thus changing it to *h*. The transition from initial *dh* and *bh* to *f* was effected through the intermediate stages of *th* and *ph*; for *ph* easily becomes *f*, as is shown by Greek φ, and *th* pronounced as a spirant (Eng. *th*) is equally near to *f*.² But it is less easy to understand why Latin medial *f* should go back again, sometimes to *d*, sometimes to *b*. It is probable that this took place at a time when the medial sound had not yet become *f*, but had reached, say, the stage of *th* or some other sound closely akin to it; at this point the further development of the sound in Oscan and Umbrian took the direction of *f*, whereas in Latin it took a different direction.

SECTION III.

PRIMITIVE SPIRANTS.

(67) Besides the spirants *y* and *w*, which have already been treated of in so far as they appear as semi-vowels, and some

¹ In **yōd* (ὥς), when standing alone, the δ would fall away; but a combination like **yōd toy* (as to thee) necessarily gave **yōttoy*, Gk. ὥς τοι, *supra* 64 A.

² The modern Greek Θεόδωρος has become in Russian *Fédor*. Cf. also the Æolic φήρ = θήρ

sounds whose existence is more problematical, and which may therefore be neglected, the Indo-European language possessed only the two dental or sibilant spirants *s* and *z*. Moreover, as the voiced spirant only arose through the assimilation of the voiceless spirant to a following voiced consonant, they may both be studied under the same heading, provided we bear in mind that the groups *σβ* (*σβέννυμι*), *σγ* (*μίσγω*), *σδ* (always in Æolic instead of *ζ*) are equivalent in pronunciation to *zb*, *zg*, *zd*.

The treatment of the primitive sibilant varied considerably according to its position.

§ 1. Initial *s*.

(68) 1. *Before a vowel.* *S* remains in Latin and becomes *h* (rough breathing) in Greek: *ἑπτὰ septem*, *ἔρπω serpo*, *ἔδος sedeō*, *ἁπλός¹ simplex*, etc. This law is most strictly observed. Initial *σ* in Greek always arises from an earlier group of consonants, not from *s*. Thus, in the case of *σεύω* (to put in motion) = **σσειώ* (cf. aor. *ἑσούμην*), we must restore I.-E. **qyu*, a form indicated by the Sk. *cyu*; in *σέβ-ομαι* (to worship), the initial group was *ty*; in *σάλος* (swell), probably *sw*, cf. Germ. *schwellen* [Eng. *swell*];² in *σῆς* (swine) = *îs*, Lat. *sūs*, the restoration of the *σ* may be due to the oblique cases, in which it would be retained in old Greek, as, for example, in the genitive **σf-ός*.

2. *Before a semi-vowel.* The initial groups *sy* (very rare) and *sw* are changed to the rough breathing in Greek, *ξξ* = **σfξξ* (six), the pronoun *ξ* = **σfέ*, cf. *ἑός* = **σfός*, Lat. *suus*. *Sw* must have passed through the intermediate stage of *wh*, as is proved by the spelling *ξξ* found in inscriptions, and by the necessity of reading *ξέ φοί* in many verses of Homer. In Latin, the semi-vowel simply disappears, *sex*, *sē*; cf. however *supra* 40 C and

3. *Before a nasal or liquid.* As *sw* becomes *wh*, *sh* how- Greek *sr* becomes *rh*, written *ρ*; in Latin the group *sr* *are* with *n*; so too

¹ For the sporadic loss of the rough breathing cf. *supra* 61.

² As, however, initial *sw* is changed to the rough breathing form *σάλος* could in any case be only a syntactical doublet used a Cf. the Homeric compound *κονίσσαλος*, which ought to be read *κρ*

becomes *fr*¹: *ῥῆγος* = **σρῆγος*, Lat. *frīg-us*. The other groups are assimilated respectively to *ll*, *mm*, *nn*, which at the beginning of a word naturally become *l*, *m*, and *n*; but in the Homeric poems the metre often compels us to restore the etymological reduplication. *E.g.* Lat. *lūbricu-s* (slippery), cf. Germ. *schlūpfen* [= Eng. *slip*]; Gk. *μει-διά-ω* (to smile), cf. Sk. *smi* (to laugh, admire) [Eng. *smile*], Lat. *mī-ru-s*; Gk. *μία* = **σμ-ία*, fem. of **sem-* (one); Gk. *νίφ-α*, Lat. *niv-em* (acc.), cf. Germ. *schnee*, Eng. *snow*; Lat. *nā-re* (to swim), Sk. *snā-mi*, etc. It must however be observed that initial *σμ* is not uncommon in Greek: we know of the forms *σμός*: *ὁ μός* (Hesych.), *σμηκρός*, doublet of *μηκρός*, etc., variations not yet explained.

4. Before a consonant initial *s* remains unchanged: Gk. *στόρ-νυ-μι*, *σπείρω*, *σβέννυμι*; Lat. *scandō*, *stō*, *spērō*, etc. Sometimes however in Greek, *e.g.* *τέγ-ος* (covering) *τέγ-ω* (to cover) by the side of *στέγος* *στέγω* (Sk. *sthag*), and very often in Latin, the initial consonant can be proved to have fallen away: *cav-eō* (to beware), cf. Germ. *schau-en* (to look at attentively) [Eng. *show*], hence for **scav-eō*; *tegō*, *toga*, *tēgula* (tile), cf. *στέγω*; *fallō*, cf. *σφάλω* (to throw down), and Sk. *sphāl-ā-mi* (to throw). These apparent exceptions are generally regarded as syntactical doublets.²

§ 2. Medial s.

(69) 1. *Between vowels.* Before the historic period of Greek,³ intervocalic *s*, like initial *s*, passed into *h*, and then disappeared without leaving any trace of its existence. In Latin intervocalic *s* is still found in some of the oldest remains, *e.g.* *LASES* = *Larēs* (Carm. Arv.); but at this period it was no longer pronounced as *s*, it had already passed into the sound of *z*, as is shown by Oscan transcriptions, such as *egmazum*

trea. The intermediate stage is *thr* (Eng. *th*); cf. *supra* 66.

a phrase like *corpus arma* **stegont*, the *s* was pronounced, but in pronunciation **sg arma corpus* **stegont*, the two *s*'s became one; hence the mistaken bination there was a word **tegon*, which was afterwards transferred to other *supra* 64 A. 30.

² The modist therefore beware of restoring, in an Homeric form for example, Æolic *φῆρ* = *θ*:intervocalic *σ*.

(rerum), and from thence to lingual *r*; ¹ in fact, the only difference between the two consists in the quivering of the tongue, already described.

The loss in Greek and rhotacism in Latin of intervocalic *s* forms one of the most constant laws established by phonetics. From the multitude of examples it may be enough to mention: Gk. subj. (Hom.) $\epsilon\omega = * \epsilon\sigma\text{-}\omega$ (I may be), Att. $\tilde{\omega}$, Lat. fut. *er-ō* = **es-ō*; Gk. $*\gamma\acute{\epsilon}\nu\text{-}\epsilon\sigma\text{-}\omicron\varsigma$ (gen. of $\gamma\acute{\epsilon}\nu\text{-}\omicron\varsigma$, cf. Sk. *jān-as-as*), whence $\gamma\acute{\epsilon}\nu\epsilon\omicron\varsigma$ and $\gamma\acute{\epsilon}\nu\omicron\upsilon\varsigma$, Lat. *generis* = **gĕn-ēs-ēs*; Gk. $\alpha\acute{\iota}\delta\omega\varsigma$, gen. $\alpha\acute{\iota}\delta\omicron\upsilon\varsigma = \alpha\acute{\iota}\delta\omicron\omicron\varsigma = * \alpha\acute{\iota}\delta\text{-}\omicron\sigma\text{-}\omicron\varsigma$, Lat. *arbōs*, gen. *arboris* = **arb-ōs-ēs*; Gk. gen. pl. $\chi\omega\rho\acute{\alpha}\omega\upsilon\upsilon\varsigma$ $\chi\omega\rho\acute{\omega}\nu = * \chi\omega\rho\acute{\alpha}\text{-}\sigma\omega\upsilon\upsilon$, Lat. *terrā-rum*; Gk. $\mu\acute{\upsilon}\varsigma$ $\mu\upsilon\text{-}\acute{\omicron}\varsigma$, Lat. *mūr-is*; Gk. nom. pl. neut. $\mu\acute{\epsilon}\iota\zeta\omega = * \mu\acute{\epsilon}\iota\zeta\omicron\alpha = * \mu\acute{\epsilon}\iota\zeta\text{-}\omicron\sigma\text{-}\alpha$, Lat. *mājōra* = **māh-jōs-a*,² etc. In Latin, analogy generally introduced the *r* into the termination of the nominative: cf. the doublets *honōs* and *honōr*, *arbōs* and *arbōr*, the abstract nouns in *-ōr*, *dolor*, *labor*, etc., and the comparatives *mājōr* = **mājōs*; but the *s* remains in the nom.-acc. neut. *mājus* = **mājōs*, Gk. $\mu\acute{\epsilon}\iota\zeta\omega\upsilon\varsigma$ $\mu\acute{\epsilon}\iota\zeta\omicron\upsilon\varsigma$.

Hence we might expect never to find, either in Greek or Latin, an *s* between two vowels. There are however many cases of this in both languages, but they never arise from a primitive intervocalic *s*. Phonetically, they may usually be traced to a regular reduction of the historical group *ss*, $\mu\acute{\epsilon}\sigma\omicron\varsigma = \mu\acute{\epsilon}\sigma\sigma\omicron\varsigma$, *causa* = *caussa*,³ or to Greek τ assimilated before *i*, $\phi\acute{\upsilon}\sigma\iota\varsigma = * \phi\acute{\upsilon}\tau\iota\varsigma$; in other cases their origin is simply analogical. Thus the intervocalic σ of *βουσίν*, *ναυσίν*, *ἱπποισιν* (cf. the oblique case of the dual *ἱπποιν*) seems to have been restored on the model of *ποσσίν*, *φλεψίν*, *θριξίν*, where the σ , not being intervocalic, remained; so also we have $\lambda\acute{\upsilon}\sigma\omega$ $\acute{\epsilon}\lambda\upsilon\sigma\alpha$ (instead of $* \acute{\epsilon}\lambda\omega$ $* \acute{\epsilon}\lambda\omega\alpha$) and all similar futures and aorists, because of $\lambda\acute{\epsilon}\iota\psi\omega$ $\acute{\epsilon}\sigma\tau\iota\zeta\alpha$ and other forms, where the σ was regularly kept. The remaining instances of intervocalic *s* which cannot be traced either to this phonetic origin or to analogy are quite insignificant. Scarcely any can

¹ Cf. in French the doublets *chaire* (= *cathedra*) and *chaise*, in which however the change has been in the opposite direction. [Cf. also Eng. *blare* with the older form "to blaze abroad" (Mark i. 45), and Germ. *blasen*; so too *iron* = A.-S. *īren*, older form *isen*, cf. *ice* and Germ. *eisen*.]

² For the difference of quantity in the *o*, see *infra* 212.

³ Cf. *supra* 64 A, and *infra* 69, 6.

be cited except nom. pl. *vāsa*, etc., no doubt formed on the model of nom. sing. *vās*, *quaesō*, retained perhaps as an archaism by the side of the regular *quaerō* (cf. *quaes-tor*); and, lastly, some words of doubtful etymology, like Lat. *miser* and Gk. *μῖσος* (hatred), *μῖσέω*, etc.¹

2. *After a consonant.* We have seen above the effects of the meeting of an explosive and *s*, and also the phenomena of compensatory lengthening, resulting from the group *ns*,² e.g. *equōs* = **equōns*, *ἔκτεινα* = **ἐκτείν-σα*. The groups *rs* and *ls* remain unchanged in Greek, and become *rr*, *ll* in Latin: cf. *ferre* = **fer-se*, *velle* = **vel-se*, *terra* = **ter-sa* (dry?), and Gk. *θάρσος* (boldness), *ἄρσην* (male), Sk. *vṛśan-* (id.), *ἔρση*, Att. *ἔρση* (dew), Sk. *varśās* (rain), etc. Hence the regular aorists of *φθείρω* (to spoil), *κέλλω* (to come to shore) are the Homeric forms *ἔφθερσα*, *ἔκελσα*; and the Attic and common forms *ἐφθειρα*, *ἔστειλα* (I sent), must be regarded as later forms based on *ἔκτεινα*, etc. In later Attic, the group *ρσ* became *ρρ* as in Latin: *θάρρος*, *ἄρρην*.

3. *Before a nasal.* In Lesbian *s* is assimilated to the nasal: *ἔμμι* (I am) = **ἐσ-μί*, Sk. *ds-mi*; *φάεννος* (bright) = **φαῖσ-νό-s*, cf. *φάος* *φαῖος* (light). In the other dialects, as in Latin, the *s* is dropped with compensatory lengthening³: Dor. *ἤμί* (I am), Ion.-Att. *εἰμί*; Dor. *φαγνός*, Ion.-Att. *φαεινός*; Ion. *εἰνῦμι* = **ἑσ-νῦ-μι* (I clothe), cf. *ἑσ-θη-s* and *ves-ti-s*; Lat. *dīmoveō* = **dīs-moveō*, *dīnumerō*, etc., Lat. *aēnus* (brazen) = **aēs-nu-s*, cf. *aes* and Sk. *āyas* (iron); Lat. *vidēn* (seest thou?) = **vidēnn* = **vidēnn* = **vidēs-n*.⁴

¹ *θαρύς* (bold) was influenced by its doublet *θαρός* (both equivalent to **dhrs-ū-s*); cf. *Θράυλλος* (proper name).

[Mr. R. S. Conway in his book *Verner's Law in Italy* (Trübner, 1887), has ingeniously endeavoured to show that Latin rhotacism depended on accent. Medial *s* between vowels after an unaccented syllable became *r*, e.g. *régerent*, *soróris*, but after an accented syllable was kept, e.g. *násus*, *miser*, *quaéso*, except when followed by *i* or *u* and preceded by *i* or *u* or a long vowel or diphthong, e.g. *náris*, *quaérit*, *Fúrius*, *dirimit*; while medial *s* before nasals after an unaccented syllable was lost without compensation, e.g. *Caména*; after an accented syllable, if arising before the period of rhotacism, was lost with compensatory lengthening of the preceding vowel, e.g. *aénus*, *prímus*; if arising during the period of rhotacism, became *r*, e.g. *carmen*, *verna*.]

² *Supra* 47 C.

³ Cf. in French *même* = *mesme* [and *âne* = *ásne* = Lat. *ásinum*].

⁴ The final letter of the enclitic being dropped, and *ēnn* shortened, as being the termination of an iambic word, *infra* 77 C.

Owing to different causes the groups *σμ*, *σν* were subsequently restored in Attic: the former remained unchanged, the latter was assimilated to *νν*, as may be seen from the juxtaposition Πελοπόννησος = Πέλοπος νήσος. Thus a verb **ἔσνῶμι*, formed on the analogy of *ἔσθης*, etc., became in Attic *ἐννῶμι*; but *κόσμος*, *ἔσμέν* based on *ἔστέ*, *ἡμφίεσμαι* based on *ἡμφίεσται*, and even *πέπυσμαι* and *ἡκουσμαι*, where the *σ* has not even this justification (*supra* 64 A), underwent no change.

4. *Before a liquid.* In Greek *σ* is assimilated: *ἔρρεε* (it flowed) = **ἔσρεε* - *ε*, Sk. *d-srav-a-t*, from *ρέω*; but sometimes, under somewhat obscure conditions, it is lost with compensatory lengthening, e.g. **χέσ-λαιοι* (thousand), cf. Sk. (*sa*-)*hds-ra*-, Lesb. *χέλλιοι*, Dor. *χήλιοι*, Ion.-Att. *χάλιοι* *χίλιοι*. In Latin compensatory lengthening is the rule before *l*, *diluō*; but the medial group *sr* becomes *br*:¹ *fūnebris* = **fūnes-ri-s*, cf. *fūnus fūner-is fūnes-tu-s*; *cōn-sobrīnus* (cousin) = **con-svēsr-īno-s* (relation on sister's side), from **svēsor* = *soror*,² etc.

5. *Before an explosive.* Before a voiceless explosive *s* is kept in Greek and Latin. Before a voiced explosive, it is kept in Greek, but pronounced as *z* (the group *σδ* is written *ζ*); in Latin it is lost with compensatory lengthening: *nīdus* (nest) = **nīzdo-s*, cf. Germ. [and Eng.] *nest*, and the juxtapositions *διγερō*, *διδῶcō*, etc.

6. *Before a spirant.* The groups *sy* and *sw* have already been discussed. The group *ss*, when primitive, was reduced in Greek at a very early date to a single *σ*: the Homeric doublets, *ποσσί* and *ποσί*, *ἔπεσσι* and *ἔπεσιν* are well known; so too the Homeric *ἐ-τέλεσ-σα* (I accomplished), the only regular form, cf. *τέλος* (end), became *ἐτέλεσα*, and *πέπυσσαι* (Hom.) = **πέ-πυθ-σαι* was reduced to *πέπυσαι*.³ In a few cases this change affected the group *σσ*, even when it was not original, but the result of phonetic assimilation, e.g. when arising from *dhy* in Att. *μέσος*⁴ = *μέσσος* = **μέθ-yo-s*, or from *sw* in Att. *ἴσος* = *ἴσσος* = *ῥίσφο-s*. In

¹ The intermediate stage is of course *thr*, *supra* 66 and 68, 3.

² *Svesr* is the reduced form: Sk. nom. *svāsā*, dat. *svāsr-ē*.

³ Cf. *supra* 63 β. The analogy of the doublets which sometimes contained *σ*, sometimes *σσ*, introduced the double *σ* into forms where it had no etymological justification, e.g. Hom. *τανύσσαι*, *ἐγέλασσε*, etc.

⁴ We should have expected **μέττος* as *πράττω* = *πρήσσω*.

Latin the group *ss* remains after a short vowel, *cāssus* (vain) from *cāddō*, *grēssus* from *grādiōr*, *mīssus* from *mīttō*, but is reduced after a long vowel, *mīst* = **mīssst* (cf. *vīdeō vīdī*), *fūsus* = **fūssus*, *plōsiō* from *plōdō*, *laesus* from *luedō*, etc.

The Latin group *sf* is assimilated to *ff*, e.g. *differō* = **disferō*, cf. *distulī*.

§ 3. Final s.

(70) Final *s* remains in Greek and Latin, ἵππος *equos*, γένος *genus*. But in Latin, at any rate in certain positions, final *s* can only have been pronounced very slightly; it is often neglected in inscriptions, and until the Augustan age it constitutes position or not at the option of the writer: *versibūs quōs olim* . . . (Enn.) . . . *dēcidere falcibūs rāmōs* (Lucr.). But it never entirely disappeared; for it is reproduced with remarkable fidelity in the Romance languages.¹

Is it to this possible loss of final *s*, or to a phenomenon of Indo-European syntactical phonetics, that we must attribute the Latin substitution of the group *er* for the groups *ris ros* when preceded by a consonant,² in forms like *ācer* = *ācris* and *ager* = **ag-ro-s*, cf. Gk. ἄγρός, Sk. *ājras*? However this may be, the peculiarity is worth noticing; but it is hard to reduce it to a law, since the genitives *patrus* and *patris*, for example, kept their termination unchanged.

¹ E.g. French *li chevaux* = *illé cabāllus*, *les chevaux* = *illōs cabāllōs*.

² In *puer* (= **puerus*?) the consonant seems to be wanting; but this is not really the case, for *puer* is for **pover*. This question is further discussed in *Mem. Soc. Ling.* vi. p. 373.

CHAPTER V.

FURTHER COMBINATIONS OF VOWELS AND CONSONANTS.

(71) Among the phenomena of phonetic combination or reduction, hitherto mentioned only incidentally, but which deserve a somewhat fuller investigation, may be included contraction, elision, shortening and lengthening, aspiration and deaspiration, epenthesis, and syncope.

SECTION I

CONTRACTION.

It is probable, if not certain, that the Indo-European language did not tolerate hiatus,¹ and that all the forms bequeathed by it to its descendants were contracted; hence contraction can only have taken place in Greek and Latin in those cases of hiatus which arose subsequently, especially through the regular loss of an intervocalic consonant. The laws regulating this process are very varied.

§ 1. *Greek.*

(72) Two vowels in hiatus, whether in the same word ($\phi\iota\lambda\acute{\epsilon}\omega$), or in two different words closely connected in meaning and pronunciation ($\tau\acute{\alpha}\ \delta\acute{\iota}\lambda\lambda\alpha$), are liable to be contracted into one long vowel or diphthong; but in this respect there is considerable divergence between the different dialects. The two antipodes are Ionic and Attic, which are so close to one another in other respects; in the former dialect contraction is almost

¹ Except in the case of *i* and *u*, where there is no real hiatus; for after *i* or *u*, followed by a vowel, the corresponding semi-vowel was developed, and so the pronunciation would be, not **i-ŷit-* (going, Lat. *iēns*), **duō* (two), but approximately **iyŷit-*, **duwō*, etc.

unknown, whereas the latter hardly ever tolerates hiatus. Between these two dialects, but somewhat nearer to Ionic, come Æolic and Doric, which allow hiatus in certain cases, but require contraction in others. But, even when contraction takes place in all the dialects, the sound resulting from contraction may be different in each. To avoid unduly complicating this subject, we shall examine here only the commonest cases of contraction, classifying them according to the character of the first of the two vowels in hiatus.

1. *a*. *a* + *a*, *a* + *ā* become *ā*: Hom. Ion. *ἄτη* (bane, curse) = *āτā* = **āátā* for **āfātā*, cf. *αἶνará* (Pind.); Att. *Ἀθηνᾶ* = **Ἀθηνᾶā* = **Ἀθηναιᾶ*; Att. *τᾶλλα* = *τὰ ἄλλα*, etc. *a* + *ε* becomes Ion.¹ and Att. *ā*, Dor. *η*: Att. *τίματε* = *τίμάετε*, Dor. *ὄρη* (see) = *ὄραε*. *a* + *η* becomes *ā*, *η*: Ion.-Att. *τίματε*, Dor. *τίμητε* = *τίμάητε* (subj.). *a* + *ι* becomes *αι*: **πάfis* (child), Hom. *παῖς*, then *παῖς*. *a* + *ο* becomes Att. *ω*,² Dor. *ā*: Att. *τίμωμεν* = *τίμάομεν*. *a* + *ω* becomes *ω*: Att. *τίμωμεν* = *τίμάωμεν*. *a* + *υ* becomes *αυ* (but often the hiatus remains): *δαυλός* (thick, shaggy) = **δαῦλός* = **δασυ-λός*, cf. *δασύς*; *αἰτός* = *αῦτός* (*ἄφυστοῦ* is found in an Ionic inscription).

2. *ā*. *ā* + *a*, *ā* + *ā* become *ā*³: Æol.-Dor. *γά*, Ion.-Att. *γῆ* = **γᾶa* = *γᾶia*. *ā* + *ε* becomes *ā*, even in Doric: *ἄλιος* (written *ἄέλιος*, but the scansion shows the word is trisyllabic) in Pindar, cf. Ion. *ῆέλιος*, Att. *ῆλιος*. *ā* + *ο*, *ā* + *ω* become Dor. *ā*: gen. pl. (Homer.) *χωρᾶων*, Dor. *χωρᾶν*. *ā* + *ι* becomes *αι* (*α*). *ā* + *υ* is unimportant.

3. *ε*. *ε* + *a* becomes Att. *η*, but the hiatus often remains in Ionic: *τείχη* = *τείχεα*. It must not be supposed that *πόλεις* (acc. pl.) is contracted from *πόλεας*; in the nom. pl. neut. *χρῦσᾶ* = *χρῦσεα* the vocalism of the termination must have been influenced by that of the ordinary neuter terminations in *ᾶ*. *ε* + *ā* (very rare) often forms only one syllable, even when both vowels are written: ⁴ *δωρεά* is a dissyllable, but Att. *γενεά* a trisyllable. *ε* + *ε* becomes Lesb. Dor. *η*, Ion.-Att. *ει* (pronounced *ē*), *φιλείτε* =

¹ Often not contracted. The curious Homeric type *ὄραν* (to see) = *ὄραειν* has not yet received any satisfactory explanation.

² The Homeric forms showing diectasis, e.g. *βιῶνται* for *βιῶνται* = *βιῶνται* (very common in Homer), must be put on the same level as *ὄραν*.

³ This combination of course does not occur in Ionic.

⁴ In this case *ε* becomes a semi-vowel, *supra* 20, 3.

φιλέτε.¹ $\epsilon + \eta$ becomes η , but is uncontracted in Ionic: $\phi\iota\lambda\eta\tau\epsilon = \phi\iota\lambda\epsilon\eta\tau\epsilon$. $\epsilon + \iota$ becomes ϵ : Hom. $\pi\acute{o}\lambda\epsilon\iota$, Att. $\pi\acute{o}\lambda\epsilon\iota$. $\epsilon + o$ becomes Dor. ω , Att. ou (pronounced δ or \bar{u}): $\phi\iota\lambda\omicron\upsilon\mu\epsilon\nu = \phi\iota\lambda\acute{\epsilon}\omicron\mu\epsilon\nu$; Ionic texts sometimes have ϵo dissyllabic, sometimes ϵo monosyllabic, sometimes also $\epsilon\upsilon$ (Herodotus), which was of course pronounced as a diphthong, and scarcely differed from monosyllabic ϵo . $\epsilon + \omega$ becomes ω Att. $\phi\iota\lambda\bar{\omega} = \phi\iota\lambda\acute{\epsilon}\omega$, $\acute{\alpha}\nu\theta\bar{\omega}\nu = \acute{\alpha}\nu\theta\acute{\epsilon}\omega\nu$. Even when the ϵ was retained in writing,² it was not reckoned as a vowel, and in forms like $\beta\alpha\sigma\iota\lambda\acute{\epsilon}\omega\varsigma$, $\pi\acute{o}\lambda\epsilon\omega\varsigma$, contraction probably took place in current pronunciation, though never denoted in writing.³ $\epsilon + \upsilon$ (rare) becomes $\epsilon\upsilon$: Hom. $\acute{\epsilon}\upsilon\varsigma$ (good), Att. $\epsilon\bar{\upsilon}$ (well).

4. The group η + vowel is of little importance except in Ionic, Attic, and the *κοινή*, where it replaces the primitive group \bar{a} + vowel; it then becomes subject to the laws of abbreviation and metathesis of quantity peculiar to those dialects, which will be discussed later on (*infra* 76).

5. The group ι + vowel is never contracted; but ι , like ϵ , sporadically became a semi-vowel. The rare group μ however became $\bar{\iota}$ in the locative $\pi\acute{o}\lambda\bar{\iota}$ (Homer and Herodotus) = $\pi\acute{o}\lambda\mu$, cf. Cypr. $\pi\acute{o}\lambda\iota\gamma\mu$, and a few similar cases.

6. The very rare group $\bar{\iota}$ + vowel is not contracted.

7. o . $o + a$ becomes Att. and Lesb. ω , Dor. \bar{a} , in Ion. often remains in hiatus: Dor. $\pi\rho\acute{\alpha}\tau\omicron\varsigma$, Att. $\pi\rho\acute{\omega}\tau\omicron\varsigma = *\pi\rho\acute{o}-\alpha\tau\omicron-\varsigma$; Att. accus. $\alpha\bar{\iota}\delta\bar{\omega} = \alpha\bar{\iota}\delta\acute{o}\alpha$. $o + \bar{a}$ is unimportant. $o + \epsilon$ becomes ou , $\delta\eta\lambda\omicron\upsilon\tau\epsilon = \delta\eta\lambda\acute{o}\epsilon\tau\epsilon$. $o + \eta$ becomes ω , $\delta\eta\lambda\bar{\omega}\tau\epsilon = \delta\eta\lambda\acute{o}\eta\tau\epsilon$; the Att. fem. $\delta\iota\pi\lambda\eta$ (double) = $\delta\iota\pi\lambda\acute{o}\eta$, like its plural $\delta\iota\pi\lambda\alpha\bar{\iota} = \delta\iota\pi\lambda\acute{o}\alpha\iota$ and neuter pl. $\delta\iota\pi\lambda\bar{a} = \delta\iota\pi\lambda\acute{o}\alpha$, is due of course to the analogy of the uncontracted termination. $o + \iota$ becomes $\omicron\iota$: Att. $\omicron\bar{\iota}\varsigma$ (sheep) = $\omicron\bar{\iota}\varsigma$ (Theocritus) = $*\delta\acute{\epsilon}\varsigma$, Lat. *ovis*. $o + o$ becomes Lesb. Dor. ω , Ion.-Att. ou : gen. Lesb. Dor. $\bar{\iota}\pi\pi\omega$, Ion.-Att. $\bar{\iota}\pi\pi\omicron\nu = *\bar{\iota}\pi\pi\omicron o$ (but $o + \omicron\iota$ simply gives $\omicron\iota$, $\delta\eta\lambda\omicron\upsilon\mu\epsilon\nu = \delta\eta\lambda\acute{o}\omicron\iota\mu\epsilon\nu$). $o + \omega$ becomes ω , $\delta\eta\lambda\bar{\omega}\mu\epsilon\nu = \delta\eta\lambda\acute{o}\omega\mu\epsilon\nu$. $o + \upsilon$ is unimportant.

8. ω . The group $\omega + o$ becomes ω in Ion.-Att. gen. $\lambda\acute{\epsilon}\omega$ (of

¹ The hiatus often remains in Herodotus.

² This is the case with $\acute{\alpha}\nu\theta\bar{\omega}\nu$ (gen. pl.), which the Atticists, according to Suidas, spelt $\acute{\alpha}\nu\theta\acute{\epsilon}\omega\nu$.

³ C' the double scansion of *Μενουέως*, *Ed. Rex*, 85 and 1503.

the people)=*λεώο: cf. ἵππος *ἵπποο. The other combinations of ω with a vowel offer few points of interest.

9. υ.—The group υ+ι is the only one liable to contraction, both in the Homeric period (νέκυι, dissyll., πληθυῖ (but συῖ, δουῖ), Panhellen. νιός, dissyll.=*συ-ιός (cf. Sk. sū, to beget, sūnās, son), and perf. part. fem. εἰδυῖα trisyll.), and also in Attic and the κοινή, where however final υ remains a dissyllable, ἰχθυῖ. With this exception, υ + vowel is never contracted: the nom. pl. ἰχθύες does not become *ἰχθύς, and the acc. pl. ἰχθύς cannot come from the Homeric ἰχθύας.

10. ὤ. The group ὤ+vowel is rare, and is never contracted.

Most of the exceptions which seem to violate these laws may be easily explained, either on phonetic grounds or by analogy. Thus the hiatus, which exists in λεώς and seems to exist also in βασιλέως, is due to the fact that the group εω there replaces ηο by metathesis of quantity. In other cases, as in νέος=νέφος, Δίι=Διφί, κλέος=κλέφος, βόες=βόφες, ἀκήκοα=*ἀκήκοφα (cf. ἀκούω), οἰνόεις=*Φοινό-φεντ-ς (cf. Sk. suff. -vant-), etc., etc., it is the comparatively late loss of a F which has brought together two vowels previously separated.¹ The same explanation holds good of such forms as πενταετής=*πεντα-φετής, unless the first term of the compound has been simply borrowed from forms like πεντάδραχμος where there is no hiatus. In προάγω the retention of the prefix is certainly due to forms like προλέγω, which have kept the prefix, whereas in Dor. προῶχοντι=προέχοντι, Att. φρούδος=*προύδος, the hiatus has succumbed to the ordinary law. Lastly, and above all, it must never be forgotten that the written language can only give us very imperfect information as to the contractions of the spoken language; works were copied over and over again by numerous scribes, who introduced into them the most astounding anomalies,² and even in the case of inscriptions we

¹ But the tendency of Attic to contraction is so strong that, even in this case, the hiatus is often suppressed in homogeneous groups of vowels, e.g. in the proper names in -κλής=-κλέης, and Δί found on an inscription. The same thing takes place in very common words, even in the case of groups which are not homogeneous; here we need only mention Θουκυδίδης and νομηνία.

² The text of Herodotus in particular is one of the worst treated in this respect.

are never sure that a hiatus preserved in writing had not disappeared in pronunciation.¹

§ 2. *Latin.*

(73) The laws of Latin contraction are much harder to understand than those of Greek; for in Latin we hardly ever find the form with hiatus side by side with the contracted form. We must confine our attention to those cases which are most certain and most interesting.

1. *a, ā*.—The difference of vowel between gen. *aeris* = **ǎērīs* (cf. *aēnus* and Sk. gen. *dyāsas*) and 2nd pl. *amātis* = **āmā-ē-tis* (cf. Gk. *τῆμᾶτε* = *τῆμᾶετε*), can only arise from a difference of quantity in the *a*; we are therefore justified in laying down the rule: *a + e* = *ae*; *ā + e* = *ā*. It is a group *a + i* which has given *ae* in the gen.-dat. sing. *terrae*; but the quantity of both vowels is unknown. There is indeed the archaic *terrāi*, but there is no proof that *terrae* is derived from this form. If the vowel of the verbs in **-aō* was really *ā*, we must restore *amāmus* = **āmā-ō-mus*, *amānt* = **āmā-o-nt*, and *amō* = **āmā-ō*, and thence lay down the rule that *ā + ō* = *ā* and *ā + ō* = *ō*; but it is possible that the *ā* was not long throughout the whole conjugation. It is also possible that the group *a + o* always became *ō*, and that *amāmus*, *amant* were simply modelled on the vocalism of *amās*, *amātis*, as *monēmus*, *monent*, which can only come from **moneōmus* and **moneont*, were certainly modelled on *monēs*, *monētis*.

2. *e, ē*.—*ea*, *eā* are not contracted; *ēa* becomes *ē*, *dēgō* = **dē-āgō*, *dēbeō* = **dē-hābeō*, cf. also *praebeō* = **prae-hābeō*. *ēē*, *ēē*, *ēē* become *ē*, e.g. *monēte* = **monē-ē-te*, cf. *φιλέετε*, *avēs* (nom. pl.) = **avēēs*, cf. *πόλλες πόλεις*, *dēmō* = *dē-ēmō*, perf. *dēgi*, = **dē-ēgi*, etc. The groups *e + i*, *e + o* are never contracted except in synizeses like *alveō* dissyllabic, which are found in poetry, and no doubt occurred also in popular Latin. The group *eu* from *eo* also remains uncontracted, *aūrēūs*, though here also synizesis is possible under the same conditions, e.g. *alveus* dissyllabic. But when the *u* is primitive, *ē + ũ* gives *eu*, *neuter*, and *ē + ũ* gives *ū*, *nūllus* = **ne-ūllus*.

¹ Cf. the French spellings *paon*, *taon*, *seau*, etc., and Eng. *yeoman*, etc.

3. *i, ĭ*.—*i* is generally contracted only when another *i* follows: *nĭl*=*nĭhĭl*, *mĭ*=*mĭhĭ*, *Valerĭ* (gen.)=*Valerĭi*; ¹ doubtless also when *ĕ* follows, for *audĭs* (thou hearest) may go back to **audĭ-ĭs* or **audĭ-ĕs*, but *filĭ* can only go back to **filĭĕ* (cf. however *ĭĕ* uncontracted in *pĕtās*, etc.); certainly never when *ĕ* follows: *parĭs* (wall), *capĭs* (thou wilt take), etc.² In proper names like *Clodis*=*Clodius*, common in old inscriptions, we have doubtless merely a graphic abbreviation, certainly not a contraction.

4. *o, ō*.—*oā, oĕ, oĝ* become *ō*, e.g. *cōgō, prōmō*=**proēmō, cōpia*. *oĕ* becomes *oe* in *coeptĭ*=**co-ĕptĭ* (cf. *ap-isco-r*).

5. *u, ū*.—*u* seems to be contracted only with another *u*, in gen. sing. *manūs*=**manūūs* (?)=**manuos* (in inscr. *senatuos*); still *manūūm* (gen. pl.) and *minūūnt* (third pl.) make this restoration somewhat doubtful. Hence it is difficult to believe than nom. pl. *manūs* is contracted from **manūēs*.

Contraction, as a general rule, does not take place when the second vowel is accented; hence the difference between *aeris*=**deris* and *aĕnus*=**aĕsnus*, cf. also *coāctus, coĕgĭ*. The contraction in *coeptĭ* must have first originated in **coĕpistĭ*, being afterwards transferred by analogy to **coĕptĭ*; and so also in many other cases. On the other hand, analogy has often, as in Greek, produced uncontracted forms: *coalēscō* has been formed on the analogy of *coāluĭ, cōemō* on that of *coēmimus*, and *prohibēs* (we should have expected *prōbēs*, cf. *dēbēs*) shows the influence of *perhibēs* and *prōducō*.

SECTION II.

ELISION.

(74) When there is no contraction (*crasis*) of the final vowel of one word and the initial vowel of the next word, it very often happens that the first vowel entirely disappears before the second, as in the numerous elisions indicated by Greek

¹ Contraction is the rule in the genitives of proper names; in those of common nouns and adjectives. *pallĭi, patrii*, the analogy of the other cases and the need of clearness either kept or restored the group *ii*.

² Hence the subjunctive *sīs* cannot come from the archaic *siēs*.

orthography, ἐπ' αὐτῷ, ὑπ' ἐμοῦ, ἀφ' οὗ, and those that take place between the two terms of a "compound" verb, ἐπάγω, ὑπῆλθε, ἀφ' ἰκόμεν. The detailed investigation of hiatus and elision belongs to the study of Greek prosody; it will be sufficient here to state that in the current pronunciation elision certainly took place in many cases where it was not indicated in writing.¹

Much more is this the case in Latin, which never indicates elision in writing, but in practice observes it so strictly, that the hiatus of a short or long vowel in Latin versification is quite an exceptional phenomenon.² The present pronunciation of Italian may give some idea of this melodious blending of a final vowel with a following initial vowel.

SECTION III.

SHORTENING AND LENGTHENING OF VOWELS.

(75) The quantity of vowels is very constant in Greek and Latin, especially if we take into account the artificial character of the classification of all syllables into two classes, and no more. For it is clear (*supra* 20, 4) that the degrees of length and shortness must really be very numerous, and that hence a long vowel which is equivalent, for example, to a short vowel and a half might in versification, at the option of the writer, be treated either as long or short. The delicate applications of this fundamental principle belong to the sphere of prosody.

§ 1. *Greek.*

(76) 1. A.—Before a group of consonants, the first of which is *y*, *w*, a nasal, or a liquid, and the second an explosive or *s*, every long vowel becomes short. This law is absolute and Panhellenic. We have seen³ that the acc. pl. κεφαλῶς is equivalent to *κεφαλᾶς, otherwise it would be *κεφαλῆς in Ionic-

¹ Cf. this verse of Sappho (Sapphic and Adonic): πύκνα δίνεντες πτέρ' ἀπ' ὠράνῳ αἰθέρος διὰ μέσσω.

² Hiatus is likewise forbidden in certain Greek metres, especially the iambo-trochaic. On the other hand, hiatus is common in old Latin versification (Saturnian).

³ *Supra* 37 in *fine*.

Attic; but *κεφαλᾶνs in its turn must be a shortened form of *κεφαλᾶνs, since the nom. sing. is κεφαλᾶ—a result of the above-mentioned law. So also we have dat. pl. ἵπποις=*ἵπποις, cf. dat. sing. ἵππῳ and Sk. instr. pl. *devāis*; βούς=*βῶς, cf. Lat. *bōs* and Sk. *gāus*; γραφεύς=*γραφῆύς, cf. gen. γραφῆ(ς)-ος, and the dialectical doublet γραφῆς; aor. pass ἐδάμην (I was conquered), Hom. 3rd pl. δάμεν=*δάμεντ=*δάμηντ.

B.—The shortening of a vowel before a vowel takes place sporadically in all Greek dialects, but especially in Ionic-Attic, in the case of η and ω: Hom. gen. ἥροος=ἥρωος, Πηλέος=Πηλῆος; Ion. gen. βασιλέος, Dor. βασιλέος=Lesb. βασιλῆος from *βασιλῆφος; Ion. νέες (ships)=νῆες=*νᾶες; Att. gen. pl. χωρῶν=Ion. χωρέων=*χωρήων=Æol. χωρᾶων, etc.

C.—In Ionic, but more especially in Attic, the groups ηα, ηε, ηο become respectively εᾶ, εη (contracted to η), εω (often monosyllabic in the termination of the genitive). This is the phenomenon called metathesis of quantity: acc. sing. βασιλεᾶ, acc. pl. βασιλεᾶς (Att.)=βασιλῆα, βασιλῆας; Att. (Aristoph.) ἱππῆς (knights)=*ἱππέης=ἱππῆες, but simple shortening in the doublet ἱππεῖς=Ion. ἱππέες; Dor. λαός (people), Old Ion. λῆό (Hipponax), New Ion. λεώς, Att. λεῶς, and so also Att. βασιλεῶς=βασιλῆος.¹ We see that the point of divergence between simple shortening and metathesis of quantity is not clearly marked.

2. In Greek, the lengthening of a short vowel is always either compensatory, of which we have seen many instances, or purely prosodic, when it depends on the rules of prosody.

§ 2. Latin.

(77) 1. A.—The dat. pl. *equīs* shows that in **equōis* the same shortening took place as in ἵπποις, for an original form **equōis* would have given **equōs*, cf. dat. sing. *equō*=**equōi*.

B.—In the classical period, every long vowel before a vowel became short; the few quantities like *dīēi* (cf. *fidēi*=*fidēi*,²

¹ *ἔως* (until) is treated as a trochee in Homer (Il. xv. 539, Od. iv. 90, vii. 280, etc.); hence we must read *ῆος=*ῆ-φος=Sk. *yāvat* (same sense), which was afterwards by metathesis changed to *ἔως*.

² The *ē* is still long in Plautus; e.g. in the bacchiac verse *mēai fidēi tūaiquē rēi* (*dulul.* 121).

nom. *fidēs*, *illūs* (also *illius*), *fīd* by the side of *fīērī* (arch. *fīere*), etc., are but scanty relics showing the former existence of long vowels in hiatus, a fact attested also by numerous scansion in the comic writers.

C.—Iambic words, like *duō*, show a curious peculiarity. It is physically possible to pronounce successively an accented short vowel and an unaccented long vowel; but, especially if the accent is strongly marked, it will be noticed that the long vowel then tends to scarcely exceed in length the preceding short vowel. Hence, in versification previous to the Augustan age, all words of this kind were treated, at the option of the writer, either as iambs or pyrrhics, and we find the scansion *rōgā*=*rogā*, *pūtā*, *vīdē*, *dōmī*, *vōlō*, *rōgō*,¹ *hōmō*, etc. Afterwards analogy both restricted and extended the license of Plautus. It restricted it, in that the classical poets, taking into account the long vowel of *spērā*, *cēnsē*, *hortī*, *audī*, refused to treat the same vowel as short in *putā*, *tacē*, *domī*, *abī*; while, on the other hand, the short vowel prevailed and entirely superseded the long vowel in some very common words, *utputā*, *īlicō*, *modō* (now)=abl. *modō*, *egō*=**egō*, Gk. *ἐγώ*. On the other hand, it extended it by allowing the scansion *ambō* on the model of *duō*, *cēnsēō* and *spērō* on that of *vōlō*, etc.; so that in Latin versification of the decadence (Martial), every final *o* of the 1st sing. of verbs or nom. sing. of nouns may be treated either as long or short.

D.—Every final syllable ending in *r*, *l*, *m*, or *t*,² shortens its vowel: *patēr*=πατήρ; *datōr*, cf. δώτωρ; *honōr*, cf. gen. *honōris* and regular nom. *honōs*, Gk. αἰδώς; *animāl*=animāle; *amōr* (I am loved), cf. *amō*; subj. *amēr*, *amēm*, cf. *amēs*, *amētur*; 3rd sing. *amāt*, *monēt*, *audīt*=**amāet*, etc., cf. 2nd sing. *amās*, *monēs*, *audīs*; acc. sing. *terram*=**terrām*, cf. Gk. χῶπᾶν; gen. pl. *deum*=*deōm*=Gk. θεῶν.

2. Besides the cases of compensatory lengthening already mentioned, the grammarians inform us that before the groups

¹ With no distinction, it will be observed, between simple *ō* and *ō* arising from contraction (*rogō*=**rogaō*). Cf. Havet-Duvau, *Métrique*, 126.

² Except in monosyllables, *fūr*, *sōl*. Cf. the old scansions *rogāt*, *audīt* (Plautus), *noenum rāmōrēs pōnēbāt ante salūtem* (Enn.), etc.

ns, nf, gn, gm, every vowel was lengthened: so the Latins pronounced *ēnsis* (= **nsis*, Sk. *asis*), *ferēns*, *īnsērō*, *cōnsul*,¹ *īnferō*, *ānfractus*, *dignus*, *māgnus* (cf. *μακρός*), *āgmen*, etc.

SECTION IV.

ASPIRATION AND DEASPIRATION.

(78) 1. *Greek*. In modern Greek the rough breathing is still written, but no longer pronounced. Though ancient Greek had not yet arrived at this stage, it was already tending towards it, and certain dialects had actually reached it. We know that in the prehistoric period medial aspiration had disappeared.² Initial aspiration, according to the grammarians, was no longer known to the Æolians; they were *ψιλωτικοί*, substituting everywhere the soft for the rough breathing. New Ionic does not go so far; but several substitutions, such as *οἶλος* = *ὄλος*, and combinations like *ἀπ' οὐ*, *ἀπρίκετο*, show that in it the rough breathing was scarcely more than an ornamental addition confined to writing.

Attic, on the other hand, seems to have had a slight tendency to *δασύνειν*, and we find in it initial aspirations which have no etymological justification: *ἔρση* (dew) = *ἔρση*, *ὄρος* (boundary) = Ion. *οὔρος*, *ἔως* (dawn) = Gk. *ἡώς*, etc. More embarrassing are the Panhellenic or almost Panhellenic rough breathings found in *ἐννῦμι εἰνῦμι* (*vestis*), *ἑσπέρᾱ* (*vesper*), *ἵππος* (*equos*), etc., and especially in all words beginning with *v*, *ῥσπερος* = Sk. *uttaras*, *ῥδωρ*, cf. Sk. *udān-* (water) and Lat. *unda*. Sometimes analogy has been at work: thus *ἡμεῖς* certainly owes its rough breathing to *ὕμεῖς*. But the very ease with which words take or lose this symbol seems to show that from an early period it had no phonetic value, or at any rate very little.

2. *Latin*. It had no doubt practically none at all in classical Latin. Medial *h* was certainly not pronounced; hence the

¹ In Greek transliterations we read *Κωνσταντῖνος* = *Cōnstantīnus*, *κῆνσωρ* = *cēnsor*, etc.

² It occurs however in Laconian, where it takes the place of a non-original intervocalic *σ*; e.g. *νείκᾱρ* = *νικήσας* on the stela of Damonon.

frequent contractions *nīl*, *mī*, *prēnsus*=*prehēnsus*, *nēmō*=**nē-hēmō*. At the beginning of a word we know that it does not even prevent elision, and that in some of the Romance languages it is not pronounced, while in others it is not even written. Hence numerous doublets like *holus* (vegetable, Gk. *χλόη*, grass) and *olus*, *herus* (master) and *erus*, *honōs* (an honourable burden) and *onus*, etc., and the usual suppression of the *h* in *ānser*=*hānser* (goose, cf. Gk. *χῆν*, Germ. *yans* [Eng. *goose*]), and *arēna* (sand)=*harēna*=**hasēs-na*, Sabine *fasēna*, Gk. *χάος*=**χάσος* (inert and incoherent matter). On the other hand, the *h*, being no longer pronounced, was wrongly added to words like *humerus* (shoulder)=*umerus*=**omesos*, cf. Gk. *ὤμος*=**ōmosos* and Sk. *dmsas*, Umbr. *onsus*; *hālō* (I breathe)=**ālō*=**an-slō*, root *an* (to breathe), cf. *ἄν-εμος* and *an-imu-s*.

SECTION V.

EPENTHESIS AND SYNCOPE.

(79) By **epenthesis** is meant the spontaneous development of a parasitic sound which is inserted between the elements of a group. When initial it is called **prothesis**. **Syncope**, on the other hand, is the loss of a vowel or syllable in rapid pronunciation.

1. *Epenthesis*. We have already seen the epenthesis of *δ* and *β* in the groups *νρ* and *μρ*, and the prothesis of a vowel, which is almost always found before *ρ*, and is pretty common before *λ*. A similar prothesis sometimes takes place before a nasal: e.g. *ἄ-μέλγ-ω* (to milk), cf. Lat. *mulg-eō*, and Germ. *melken* [Eng. *milk*], *ἄ-νεψιό-ς* (nephew), cf. *νέποδες* (descendants) and Lat. *nepōs*; before *φ*: Hom. *ἐέρση* (dew)=**Fέρση*, *ἐέργω* (to prevent)=**Fέργω*, Sk. *várjāmi*; also in other cases, e.g. the doublets *θέλω* *ἐθέλω*, imper. *ἴσθι* (be)=**σ-θι*. The precise cause of these phenomena is unknown; most of them must be due to the existence of syntactical doublets, but in certain cases the vowel may very possibly be a significant element.¹

The *ν*, called *ἐφελευστικόν* or *paragogic*, which seems to be

¹ E.g. in *ἐκατόν*=*centum*, the *ἐ* represents the number "one" (corrupted from **ἄ-κατό-ν*=**sm-km-tó-m*, one hundred).

added to certain terminations in *ι* and *ε*, λέγουσιν, τείχεσιν, ἔθηκεν, is not, properly speaking, a case of epenthesis. Its origin is somewhat obscure. The most probable explanation is that this final *ν*, which is etymological in certain formations—*e.g.* perhaps in the loc. pl. ποσσίν, ἵπποισιν,—passed by analogy into others, in which it was afterwards regarded as euphonic. Originally it was certainly not so; in inscriptions, it is often absent in hiatus, and is also often found before a consonant; moreover, it is found in positions where, if pronounced, it would have spoilt the metre.¹

The cases of epenthesis in Latin are unimportant.²

2. *Syncope*. The most noteworthy case of syncope, in both languages, is that in which two syllables which are identical, or at least contain the same consonants, follow one another in the body of a word; in this case the first syllable generally disappears: Gk. ἡμέδιμνον = ἡμι-μέδιμνον, ἀμφορεύς = ἀμφι-φορεύς (jar with two handles); Lat. *nūtrīx* = **nūtrī-trīx*, *stīpendium* = **stīpi-pendio-m*,³ etc. We need not lay stress on a phenomenon so universal and easy to understand, but from its very nature sporadic.

There is hardly any other case of syncope in Greek, except in the final syllable of certain proclitic prepositions; *e.g.* *κατ = κατά in κάππεσε, κάββαλε, ἄμ πολιν = ἀνὰ πόλιν, παρ Διός, etc. This process was carried much further in Latin: *ab* = ἀπό, *sub* = ὑπό, *per* = περί, *et* = ἔτι, *nec* = *neque*, and even extended to three imperative endings, *dīc*, *dūc*, *fac*.

In the body of Latin words, syncope of unaccented vowels is frequent, especially in popular pronunciation,⁴ in consequence of the stress laid on the accented syllable. As examples may be mentioned *validus* and *valdē*, *calidus* and *caldus*; *auceps* = **aviceps*, *claudō* = **clāvi-dō*⁵; *surgō*, *porgō* = **sub-regō*, etc.,

¹ *E.g.* Κουφαγόρας μ' ἀνέθηκεν Διὸς γλαυκῶπιδι κούρῃ, on a very ancient Attic inscription (7th or 6th century). Cf. *infra* 189, 5.

² Cf. *supra* 51, 1 B.

³ [Cf. Eng. *idolatry* = **idolo-latry* (εἰδωλο-λατρεία), etc.]

⁴ The Romance languages, especially French, have carried this process to remarkable lengths. [*E.g.* *bonitatem* = Fr. *bonté*, Ital. *bontà*, Sp. *bondad*; *computāre* = Fr. *conter*, Ital. *contare*, Sp. *contar*.]

⁵ Literally "I put under (lock and) key," **dō* here representing the root **dhē* of *τί-θη-μι*.

cf. *surrēxī*, etc.; gen. *dextrī*, *magistrī*=**dexterī*, etc., cf. *dextera*, and Gk. -*τερο*-, Sk. -*tara*-, comparative suffix; *repperī*, *reccidī*, *rettulī*=**re-peper-ī*, etc.; *agellus*=**agerlus*=**agro-lo-s* (syncope of *o*, and *r* pronounced as *er*?), cf. *ager*=Gk. *ἀγρός*.

CHAPTER VI.

ACCENTUATION.

(80) By **accent** (*accentus*, προσφῶδία) is meant the degree of stress or of pitch which distinguishes one syllable of a word more or less emphatically from the rest of the word. Leaving out of sight the different kinds of particles, which only serve to connect together the real parts of speech, it may be laid down as a general principle that every word contains one, and only one, accented syllable. In words of some length however, and especially in compounds, a secondary accent may emphasize an important syllable, *e.g.* in Latin *pennipoténtem* [English *còntemplation*]. The reverse is the case in German accentuation, in which the principal accent always rests on the first term of the compound, *sónnenfínsterniss*. But phonology properly so called must be provisionally restricted to the study of the principal accent.

Accent is said to be one of **stress** (expiratory), when the accented syllable is *spoken* emphatically, that is, pronounced with more energy than the others; of **pitch** (tonic, chromatic, musical), when it is *sung* on a higher note, a third or a fifth at most. These two elements are generally combined in all languages, but in very unequal proportions; thus, the modern European languages have scarcely any accent except the expiratory (Swedish however is characterized by very delicate chromatic distinctions), while the languages of the extreme East (Chinese, Annamite, Siamese) are remarkably musical. The Indo-European accent was essentially musical; it remained so in Sanskrit and Greek, but in Latin from an early period it tended to become a stress accent.

From the word-accent, of whatever kind it may be, we must

carefully distinguish the sentence-accent, which is independent of the former. A word usually enclitic or proclitic may sometimes be emphasized by the speaker,¹ or, on the other hand, a word usually important may be almost lost in speaking.² It must be obvious to everybody that the close of an interrogative sentence is spoken in a higher pitch than that of an affirmative sentence, and that the same word assumes a perceptibly different intonation according as it occurs in the middle or the end of a sentence. In the latter case, the substitution of the grave for the acute accent in Greek in oxytone words occurring in the middle of a sentence is, together with the absence of accent in enclitics, the only attempt made to represent in writing the sentence-accent, the study of which moreover belongs rather to the province of rhythm than of phonetics.

We have no detailed knowledge of Indo-European accentuation, because it was greatly corrupted in the derived languages. Sanskrit accentuation however, which probably reproduces it with considerable exactness, enables us to infer that it was at once freer and more changeable than that of Greek and Latin: freer, for the accent could rest on any syllable whatever of a word, even the sixth from the end, as in Sk. *āmānyamānēṣu* (among those who do not worship); more changeable, for in the same word it might, according to fixed laws, rest now on one syllable, now on another, Sk. *ādṛṣat* (*ēḍpake*, he saw) and *dr̥ṣāt*, where the augment, being unaccented, was dropped.

SECTION I.

GREEK ACCENT.

(81) One main principle underlies the whole of Greek and Latin accentuation: the accent in any word cannot go further back than the last syllable but two. In Greek alone a long final syllable is reckoned as two syllables.³

¹ Contrast the assertion, "He is too *stupid* to extricate himself," and the exclamation "That man is really *too stupid*!"

² Contrast the two phrases, "I am *going* now," and (carelessly) "I am going for a *walk*."

³ But a long syllable arising from metathesis of quantity (*supra* 76 C) is reckoned as short, *εἰς* *γῆρας*, *πρὸς* *ἡνῶς*, which shows that the accent was already

In other respects the Greek dialects show the widest divergencies in their accentuation. The two antipodes are Æolic and Doric, which are so closely allied phonetically: Æolic throws the accent as far back as possible in all words, *e.g.* βασιλεὺς = βασιλεῖς, ἔρυθρος = ἐρυθρός, θῦμος = θύμός; Doric, on the contrary, faithfully preserves the original oxytone accent. Between these two dialects lie Ionic and Attic, which however are much nearer to Doric than to Æolic. But all the dialects, including Doric, observe the rule that, in those forms of the verb which are capable of being conjugated,¹ the accent goes back as far as possible. This uniform law, to which the only exceptions are the two enclitics, εἰμί and φημί, and a few aorist imperatives, εἰπέ, ἰδέ, λαβέ, ἐλθέ, is a legacy from the Indo-European language, in which the verb in a principal sentence was enclitic and entirely unaccented; in Sanskrit it is still accented only in subordinate sentences. Greek, in adapting the verb to its trisyllabic law, gave it everywhere a uniform accentuation.

When the tonic accent falls on a long syllable, it may be ascending, that is, the voice may be raised while lingering on the syllable, or descending, that is, the syllable may be begun on a high note and finished on a lower note. Such a distinction is of course impossible in the case of a short syllable. In Greek, the raised pitch of a short syllable is indicated by the acute accent, θῦμός, λόγος, ἔλεγε. The ascending accent is indicated in the same way; but the descending accent has a special sign, the circumflex. Thus in τῖμῶμεν the accentuation of the ῶ exactly reproduces the descending accent of the uncontracted group ᾰο of τῖμᾰόμεν, just as in τῖμῶμεθα the accentuation of the ῶ reproduces the ascending accent of the same group in τῖμᾰόμεθα.

It follows from these definitions that from the point of view of the trisyllabic law the circumflex on the penultimate is equi-

fixed when the metathesis of quantity took place. On the other hand, in a final syllable which is only long by position, the length influences the acute accent, but not the circumflex; hence we shall write σαρδόονξ (sardonyx) not *σάρδοννξ, but μῶννξ (with uncloven hoof) not *μῶννξ.

¹ The infinitive and participle form no part of the verbal system; as will be seen later on, they are purely nominal forms.

valent to the acute on the antepenultimate ; in other words, that the circumflex can never go farther back than the penultimate.

Consequently, to say of a grammatical form that it throws back its accent as far as possible implies that it is (1) paroxytone, if the word is of two syllables, forming a pyrrhic, iambus, or spondee ; (2) properispomenon, if it forms a trochaic dissyllable ; (3) proparoxytone, in every polysyllable of which the last syllable is short : *e.g.* comparatives like (nom. masc.) *μείζων*, (nom. neut.) *μείζον*, (gen. sing.) *μείζονος*, (gen. pl.) *μειζόνων*, etc.

All the other rules of accentuation, including details as to the proclitics and enclitics, must be sought for in a grammar specially devoted to the Greek language. Here it is enough to mention that the number of unaccented words in current pronunciation was much larger than might be supposed from the accentuation adopted by the grammarians. Thus the article, which is only given as a proclitic in the nom. masc. and fem. sing. and pl., *ὁ, ἡ, οἱ, αἱ*, was certainly proclitic throughout the whole of its declension,¹ and all the prepositions, *πρός, σύν, περί, κατά*, were just as much proclitics as *ἐν* and *εἰς* ; the alternation between *περὶ τούτου*² and *τούτου περὶ* would be enough to prove this.

SECTION II.

LATIN ACCENT.

(82) Latin has altered the primitive accentuation much more than Greek ; to the law of three syllables it adds first of all the Æolic accentuation, which throws the accent as far back as possible ; but furthermore it entirely subordinates the place of the accent to the quantity of the penultimate. The result is, that Latin no longer has any oxytones or perispomena, except those monosyllables which are neither enclitic nor proclitic, *nēx, mēns, sōl* ; all other words are either paroxytone, *tōga, tēgō*, or perispomena, *ūnus, cēredlis*, or lastly proparoxytone, *cēredlia, cēnseō, pātulæ*.

¹ Hence the correct accentuation would be *του ἔππου, τον ἔππον* ; but, on the other hand, (Hom.) *τοῦ δ' ἐκλυε Φοῖβος Ἀπόλλων*.

² Here the grave accent corresponds to an entire absence of accent.

This distinction between the circumflex and acute, which will be found discussed in more detail in grammars specially devoted to Latin,¹ is furnished by the grammarians. But, if it is not entirely artificial, it must at least have been complicated by them with refinements borrowed from the Greek theory. In particular, if the long final syllable of *vīnō* changes the circumflex of *vīnum* to an acute accent, we do not see why the long final syllable of *dōminō* should not throw the acute accent of *dōminus* on the penultimate.

However this may be, the distinction between the circumflex and acute is not taken into account at all in the very important part played by accentuation in the formation of the Romance languages.

The unaccented words in Latin are essentially the same as in Greek; namely, enclitics, *que* = *τε*, *quis*² = *τις*, *est* = *ἐστί*, etc.; proclitics, all the prepositions when they precede their object.

Besides these mutilated remains of the proethnic accentuation, Latin possesses also two types of accentuation peculiar to itself, both of which have had a certain amount of influence either on the phonetic system of Latin or on that of the Romance languages. (1) The first, which is very ancient, is a purely expiratory accent, which always rested on the initial syllable of each word; to it must be attributed wholly or in part such cases of syncope as *reppulī* = **répēpulī*, such weakenings as *afficiō* = **ādfaciō*, and many other phenomena which accord ill with the principles of classical accentuation.³ (2) The second type, which was chiefly developed in popular Latin and Latin of the decadence, is a secondary accent, which fell upon a word at intervals of two syllables, starting from

¹ Cf. Havet, *Gramm. Lat.* p. 217.

² Of course not the interrogative, but *sī quis*, *nē quis*, etc.

³ Cf. *supra* 32 A β, 36 B, etc. To this cause also must be referred the sporadic reduplication of the consonant at the end of an initial syllable; e.g. *Juppiter* = *Jūpiter* = Gk. voc. *Zeū πάτερ* (the true accentuation would be *πατερ* enclitic), *quattuor* = *quātuor*, and the doublets *cūpa* (Fr. *cuve*) *cūppa* (Fr. *coupe*) all of which facts point to a short and sharp utterance of the vowel of this syllable. The phenomenon recurs in Italian, *allodola* (Fr. *alouette*, lark) = Lat. *alaudula*, and even in learned words, *rettorica* = *rhētorica*. The initial accent is common to Latin and all the Italic languages, and has left its traces in many geographical names in modern Italy; e.g. *Pésaro* = Umbr. *Pisaurum*, not Lat. *Pisaurum*.

the syllable which had the principal accent, and going backwards or forwards from it. This is called by writers on the Romance languages the principle of **binary accentuation**; e.g. *sanguinīs*, *occidimūs*, *imperdtor*, *impèratórem* (cf. Fr. *empereor*), *interctidimūs*, etc. The Latin rhythmical versification of the period of the decadence, from which arose the Romance versification, depends entirely on this succession of principal and secondary accents, which may be perceived from many contrasts in the modern languages, e.g. between Fr. *venir*, Sp. *venir* = Lat. *venire*, and Fr. *viendra*, Sp. *vendrá*, etc. = **vènir* *dbet*, the form taken in the system of binary accentuation by the compound *venire-hdbet*.

SECOND PART.

ETYMOLOGY.

(83) **Etymology** is the study of the formation of words by means of derivation and composition.

If we consider, in any language whatever, a group of words expressing with different shades of meaning the same fundamental idea, it is almost always easy to discover and isolate in this group a common element, usually monosyllabic, which seems to contain this idea in the vaguest and most abstract form possible. Thus, in the words *τίθημι* (to place), *θέσις* (placing), *θήκη* (box), *θησαυρός* (treasure), *θωμός* (heap), we recognise at first sight a syllable *θη* (weakened *θε*, deflected *θω*),¹ to which we may without any improbability attribute the property of representing the very general idea of "placing, putting, putting aside, heaping up," etc. This significant element in a word is by general agreement called a **root**.

It cannot be too clearly realized that a root, as thus understood and defined by grammarians, is a mere abstraction, meant to facilitate the understanding of etymological facts, not an historic or prehistoric reality, forming the necessary foundation of the whole structure of language. For, just as, in examining a group of French words like *rive*, *rivage*, *rivière*, *arriver*, etc., we can distinguish therein a common element *riv*, with the general meaning of "bank," but, without the help of Latin, the grammarian would be precluded from going further, still more from asserting the actual existence in French of this word **riv*, which, as a matter of fact, does not exist in it; so also, from a comparison of the words Sk. *chinddmi*, Gk. *σχιζω*,

¹ Cf. *supra* 41.

Lat. *scindo*, Germ. *scheiden*, etc., it is perfectly allowable to infer a common root **skhid*, with the primitive meaning of "cutting, dividing," but it is not allowable to conclude that in the Indo-European language there was ever a word **skhid*, having a separate existence apart from the various formative elements with which we always find it associated.

The reason is very simple. It would be a grave mistake to suppose that the formation of words is based upon a logical process of combination, due to reflection, or that it is based, as it were, upon the mathematical addition of two factors, the root supplying the general meaning, and the suffix limiting and particularizing this meaning,¹ as is represented to be the case in theoretical analyses. This may possibly have been the case in a certain number of very primitive formations, which however constitute a stratum so ancient and so deeply buried beneath the subsequent accretions of language, that it seems almost impossible to reach it. But, as soon as they were produced, these first words served as models for the creation of others by means of analogy; and, as the speaker does not analyse the language which he speaks, we must naturally expect that, in this scarcely conscious process of analogy, he will be satisfied with a merely external and superficial resemblance. Hence the numerous etymological deviations, the cause and influence of which will be best illustrated by a familiar example.

We have in French a suffix *-ier*, the regular representative of Latin *-arium*, *-iarium*, which has been added, among other words, to various words ending in an etymological *t*: *lait lait-ier*, *sabot sabot-ier*, *clou clout-ier*, etc. But as the *t* has long ceased to be pronounced in *lait*, *sabot*, and has even ceased to be written in *clou*, the speaker does not now isolate in thought, in the derivative words, the element *-ier*, which he no longer perceives in them, but the element *-tier*, which he fancies he perceives in them, and he transfers this element entire to other derivatives; hence from the words *bijou*, *café*, *fer-blanc* he forms the secondary words *bijou-*

¹ E.g. **skhid* (idea of splitting) and **to* (demonstrative, cf. Gk. *τό*), whence **skhid-tó-*, literally "split-it," Gk. *σχιστό-*, "that which (is) split."

tier,¹ *cafe-tier*, *ferblan-tier*, in which the *t* is to the etymologist a mere monstrosity, but to the psychologist the sign of an intellectual operation of remarkable delicacy. It is now clear that, without the check afforded by Latin, and without the historical evidence of the French forms, we should be forced to admit in French the real and primitive existence of this pseudo-suffix *-tier*, the origin of which would escape us. Now such a check and such evidence are absolutely wanting to us in the case of the primitive Indo-European language; and corruptions of this kind, of which hundreds of examples might be found in French derivatives,² and of which Greek and Latin will afford us many instances, must necessarily have played havoc with the Indo-European language also, from the mere fact that this language passed through human mouths and was thought about by human brains.³

The fact is, that linguistic analogy,⁴ which is a special form of the principle of association of ideas applied to language, is not merely an indispensable element, at once creative and disturbing, in the formation of the words of a language; it may be said to be the very essence of human speech. If we just

¹ When the analogy is quite strict, as is generally the case, there is no better way of representing it vividly to the eye than by a formula of proportion, e.g. *bijoutier* : *bijou* = *cloutier* : *clou(t)*.

² Cf. A. Darmesteter, *Mots Nouveaux*, passim.

³ [The English language offers many examples of the influence of analogy. Thus the ending *-ation* properly belongs only to words derived from Latin verbs of the first conjugation, like *contemplation*, *mediation*; but the ending *-ation* in such words being wrongly isolated, and regarded as a fit termination for abstract words irrespective of their origin, the English language has been enriched by the acquisition of such hybrid words as *starvation* and *flirtation*. The word *starvation* is said to have been first used in the House of Commons by Mr. Dundas in 1775, and to have earned him the nickname of "Starvation Dundas." The correct writers of the early part of this century recoiled from it with horror; but it now seems to have passed into general use.]

⁴ [Besides V. Henry's valuable *Étude sur l'Analogie* (Paris, 1883), which deals chiefly with Greek, the English student may consult on the subject of analogy in general Sayce's *Comparative Philology*, chap. ix. (Macmillan, 1874), Paul's *Principles of Language* (Swan Sonnenschein, 1888), and B. I. Wheeler's very useful study of Analogy (Cornell University, United States, 1887), which contains many English illustrations and a list of authorities. The special application of the principles of analogy to Greek and Latin has been discussed by the translator in a paper on "The Laws of Analogy in Greek and Latin," published in the *Transactions of the Oxford Philological Society* for 1887-8 (Clarendon Press, Oxford, 1888, 1s.).]

think of the ease with which a child learns its own language, of the prodigious effort of memory implied in the storing of the hundred thousand words of a language in an ordinary brain, of a million of words or more in that of a polyglot, we shall be convinced that this is only possible because the words so learned arrange themselves in our mind in families and groups, by a continual and almost unconscious process of classification, a process not etymological of course, but purely empirical and based on merely external features of resemblance. Without this phenomenon, the understanding of a language would be inconceivable. Pronounce for the first time the word *swiftest* before a child who has not heard the word before; he will understand, provided that he knows the positive *swift*. Why? Because the connexion of *quick quickest, kind kindest, big biggest*, etc., immediately spoke to his mind far more eloquently than the best of dictionaries. But do not be surprised, after that, if he should happen to say also **littlest* or **baddest*. Suppose Demosthenes was the first to use the verb *φιλιππίζειν* in the celebrated phrase "*φιλιππίζει ἡ Πυθία*"; it was none the less understood, even on its first utterance, by the most illiterate of his contemporaries, just as in our own day the unknown French journalist was understood who first created the word "Opportunist." Owing to this power of analogy, it is no exaggeration to say that each individual derives his language from himself, at least as much as he learns it from others; hence it is not surprising, if language, thus created anew by every thinking being, necessarily undergoes from generation to generation many accretions which, while enriching it, are incessantly changing its form.

(84) With these reservations as to the use and precise meaning of the term "root," we shall apply the name *root* to that element which gives the essential meaning of a word or group of words, while we shall apply the name *suffixes* or *affixes*¹

¹ In the Indo-European languages the only kind of derivation known is derivation by means of suffixes. Derivation by means of prefixes is never anything more than apparent; for example, in certain compounds of which the first term has ceased to be used as a separate word, e.g. *ἀπλ-γνωτος* (well-known), in which occurs a word **ἀρ *ἀρι* (good, cf. *ἀρ-ιστος*), or in simple verbal combinations, *προ-άγω*, *per-legō*, *infra* 178.

to those elements whose addition determines the precise shade of meaning to be attached to the vague and general meaning contained in the root. A suffix then is everything which, in a given word, occurs between the root and the terminations of declension or conjugation, *e.g.* -σι- in θέ-σι-ς, -μό- in θω-μό-ς, -σαυρό- in θη-σαυρό-ς, -μά-ο- in τῖ-μά-ο-μεν, etc. The declinable or conjugable combination thus formed, *e.g.* θέσι-, θωμό-, τῖμάο-, is called the **stem** (theme, radical [or base]). A **stem** is called **primary**, if only one suffix is attached to the root, τῖ-μῆ; **secondary**, if there are two, that is, if it is derived from the primary stem just as the latter is derived from the root, *e.g.* τῖ-μά-ο- derived from τῖ-μῆ just as τῖ-ο- is from the root τῖ-, 1st sing. pres. ind. τῖμάω, τίω; **tertiary**, if there are three, τῖ-μα-ό-μενο-, and so on. But, as the same processes are reproduced indefinitely in all the stages of derivation, it is sufficient, for the purpose of studying derivation as a whole, to distinguish between **primary derivation**, comprising formations derived directly from the root, and **secondary derivation**, including all others. These, together with nominal composition, will form the three branches of our study of etymology.

CHAPTER I.

PRIMARY DERIVATION.

(85) A stem is called *nominal*, *e.g.* λόγ-ο-, or *verbal*, *e.g.* λέγ-ο-, according as it is capable of attaching to itself the terminations of declension or of conjugation respectively. These two grammatical categories are in principle quite distinct,¹ but they cannot fail to react on one another, thus mutually enriching each other. Thus from ἐκ-καλέ-ω, to call forth (ἐκ-κέ-κλη-κ-α, ἐξ-ε-κλή-θη, ἔκ-κλη-το-ς, etc.), the language formed ἐκ-κλη-σί-α, assembly; from this noun, the verb ἐκ-κλη-σι-άζω, to hold an assembly, and from this verb in its turn the substantive ἐκ-κλη-σι-ασ-τή-ς, orator, and the adjective ἐκ-κλη-σι-ασ-τικός-ς, and theoretically the process might be continued up to infinity. But, as in every language there are more nouns derived from verbs than verbs derived from nouns, it seems most natural, in approaching the study of the two systems of derivation, to consider the verbal stems first.

Furthermore, in each system of derivation, the formations may be distinguished, according as they go back to the Indo-European period, or are peculiar either to Greek or Latin, and seem to have been subsequently developed in either language. No doubt in the latter case they are not, properly speaking, primary; for even when they seem to have arisen from the simple combination of a root and a suffix, yet, having arisen at a time when root and suffix had long ceased to exist as separate categories, they can only be due to a secondary and often a very complicated operation of analogy. But, on the one hand, as we have just seen, there is scarcely any Indo-European form

¹ That is to say, λόγος is no more derived from λέγω than λέγω from λέγος; but both come, by a separate and independent process of derivation, from a root *leg, which appears in its normal form in the one case, and in its deflected form in the other.

to which a precisely similar origin may not conceivably be assigned; and, on the other hand, when an Hellenic form is wanting in Latin, or *vice versa*, we are not thereby justified in thinking that it was wanting in the common language and that the language which possesses it has formed it independently; for it is also possible that the other language has lost it. Hence there is no reason why we should not put on the same level all formations, whether common or not, which are or seem to be primary.

SECTION I.

VERBAL STEMS.

§ 1.—*Common Formations.*

(86) The whole of this system is characterized by one fundamental distinction. We know that a very large number of verbal formations, *e.g.* in Greek the present of verbs in *-ω*, all subjunctives, all futures, and in Latin all presents, etc., show before the conjugation-ending a vowel *o* or *e*, alternating according to fixed and invariable rules.¹ In consequence of its extreme frequency, the name of **thematic vowel** has been given specially to this vowel *o/e*, and hence the name of **thematic formations** is applied to those in which it is present, **non-thematic** to those in which it is absent, *e.g.* in Greek the sigmatic aorist, the aorists passive, the present of verbs in *-μ*, and in Latin the subjunctives, imperfects, etc. In spite of the fundamental defect of this terminology (for *ἐ-λύ-θη* or *legē-bā-* is evidently a theme or stem just as much as *λύ-ο* or *leg-e-*), we must needs adopt it; for we shall see later on, in studying the conjugation system, how necessary it is to distinguish everywhere the forms which contain the thematic *e/o* from those which do not contain it.

Moreover, even at this point, the distinction is necessary. Latin, though it kept in its conjugation a good many non-thematic stems, retained scarcely any in the present; in other words, it no longer retained any verbs in *-μ*. The thematic vowel was extended in Latin by a process of analogy from which even Greek was not entirely free, until it invaded all

¹ See *infra* 269.

the present stems which Greek still kept in their primitive simple form; so that the regular correspondence between the two languages would seem to be broken from the very beginning, if we trusted merely to appearances.

(87) I. *Simple root-stems* (in Greek, present stems, or more commonly aorist stems, when the stem of the present is formed by means of reduplication, *infra* II).—The simple root with no affix immediately precedes the termination, and appears either in the normal or weakened form, according to a regular alternation (sometimes, however, interfered with by analogy), which will be considered among the phenomena of conjugation.¹ Presents: φη-μί φα-μέν (root φᾱ, Dor. φᾱ-μῑ); εἰ-μί ἴ-μεν; εἰ-μί, Lesb. ἔμ-μῑ (= *ἔσ-μῑ) ἐσ-μέν. Aorists: ἔ-θη-ν ἔ-θε-μεν, ἔ-δω-ν ἔ-δο-μεν, ἔ-στη-ν (Dor. ἔ-στᾱ-ν) ἔ-στη-μεν, etc.

Latin has in this class: *es, es-t, es-tis*, etc., from the verb *es-se*, root *es*; *ēs-t* (he eats) = **ed-t*, root *ed*; *vol-t* (he wishes), etc.; *ī-s, ī-t*, the present of the verb *ī-re*, except 1st sing. and 3rd pl., which are thematic; that of the verb *da-re*, except *dō*; perhaps that of the verb *stā-re*, except *stō* (*stā-s* = ἔ-στᾱ-ς, except in respect of the augment); and by a curious peculiarity some forms of a verb which in Greek, on the contrary, is entirely thematic, *fer-s, fer-t, fer-tis, fer-te*, cf. φέρεῖς, φέρεῖ, φέρ-ε-τε. But the Homeric form φέρ-τε (Il. ix. 171) is no doubt a relic of the old non-thematic conjugation of the root φερ.

II. *Root-stems preceded by reduplication with the vowel i* (in Greek present and imperfect stems, in Latin lost).—The root alternates: τί-θη-μι τί-θε-μεν, ἱ-στη-μι Dor. ἱ-στᾱ-μι (= *σί-στᾱ-μι) ἱ-στα-μεν, δί-δω-μι, ἱ-η-μι (= *σί-ση-μι, cf. Lat. *se-men*), impf. ἐ-τί-θη-ν ἐ-τί-θε-μεν, etc.; with so called Attic reduplication (*infra* 240), δνίνημι (to benefit), aor. ὠνάμην. In Latin *si-st-ō* (= Gk. ἱ-στη-μι) and *bi-b-ō* (= Sk. *pī-bā-mi*) have passed into the thematic conjugation.

III. *Root-stems preceded by reduplication with the vowel e* (perfect stems, improperly called in Greek second perfects²).—

¹ The same vowel-gradation takes place in every syllable, whether a root-syllable or suffix-syllable, which immediately precedes the conjugation-ending, and does not contain the thematic *e/o*. Cf. *infra* 269.

² The ordinary grammars have been very unfortunate in their nomenclature; the so-called second perfects are much more simple and primitive

The root alternates between the three grades:¹ Gk. *foîδ-a* *fîδ-μεν*, *γέ-γον-α* *γέ-γα-μεν*, *λέ-λοιπ-α* *λέ-λειμ-μαι*, *εἰλ-ήλουθ-α* (Hom.) and *ἐλ-ήλυθ-α*, *πέ-φευγ-α*, *λέ-ληθ-α*, etc.; Lat. *vid-ī*, *to-tond-ī*, *spond-ī*, *pe-pend-ī*, *pe-pig-ī*, *liq-u-ī*, *fūg-i*, *tul-ī* = *te-tul-ī*, cf. *rettulit*, *fēc-ī* = **fe-fēc-ī* (cf. ἔθηκα, τέθεικα), showing the normal grade of the root as contrasted with the reduced grade of *fāc-iō* (*supra* 41, 3).

In Greek, roots ending in a non-aspirated guttural or labial often show in the perfect the corresponding aspirate: *πλέκ-ω* *πέ-πλεχ-α*, *λέγ-ω* *λέ-λεχ-α*, *βλάπ-τω* *βέ-βλαφ-α*, *τρίβ-ω* *τέ-τρίφ-α*, etc. This phenomenon is by no means invariable: we have just seen *πέφευγα* and *λέλοιπα*. Moreover, it is somewhat late; the aspirated perfect is unknown to Homer; Herodotus and Thucydides have only one instance, *πέπομφα*; the tragedians another, *τέτροφα*; its wide extension dates from Aristophanes and Plato. Hence it must be regarded as an analogical corruption, aided perhaps by the tendency of popular Attic to aspiration; e.g. *γράφ-ω* regularly had 1st sing. perf. *γέ-γραφ-α*, and no less regularly 1st pl. perf. *γέ-γραμ-μεν*; on the other hand, *τρίβ-ω* also had 1st pl. perf. *τέ-τρίμ-μεν*, and the likeness between *γέγραμμεν* and *τέτρίμμεν* brought about the likeness between *γέγραφα* and *τέτρίφα* (cf. *supra* 62 ζ).

(88) IV. *Stems with suffix -nā- (weakened -nā-)*: Greek presents.—The root is generally weakened: *δάμ-νη-μι* (to subdue) = *δάμ-νā-μι*, 1st pl. *δάμ-νā-μεν*; *σκιδ-νη-μι*, *κίρ-νη-μι*, *δύ-να-μαι*, *μάρ-να-μαι*; normal grade in *πέρ-νη-μι* (to sell), cf. the deflected grade in *πόρ-νη* (prostitute). There is a transition to the thematic conjugation in *δαμ-νά-ω* = *δάμνημι*.

V. *Stems with suffix -new- (weakened -nū-)*: Greek presents.—For the regular gradation *-νευ-* *-νū-*, which Sanskrit shows in this class, e.g. *saṇōmi* (I conquer), 1st pl. *sanumds*, Greek substituted through analogy a gradation *-νā-* *-nū-* modelled on the alternation *-nā-* *-nā-* of the preceding class, e.g. *δείκ-νū-μι* *δείκ-νū-μεν*, like *δάμ-νā-μι* *δάμ-νā-μεν*. Another corruption is

than those called first perfects; the same is the case with the second aorists passive as contrasted with the first aorists, etc.

¹ The whole subject of reduplication and vowel-gradation is further discussed in connexion with conjugation, *infra* 237 seq., 292 seq.

equally noticeable. As in the preceding class, the root ought to be weakened, since the Sanskrit accent falls sometimes on the suffix, sometimes on the termination, never on the radical syllable. But Greek shows only a very few forms with weakened root, ὄρ-νῦ-μι (I rouse), τά-νῦ-μαι (I stretch) = *τῆ-νῦ-μαι, cf. τείνω and τατός; and most verbs of this class, πῆγ-νῦ-μι, ῥήγ-νῦ-μι, ῥών-νῦ-μι, ζεύγ-νῦ-μι, δείκ-νῦ-μι, etc., show the normal grade. The vocalism of the sigmatic futures and aorists, in which this grade is regular, πήξω, ῥήξω, δείξω, ζεύξω, must have influenced the vocalism of the present.

There is a transition to the thematic conjugation in Greek τα-νύ-ω (I stretch), and perhaps also in the form μι-νύ-ω *mi-nu-ō* (I lessen), which is common to Greek and Latin.

(89) VI. *Stems with suffix -e-/-o- unaccented in the primitive language*: Greek and Latin presents.—This class is large and well-known: Gk. λέγ-ω (λέγ-ο-μεν λέγ-ε-τε), φέρ-ω, λήθ-ω = λαθ-ω, λείπ-ω, φεύγ-ω; Lat. *leg-ō, fer-ō, dīc-ō, fid-ō, dūc-ō*. As is indicated by the theory and shown by the examples, the root, which was accented in the primitive language, always assumes the normal form; we have already had occasion to contrast λείπ-ω and ἔ-λιπ-ο-ν, φεύγ-ω and ἔ-φυγ-ο-ν, πέτ-ο-μαι and ἔ-πτ-ό-μην. In the very rare cases in which the root seems to be weakened in the present, Gk. ἄρχ-ω, μάχ-ο-μαι, γράφ-ω, Lat. *āl-ō, scāb-ō*, Græco-Latin *āγ-ω āg-ō, āγχ-ω ang-ō*, etc., probably a second aorist stem has been substituted for a regular present stem like *μᾶχ-ο-μαι, *γρέφ-ω, etc. It is not even necessary to suppose that this substitution is due to analogy;¹ for, just as the imperfect is the present tense augmented, it is very possible that the so-called second aorist is the augmented tense of another present, almost lost. In other words, the known series ἔ-φευγ-ο-ν φεύγ-ω requires a corresponding theoretical series ἔ-φυγ-ο-ν *φύγ-ω; but the second term of the latter spread very little and ended by falling into disuse, whereas the other series remained unchanged.²

¹ E.g. in accordance with the formula γράφω: ἔγραπον (= *e-grbh-o-m, aorist taken for an imperfect) = φέρω: ἔφερον.

We must even go further. Given a root *bher, it could no doubt be conjugated, at the option of the speaker, with no affix *bhēr-mi (cf. Lat.

Much more rarely the root seems to be deflected, e.g. τρώγ-ω (to gnaw), aor. ἔτρωγ-ον. Here it is the vocalism of the perfect which contaminated that of the present, as may easily be proved in the case of the typical form γεγών-ω (to cry), which is modelled on the perfect γέγων-α, and shows, not only its vocalism, but even its reduplication.

VII. *Stems with suffix -e/-o- primitively unaccented*: Greek subjunctives.—Morphologically this class does not differ from the preceding one: στή-ο-μεν, used as a subjunctive, is evidently framed in the same way as λέγ-ο-μεν, which is used as indicative; but as the root *στā* was capable of being conjugated without an affix, its conjugation with an affix was utilized to serve as a subjunctive. In other words, λέγ-ο-μεν would be a subjunctive if there existed an indicative *λέγ-μι.¹ To this class belong all subjunctives with a short vowel, present ἵ-ο-μεν (let us go), aorist βή-ο-μεν, στή-ο-μεν, δώ-ο-μεν, perfect εἶδ-ο-μεν² (cf. οἶδ-α); these forms were still fairly common in the language of Homer, but were superseded in ordinary Greek by subjunctives with a long vowel. In Latin this type is unknown; from the mere fact that Latin no longer had any non-thematic indicatives, all its thematic verbal forms were used as indicatives. Latin, however, still kept *erō* = **es-ō* = Gk. *ἔσ-ω (ἔω, ὦ), a subjunctive used as a future.

(90) VIII. *Stems with suffix -é/-ó- accented in the primitive language*: non-thematic aorists (called in Greek second aorists).—The root is weakened, as is shown by the primitive accentuation, which Greek faithfully preserved in the forms incapable of conjugation, inf. φυγ-εῖν, part. φυγ-ών, cf. φεύγ-ειν and φεύγ-ων. It is sufficient to enumerate λαβ-εῖν, λαθ-εῖν, πτ-έ-σθαι (cf. the present πέρ-ε-σθαι), ἔ-σχω-ον (cf. ἔχ-ω = *σέχ-ω), λιπ-εῖν, παθ-εῖν (= *πῆθ-εῖν, cf. perf. πέ-πονθ-α), etc. Sometimes the

fer-s), with no affix but with reduplication **bhi-bhēr-mi* (cf. Sk. *bī-bhar-mi*, I carry), with affix *-nā-* **bhr-nā-mi*, with affix *-new-* **bhr-nēw-mi*, with affix *-e-(o-)* **bhēr-ō* (φέρ-ω, Sk. *bhār-ā-mi*), or with affix *-é-(ó-)* **bhr-ō*, and so on. Of this original variety, which corresponded perhaps to different shades of present meaning (momentary, durative, iterative, etc.), we should find in each language only a few isolated examples, *dissecta membra verbi*.

¹ There is a trace of it in the Homeric ἐλέγμην (Od. ix. 335).

² εἶδ-ω might also be the subjunctive of a present *εἶδ-μι.

character of the root is uncertain, e.g. *μολ-εῖν* (to go), *θαν-εῖν* (to die), *βαλ-εῖν* no doubt on the analogy of *βάλλω*.¹ More rarely still the normal grade crept in, e.g. *τεκ-εῖν* (to bring forth) where however the form without *ε* would be unpronounceable, *γεν-έ-σθαι* (cf. *γέν-ος*), *τεμ-εῖν* (to cut, cf. pres. *τέμ-νω*). Latin shows only a few traces of this form, which is so common in Greek, namely, in old Latin, the aorists *tag-ō*, *tag-i-t* (contrasted with the nasalized present *tang-ō*), *pag-o-nt* or *pac-o-nt* (they have made an agreement,² cf. the presents *pang-ō* and *pac-isco-r*), and even in classical Latin the participle *par-e-nt-ēs* (those who have brought forth), contrasted with the present participle *par-ie-nt-ēs* (those who bring forth).

IX. *Stems with suffix -έ/-ό- preceded by reduplication with the vowel e*: in Greek reduplicated second aorists.—This class, except for the additional reduplication, is absolutely identical with the preceding one, though much rarer: *ἐ-λέ-λαθ-o-ν* (I hid myself); Hom. *λε-λαβ-έ-σθαι* (Od. iv. 388), *πεπιθόντες* (Il. xxiii. 37); class. *ἤγ-αγ-όν* aorist of *ἄγ-ω* with so called Attic reduplication; class. *εἶπον* = Hom. *ἔειπον* = **ἔ-φε-π-o-ν* with augment, reduplication, and weakened form of the root *φεπ* (to speak, cf. *φέρ-ος*), like *ἔ-πε-φν-o-ν* with weakening of the root *ghen* (to kill, cf. *θείνω* and *φον-ός* ³); similarly imper. *εἰπ-έ* = *φειπ-έ* (say) = **φε-π-έ*.⁴ Latin no longer has anything similar; if *inquit* is a syncope for **in-vēqu-it* (he says, root *vequ* = *φεπ*, cf. *vōc-s* and Gk. *φός-s*, voice)⁵ we see that the root has not there been accompanied by any reduplication.

X. *Stems with suffix -e/-o- (proethnic accent unknown) preceded by reduplication with the vowel i*: Greek and Latin presents.—The root is weakened. Greek: *γί-γν-o-μαι*, cf. *γέν-ος*;

¹ We should expect **βλ-εῖν*, cf. the normal grade in *βέλ-ος* and the deflected grade in *βολ-ή*; but the so-called roots with metathesis, like *βάλ-λω βλη-τός*, *θαν-εῖν θνή-σκω* show gradations still partially unexplained, which are no doubt connected with the presence of long sonant nasals and liquids, cf. *supra* 49 and 52 *in fine*.

² *Leg. xii. Tab. "rem ubei pacont oratod"* (when the parties have come to an agreement respecting the suit, let the judge ratify their agreement). the *manu-*

³ See *supra* 57, 4.

⁴ The diphthong *ει* in *εἶπον* cannot be explained by **ἔπω* preceded by augment, for then it would not remain in all moods of the aorist. weakened

⁵ In any case, the 1st pers. *inquam* can only be a subjunctive.

πί-πτ-ω (to fall), same root as πέτ-ο-μαι (to fly); ἴζω (to seat) = *σί-σδ-ω, root *sed* in ἔδ-ος and *sed-ēre*; ἴσχω = ἴσχω¹ = *σί-σχω root *σεχ*, cf. ἔχω = *ἔχω (same meaning); Hom. imper. ἐνισπε (say) = *(ἐν-) σι-σπ-ε, root *seq (to say), cf. O. Lat. imper. *in-sec-e*; ² τίκτω, probably with metathesis for *τί-τκ-ω (to bring forth, cf. aor. τεκ-εῖν), etc.³ Latin: *gī-gn-ō* = *γί-γν-ω; *sīdō* = *sī-sd-ō, identical with ἴζω.

(91) XI. *Stems with suffix -yo-*: Greek and Latin presents.—The primitive accentuation is not clearly known; it is probable that the suffix *-yo-* might sometimes take the accent, sometimes leave it on the root. However that may be, the root mostly appears in the weakened form, though forms with normal root, like τέλλω (to rise), στέλλω (to send), are not very rare; sometimes we even find both forms as dialectical doublets: thus Dor. φθαίρω (to spoil) = *φθγ-γω corresponds to Æol. φθέρρω and Ion. φθείρω = *φθέρ-γω. We know moreover what a complicated series of phonetic phenomena⁴ is produced in Greek by the combination of the initial letter of the suffix with the final letter of the root; it will suffice to recall as examples: βαίνω, *ven-iō*; σπείρω (to sow, cf. σπορ-ά), and *or-io-r*, *mor-io-r*; ἄλλομαι (I leap) and *sal-iō*; στιζώ (to prick = *στιγ-γω), πράσσω, Att. πράττω = *πράκ-γω, and *fug-iō*, *fac-iō*; σχίζω (to split) = *σχίδ-γω, cf. *scind-ō*, and λίσσομαι (to entreat) = λίτ-γο-μαι, cf. λιτ-αί (prayers); lastly, τύπτω and *cap-iō*. In certain cases, in consequence of the loss of intervocalic *y*, we should be in danger, if not on our guard, of confusing this class with class VI; thus φύω (Lesb. φνύω) contains the suffix *-yo-*, not merely the suffix *-o-*, as is shown at once by the weak grade of the radical syllable. So λύω, κλύω, etc.

(92) XII. *Stems with suffix -sko-*, root generally weakened: Greek and Latin presents.—This primary suffix is pretty common: Gk. βά-σκω (to walk), βλώ-σκω (to go), θνή-σκω

¹ carry, On the loss of aspiration, cf. *supra* 61.

² -e- (*Odysseum mihi Camena insece versutum*, beginning of the *Odyssey* of on. Or Andronicus (*Ἄνδρα μοι ἔννεπε Μοῦσα πολύτροπον*).

of present vowel of reduplication is often long, Hom. *πέπτε* (he fell), *πέφασκων* each lang²), and the initial vowel of *ἔημι* (*supra* 87 II) almost constantly

¹ There, etc, II. xviii. 471).

² *etd-ω* mī⁷a 39 C.

(to die), *πάσχω* (to suffer) = **πηθ-σχω*, *γι-γνώ-σχω* (to know), *πι-π-σχω* (to give to drink), *πι-πρά-σχω* (to buy); ¹ *ἔσκε* (he was, Il. iii. 180) = **ἔσ-σκε*, cf. Old Lat. *escit* (Leg. XII Tab.) = **es-sci-t* (he is); Lat. *gli-scō*, *crē-scō*, *nō-scō* (= **gnō-scō*), *discō* (= **dīc-scō*), *poscō* (= **pōrc-scō*, cf. *prec-o-r*). Sometimes, when the root ends in a consonant, it appears under the form -isko-: Gk. *εῦρ-ίσχω* (to find), *ἄρ-αρ-ίσχω* (to fit); ² Lat. *pac-isco-r* (to make an agreement), *ap-isco-r* (to obtain), cf. *pac-tu-m* and *ap-tu-s*. But in *ἀρέ-σχω* (to please) the *ε* seems to form an integral part of the root, cf. *ἀρε-τή* (merit, virtue).

XIII. *Stems with suffix -to-*: Greek and Latin presents.—This suffix is very rare in Greek; hardly any certain example can be cited except *πέκ-τω* (to comb), cf. *πόκ-ος* (fleece); Lat. *flec-tō* (to bend), cf. *πλέκ-ω* (to plait), *nec-tō*, *plec-tō*, etc. If it seems frequent in Greek after a labial (*τίπτω*, *κόπτω*, *μάρπτω*, *ρίπτω*, etc.), the reason is that the group *πy* phonetically becomes *πt*; hence all these cases belong to class XI.

XIV. *Stems with suffix -dho-* (?), Gk. -*θο-*, Lat. -*do-*: Greek and Latin presents.—This suffix, which very rarely appears as a primary suffix, forms in Greek: *σχε-θω* (to have), root *σεχ*; *νή-θω* (to spin), cf. *νέ-ω*; *πλή-θω* (to be full), root *πλη*, cf. *πίμ-πλη-μι* and *plē-nu-s*; *ἔσ-θω* (to eat) = **ἔδ-θω*, cf. *ἔδ-ω*; *ἄχ-θο-μαι* (to be grieved), cf. *ἄχ-νυ-μαι* (same meaning), etc.; in Lat. *ten-dō*,³ cf. *τείνω* = **τέν-γω*, **fen-dō* (I strike) in *offendō*, *dēfendō*, cf. Gk. *θείνω* = **θέν-γω*, *fren-dō*, cf. *frem-ō*, etc. It is not known whether *pellō*, *tollō*, etc., belong to this class or the following one; for from a phonetic point of view *pellō* may go back equally well to **pel-dō* or **pel-nō*; the Greek correlatives have the suffix -*γο-* (*πάλλω*, *τέλλω*).

(93) XV. *Stems with suffix -no-*: Greek and Latin presents. Although we cannot assign to this suffix an Indo-

¹ It will be seen that this suffix, like the preceding, is not incompatible with reduplication, e.g. *τιταίνω* (stretch) = **τι-τη-γω*, *τι-τρώ-σχω* (to wound), *διδάσκω*, etc.

² It was no doubt the analogy of this suffix -*ίσχω* which introduced the *ε* subscript in *θνήσχω* and other Attic spellings, supported by the best manuscripts.

³ *Tendō* has also been explained as **te-in-ō* (reduplication and weakened root).

European origin, it is extremely common in Greek and Latin, in which it seems mainly to be the result of an irregular transition of classes IV and V to the thematic conjugation: Gk. *πι-νω*, Æol. *πώ-νω* (to drink), cf. Lat. *pō-tu-s*, δάκ-νω (to bite), τέμ-νω (to cut), Lesb. βόλλομαι, Ion. βούλομαι = *βόλ-νο-μαι; Old Lat. *da-nu-nt* (they give),¹ *ne-quī-nu-nt* (they cannot), *red-ī-nu-nt* (they return), etc., class. *li-nō* (to smear), *si-nō* (to permit), cf. supra *li-tu-m*, *si-tu-m*. With this formation are connected a certain number of others, much more complicated, and apparently modified by various analogical influences.

1. In Greek we sometimes find a suffix -νεο-, which, like -νο-, occurs only in the present: *ικ-νέο-μαι* (I come), cf. aor. *ικ-ό-μην*; *κυ-νέω* (to kiss), cf. aor. *ἔ-κυ-σ-α*.

2. Some verbs in -νω seem to arise from -νfw, that is, from the suffix -νν- added to the thematic conjugation, with regular substitution of *w* for *u* before a vowel: e.g. *διν-νω* (to shake), *κλιν-νω* (to incline), *κριν-νω* (to distinguish, cf. Lat. *cer-nō*), corresponding to Æolic *δίννω*, *κλίννω*, *κρίννω*, etc.; also *φθᾶ-νω* (to anticipate), *τι-νω* (to expiate), *φθι-νω* (to destroy), where the radical *ι*, always long in the time of Homer, is shortened in later versification.

3. When the root ends in a consonant, the meeting of this consonant with the nasal of the suffix seems to have usually developed a sound which was represented as an epenthetic vowel:² the suffix then took the form -ανω-, e.g. *ἁμαρτ-άνω* (to err, aor. *ἤμαρτ-ο-ν*). Moreover, in the oldest and commonest type, the nasal of the suffix was somehow reflected in the root, by a phonetic process not yet satisfactorily explained, though easily conceivable: thus a root *λᾶθ* (to be hidden) would give **λᾶθ-νω*, whence **λάνθ-νω* and **λάνθ-ηνω*, and lastly *λανθ-άνω*.³ So also with *λαγχ-άνω* (root *λεγχ*, cf. perf. *λέ-λογχ-α*), *λαμβ-άνω*, *λιμπ-άνω* (to leave), *πυνθ-άνομαι* (to learn), and without nasalization *ληθ-άνω*, *κευθ-άνω* (to hide), *αὐξ-άνω* (to increase), *δαρθ-άνω*

¹ In the very old Latin inscription known as *Dedicatio Sorana*: "*Donu danunt Hercolet maxsume merito*."

² This phenomenon is exactly parallel to that of the Dutch *knif* (knife), which has become in French *canif* = **khnif*.

³ Cf. fut. *λήσομαι* = **λᾶθ-σο-μαι*.

(to sleep), *αἰσθ-ίνο-μαι* (to perceive); this mode of formation was much extended by analogy.

4. In Latin the same class of forms followed a very different phonetic road. *E.g.* the root *pāc* (to make firm, cf. Gk. *πήγ-νυ-μι* and Lat. *pāc-s*, treaty), by the addition of the suffix *-no-* to the weakened form, will give successively **pac-nō*, **pag-nō* and **pañg-nō*, after which, the group *ñgn* becoming reduced to *ñg*,¹ there remains the known form *pangō*. In the same way we may explain *tangō*, *stringō*, *pandō*, *lambō*, as compared with *tac-tu-s*, *stric-tu-s*, *pat-eō*, *lab-iu-m* (lip), namely, through **pat-nō* (cf. Gk. *πίρ-νυ-μι*), **lab-nō*, etc.; and it will be noticed that in certain verbs (*jung-ō junxī junc-tu-m*, cf. *jug-u-m*, (*di*)*stingu-ō -stinc-tu-s*, etc., cf. Gk. *στίζω*=**στίγ-γω*), the nasalization is not confined to the present, but is extended by analogy to the whole conjugation.

(94) This last observation leads us to another of a more general character. All the different present-signs, reduplications, and affixes mentioned above, of which the suffix *-no-* is the last, do not by their nature belong to the verb itself, but, as a general rule, affect only the present of the verb: and so they disappear regularly in the other tenses, cf. *δί-δω-μι δώ-σω*, *δάμ-νυ-μι δαμά-σω*, *δείκ-νυ-μι δείκ-σω*. *σχίζω*=**σχίδ-γω* and *σχίσω*=**σχιδ-σω*, *λαμβ-άνω ἔ-λαβ-ο-ν*, etc., etc., and in Latin *nō-scō nō-vī*, *cer-nō crē-vī*, *cap-iō cēp-ī*, *tang-ō te-tig-ī*, etc.² But it was likewise inevitable that the form of the present should occasionally influence that of the other tenses, and that so an affix belonging exclusively to the present should in course of time spread to part or even the whole of the rest of the conjugation. Hence, by the side of the regular *δώσω* we find the Homeric *διδώσω*,³ and even more naturally the reduplicated

¹ It is not possible however to reduce this change to a certain and invariable law, cf. *supra* 62 §.

² Hence, strictly speaking, it is incorrect to say that *δείξω*, for example, is the future of *δείκνυμι*. The present, future, and perfect form distinct systems, perfectly independent of one another. The truth is, that *δείξω* is the future of the root *δεικ* (to show), of which *δείκνυμι* is the present, *δέδειχα* the perfect, etc., etc.

³ *Διδώσομεν* (Od. xiii. 358), and so also *ἐνίψει* (he will say, Od. xi 148) cf. *supra* X.

δίζημαι (= *δί-δγῃ-μαι, cf. ζητέω, to seek), in which the reduplication is scarcely any longer apparent, has for future διζήσομαι; τύπτω has τύψω, but in Attic τυπτήσω; and the suffix -νεο-, which, as we have seen, is lost in the aorist of κινέω, remains in κινέω (to move), fut. κινήσω, and all the other forms; lastly, κρίνω, κλίνω, etc., have in the future κρινῶ, κλινῶ, etc., just like μένω μενῶ (*infra* 97), in which the ν belongs to the root. In Latin, this confusion is much less common; we have, however, already seen *junx-ī*, and *pang-ō*, which has a regular perfect *pepigī*, has also an analogical perfect *panxī*; on the other hand, *ven-īd* has in the infinitive *ven-ī-re* (= **ven-īē-re* ?), as if it were a secondary formation, whereas a comparison with the Greek βαίνω shows that it contains exactly the same affix as *cap-īd*, of which the infinitive is *cap-e-re*.

(95) XVI. *Stems with suffix -yē- (-iē-), weakened -i-*: Greek optatives.—The gradation is very regular: δοίην δοίμεν, τιθείην τιθείμεν, Lat. *s-īe-m s-iē-s s-iē-t* (old subjunctive of *sum*), pl. *s-ī-mus*, etc., cf. Sk. *syām*. We see by these examples that the root is weakened before this affix: the Greek optative εἶην = *ἔο-ιήν instead of the regular *σ-ιήν is explained by the analogy of those forms of the verb in which εο remained unchanged, indic. *ἔο-μί (ἔμμι εἰμί) and subj. *ἔο-ω (ἔω).

In Latin the form *siem* is still frequent in the comic poets, but in the classical language the analogy of *sīmus sītis* created *sim sīs sit*, which finally prevailed. The other three optatives kept by Latin, *ed-i-m* (I may eat), *du-i-m* (I may give) and *vel-i-m*, likewise show only the weakened form of the suffix.

(96) XVII. *Stems with suffix -s-*: in Greek the sigmatic aorist, called first aorist, 1st sing. ἔλεψα (= *ἔ-λεπ-σ-ῃ), ἔδειξα, ἔστρεψα, ἔστησα, ἔτευσα,¹ from τίω, etc.; in Latin, a large number of perfects, *vīxī* (= **veig-s-eī*,² cf. *vīvō* = **veigv-ō*), *flexī*, *scripsī*, *auxī*, *fulsī*, *finxī*, etc.—Originally the root appeared in the normal grade,³ but it was further subject to a regular

¹ This is the true form of the aorist often written ἐτίσα.

² VEIXSEI is found on one of the epitaphs of the Scipios.

³ Notice the very curious correspondence ἐστρεψα : ἐτραπον, ἔλεψα : ἔλιπον, etc. ἐφειξα (a late form) : ἐφυγον, etc.

gradation, which Greek and Latin entirely lost. Indeed, everything tends to show that the roots λειπ (to leave), σχειδ (to cut), for example, were conjugated in the sigmatic aorist, 1st sing. ἔλειπ-σ-α, *ἔ-σχειδ-σ-α, 1st pl. *ἔ-λιπ-σ-μεν, *ἔ-σχιδ-σ-μεν; but analogy introduced uniformity into this mode of conjugation, and, under the influence of different circumstances, sometimes the normal form (ἐλείψα ἐλείψαμεν), sometimes the weakened form (ἔσχισα ἔσχισαμεν), prevailed in all persons and all moods. In certain cases, we do not even find either of these forms, but a form with a long vowel, ἔλῦσα, which seems to be a compromise between the two regular forms *ἔ-λεν-σ- and *ἔ-λῦ-σ-. The flexion is even more uniform in Latin, in which it has been corrupted much more than in Greek, since it is not distinguished from the flexion of the perfect in regard to the person-endings.¹ With these reservations, it may be said that the forms of the sigmatic aorist in the two languages show a decided agreement.

(97) XVIII. *Stems with suffix -so-*: Greek future, ἔσ-σο-μαι class. ἔσομαι, λείψω (1st pl. λείπ-σο-μεν), δείξω, στρέψω, στήσω, τείσω, λῦσω, φεύξω, etc.; in Latin, a few sigmatic aorist subjunctives found only in old Latin, *faxō*, *capsō* (later *fēcerō*, *cēperō*), *rapsit*, *occīsīt*² (= **oc-cīd-si-t*).—The root is in the same grade as in the aorist, and indeed, strictly speaking, this formation ought to come under the head of secondary derivation, inasmuch as it is entirely based on the preceding class, with the addition of the secondary suffix -o-, the sign of the subjunctive (*supra* VII). In fact, it is plain that, just as ἔσ-σῃ- has subjunctive στή-ο-μεν, so ἔ-λῦσ- ought to have subjunctive λῦ-σ-ο-μεν, and Greek itself gives us a proof of this in the numerous aorist subjunctives with a short vowel preserved in Homeric versification, βήσομεν, τίσετε, ἀμείψεται. As there is no reason to separate these subjunctives from the Greek futures whose form is identical with them, and from the few Latin subjunctives showing the same formation, it seems more natural to see in the Greek affix -so- a sign of the aorist sub-

¹ In other words *vixi* is conjugated just like *fūgi*, though from the point of view of morphology it is entirely different from it.

² *Leg. XII Tab.*, "Si im occīsīt" = "si eum occiderit."

junctive than to identify it with the Sanskrit affix of the future *-sya-*, the correspondence of which moreover would involve a somewhat serious phonetic difficulty.¹

In one case, however, the formation of the future diverges from that of the sigmatic aorist. When the root ends in a nasal or liquid, the aoristic *-σ-* is added as usual to the simple root, μέν-ω *ξ-μεν-σ-α (ξμεινα),² κέλλω ξ-κελ-σ-α. On the other hand, the affix of the future is in this case added to a dissyllabic form, e.g. μέν-ω, fut. *μένε-σω, whence Ion. μενέω, Att. μενῶ, and so also νέμω νεμέω νεμῶ, στέλλω στελέω στελῶ, φθείρω φθερέω φθερῶ, etc. There is still a doubt as to the nature of this ε, which seems to be inserted between the root and suffix, and which recurs in nominal formations like νέμε-σις, γενε-τήρ. The most probable explanation is, that it forms an integral part of the root, one of the forms of which would thus be dissyllabic; and the same must be said of the root of the verbs γαμέ-ω, καλέ-ω, which evidently cannot be put on the same level with the secondary form φιλ-έ-ω, since their vowel remains short in the future: φιλ-ή-σω, but *γαμέ-σω γαμέω γαμῶ, *καλέ-σω καλέω καλῶ.

In Ionic-Attic this future ending -έω -ῶ extended outside its proper sphere, to the secondary verbs in -ίζω; e.g. the future of κομίζω (to carry) is κομίσω = *κομίδ-σω, but also κομιέω κομιῶ, and similarly βαδιεῖ (he will walk), δνειδιεῖ (he will reproach), Hom. κτεριῶ (Il. xviii. 334), etc.

The suffix *-εσ-*, wrongly used and wrongly added to the sigmatic sign, must also be recognised in the so called Doric future, e.g. πρᾶξέω, which is equivalent to *πράκ-σ-έσ-ω,³ and consequently contains the affix of the future twice over. The spelling πρᾶξέω, σπενσιώ, which is also met with, seems to show a tendency to a semi-vocalic pronunciation of the ε;⁴ and, lastly, the contracted form ἐξῶ, attested by the manuscripts and

¹ Of course this explanation does not exclude the possibility of the existence in a very ancient stage of Greek of a future *λυσγω which might at length have coalesced with the aorist subjunctive λῦσω.

² Cf. *supra* 47 C.

³ It seems impossible, however, to overlook the great resemblance between *πράκ-σ-έσ-ω and the Lat. fut. perf. *vixerō* = *vīg-s-esō.

⁴ Cf. *supra* 20, 3.

grammarians, is no longer distinguished save by its accentuation from the regular future $\xi\omega$.

XIX. *Stems with suffix -so-* identical with the preceding: Greek aorists.—These aorists, which are very rare, may be regarded as the future tense augmented, or better still, as the result of a combination of affixes, since they combine the σ of the sigmatic aorist with the o/ϵ of the thematic aorist. We may cite (Hom.) $\deltaύσετο \delta' \eta\epsilonλος$ (the sun set, root $\delta\nu$), $\betaήσετο$ (he walked), $\iotaξον$ (I came), and lastly $\epsilonπεσον$ (I fell) evidently modelled on the 1st aor. $\epsilonπεσα = * \epsilonπεσ-σ-a = * \epsilon-pet-s-\eta$.

(98) XX. *Stems with suffix -ē-*: in the Greek so called second aorists passive.—The root is generally weakened: $\epsilon-δάμ-η$ (he was conquered), $\epsilon-βράχ-η$ (it was moistened, cf. $\betaρέχ-ω$), $\epsilon-τύπ-η$, $\epsilon-πάγ-η$, $\epsilon-ρράγ-η$, $\epsilon-ζύγ-η$, $\epsilon-φάν-η$, $\epsilon-λίπ-η$ (a doubtful form, cf. Il. xvi. 507). In Latin the contrast of *jac-ē-re* with *jac-iō*, *pat-ē-re* (to be spread) with *pand-ō* (to spread), *lic-et* (= $\epsilon-λίπ-η$?)¹ with *lingu-i-t*, etc., seems to show the existence of these old forms with the suffix *-ē-* and passive sense, which in conjugation would be confused with the verbs of secondary derivation in *-eō*

§ 2. Greek Formations.

(99) I. *Stems with suffix -κ-*: three or four aorists, $\epsilon-θ\eta-κ-a$, $\epsilon-δω-κ-a$, $\epsilon-γ-κ-a$ (from $\epsilon-γ-μ$).—One is lost in conjectures as to the origin of this isolated form. If, however, we take into account that in Latin the root $\theta\eta$ certainly appears with an equally obscure guttural addition in *fa-c-iō*, and if, on the other hand, we notice that the same is the case with the root $\delta\omega$ in Sanskrit (*dāṭ-a-ti*, he gives), and perhaps dialectically in Greek,² we are led to the conclusion that this κ might very well be part of the root; in this case $\epsilon-θ\eta\kappa-a$, $\epsilon-δω\kappa-a$ would be to the roots $\theta\eta\kappa$, $\deltaω\kappa$ what $\epsilon-στā-ν$ is to the root $στā$, perfectly regular unthematic aorists. The other instances would arise from an analogy which extended only very slightly.

¹ A correspondence made doubtful by the difference between the two gutturals.

² An optative present $\deltaωκοίη$, corresponding to a verb $*δωκ-ω$, is believed to occur on a Cyprian inscription.

II. *Stems with suffix -κ- preceded by reduplication with the vowel e*: Greek perfects, called first perfects, λέ-λυ-κ-α, δέ-δω-κ-α, βέ-βη-κ-α, πέ-πτω-κ-α, ἔστηκα = *σέ-στᾱ-κ-α, etc.—It would hardly have been necessary to mention the preceding class, but for the fact that it must be closely connected with the Greek perfects in -κ-, which are much commoner than the radical perfects. On the hypothesis above mentioned, we see that τέ-θεικ-α¹ (cf. Lat. *fēc-i*) and δέ-δωκ-α would be regular perfects like λέ-λοιπ-α, and that from them the κ, being regarded as an affix, would spread to other verbs also.² But the remarkable extension of this addition κ, as contrasted with the slenderness of its original basis, has given rise to legitimate doubts as to this view; hence other explanations have been thought of, and in particular a particle κα κεν κε, identical with the enclitic κε which gives the verb a conditional meaning in the Homeric language, and it has been supposed that this enclitic, being frequently used after the regular perfect (3rd sing. *δέδω κε) ended by coalescing with it. This conjecture also is open to very serious objections. The question cannot yet be regarded as settled.³

Furthermore, it will be noticed that the guttural never appears except in the active; the perfect middle is always, according to the usual terminology, a second perfect, that is, in it the verbal terminations are added directly to the root, e.g. λέ-λυ-μαι and τέ-θη-μαι formed like λέ-λειμ-μαι, in spite of the difference of formation in λέ-λυ-κ-α and λέ-λοιπ-α.

(100) III. *Stems with suffix -σο- preceded by reduplication with vowel e*: future perfect.—The typical form λε-λύ-σο-μαι is evidently modelled on λέ-λυ-μαι and the relation of λύομαι to λύσομαι. We know that it scarcely appears except in the passive voice. Attic however has some future perfects active, in which even the hysterogene guttural of the perfect active is present, e.g. τεθνήξει, ἔστηξω, modelled on τέ-θνη-κ-α, ἔστηκα.

¹ The vocalism of the root here is somewhat puzzling. Moreover, -θηκ-α = *fēc-i* is likewise found in Attic inscriptions.

² Thus ἔστηκα : ἵστημι = δέδωκα : δίδωμι.

³ [The history of the Greek perfect in -κα has been well given by Curtius in his *Greek Verb*, pp. 408 ff. (Murray, 1880), though his explanation of its origin is now generally regarded as insufficient. The origin of this perfect has been briefly discussed by the translator in the *Transactions of the Oxford Philological Society for 1887-8*, p. 23 (Clarendon Press, 1888, 1s.).]

(101) IV. *Stems with suffix -εσ-*: the augmented perfect tense called the pluperfect; the oldest and simplest type is ᾔδσα (I knew), ἐλελοίπεα (I had left), etc.—If the latter form goes back to *ἐ-λε-λοίπ-εσ-α = *ἐ-λε-λοίπ-εσ-η, we are tempted to compare it with the Latin pluperfect *fūgeram* = **foug-es-am*; but, in the first place, this genealogy is not historically proved, and, in the second place, the Latin vocalism does not agree with the Greek, the Latin *a* being incompatible with the Greek termination. It is true that the same divergence is noticeable between the two imperfects, Gk. ᾔα (= *ᾔσ-α = *ᾔσ-η) and Lat. *er-am*, which can scarcely be separated. On the whole, the question must be left undecided, for the Latin mode of formation may be a new development.

(102) V. *Stems with suffix -θη-*: first aorists passive, ἐ-τέ-θη ἐ-δό-θη, ἐ-λύ-θη-ν ἐ-λείφ-θη-ν.—This aorist, which is much commoner than the aorist in -η-, seems nevertheless to belong to a comparatively late date, though it had already spread considerably in the time of Homer. There is no form certainly corresponding to it in Latin, and its origin is obscure. It is possible that the aorist in -η- of a verb with the suffix -θω, e.g. ἐ-νῆ-θη from νῆ-θω (to spin), may have been referred by mistake to the simple verb, e.g. νέ-ω, and that then the relation of νέω to ἐνῆθη gave rise to a similar relation between λύω and ἐλύθη. But this explanation is only hypothetical.¹

VI. *Stems with suffix -ησο-*: second futures passive.—By adding the future suffix -σο- to the stem of the aorist in -η-, Greek formed a future passive, φαν-ή-σο-μαι, which stands to ἐ-φά-νη-ν in the same relation as the middle θή-σο-μαι stands to ἔ-θη-ν.

VII. *Stems with suffix -θησο-*: first futures passive.—The

¹ A later and in many respects more probable hypothesis (Wackernagel, K. Z. xxx. p. 302) starts from the Sanskrit termination of the 2nd sing. mid. -*thās*, which it restores to the Indo-European language under the form *-*thēs* = Gk. -*θης*. In this system, ἐ-λύ-θης, for example, would be merely the 2nd pers. sing. middle of an aorist stem *ἐ-λυ- (supra 87 I), on the analogy of which would afterwards be based the other forms ἐλύθην ἐλύθη, imitated from those of the aorist in -η-. The author has recently shown (Bull. Soc. Ling. vii. p. 29) that ἐ-γνώ-σ-θης = Sk. *ā-jñā-s-thās* is probably 2nd pers. mid. of a sigmatic aorist, and that thence we may explain the sigmatic insertion in γνώ-σ-τῶ-ς, etc. Cf. supra 64 note.

same analogical process, taking place in regard to the aorist in $-\theta\eta$, produced the future $\lambda\upsilon\theta\eta\sigma\sigma\omicron\mu\alpha\iota$, $\lambda\epsilon\iota\phi\theta\eta\sigma\sigma\omicron\mu\alpha\iota$, a form which has become far more common than the preceding form, but is still unknown to Homer.

Apart from certain formations, which on account of their extreme rarity may be neglected,¹ these seven types of tenses are the only primary verbal stems exclusively confined to Greek.

§ 3. *Latin Formations.*

(104) I. *Stems with suffix -ā-*: subjunctives of the 3rd (secondarily also 2nd and 4th) conjugation.—This form, seen in old Latin *fu-ā-m*, subjunctive of the obsolete **fu-ō* (to be), *leg-ā-m*, *ag-ā-m*, *eam* = **ey-ā-m* (I may go), is quite isolated. It has been maintained that this *-ā-* was the original sign of the subjunctive, that consequently Greek ought to have had * $\lambda\acute{\epsilon}\gamma\bar{\alpha}\mu\epsilon\nu$ instead of $\lambda\acute{\epsilon}\gamma\omega\mu\epsilon\nu$, and that the latter form is due to a later intrusion of the vocalism of the indicative $\lambda\acute{\epsilon}\gamma\omega\mu\epsilon\nu$. But, as nothing hitherto has been discovered to confirm this conjecture, it is better to regard as exclusively Latin this still unexplained *ā*,² which also appears, as we have seen, in the imperfect *er-ā-m* and the pluperfect *fu-er-ā-m*, and will recur in the next suffix.

II. *Stems with suffix -bā-*: imperfects *ī-bā-m*, *da-bā-m*, *stā-bā-s*.—If this suffix is merely the form *fuam*, that is, a tense of the verb "to be" agglutinated to the root and forming with it a periphrastic conjugation, it should really come under the head of secondary derivation, where it is very common. The same remark applies to the next suffix, namely:

(105) III. *Stems with suffix -bō-*: futures *ī-bō*, *da-bō*, *stā-bō*, referred rightly or wrongly to the present **fuō* = $\phi\acute{\upsilon}\omega$.

¹ E.g. the suffix $-\kappa\omicron-$ in $\delta\lambda\acute{\epsilon}\kappa\omega$ (to perish), perhaps based on the perfect $\delta\lambda\acute{\epsilon}\kappa\alpha$; and the suffix $-\chi\omicron-$, which is shown by the existence of doublets like $\tau\rho\acute{\upsilon}\omega$ $\tau\rho\acute{\upsilon}\chi\omega$ (to wear away by rubbing), $\sigma\mu\acute{\alpha}\omega$ $\sigma\mu\acute{\eta}\chi\omega$, $\psi\acute{\alpha}\omega$ $\psi\acute{\eta}\chi\omega$, and is less easy to explain.

² M. L. Job (*Mém. Soc. Ling.* vi. p. 347) seems to me to have said the last word in regard to this difficult question: the subjunctive in *-ā-* originated in the verbs in *-ā-mi* which in Latin became thematic (e.g. **si-stā-mi* became *sistō*, *supra* 87, II), and thence it spread to the other conjugations.

IV. *Stems with suffix -v- and -u-*: Latin perfects.—All the Latin perfects which are not primitive (87) and are not to be referred to the sigmatic aorist (96), are formed by means of this suffix *-v-* or *-u-*, the origin of which is obscure: *nō-v-ī*, *flē-v-ī*, *sī-v-ī*; *sec-u-ī*, *col-u-ī*, *gen-u-ī*, etc. It has been supposed that these suffixes represent a syncopated form of *fuī* added to the verbal root. This hypothesis was supported chiefly by the perfect *potuī*, which, on account of *possum* = **pot-su-m* might perhaps seem as if it ought to go back to **pot-fu-ī*; but everywhere else, and even in this case itself, this view involves serious phonetic difficulties. It is perhaps more likely that the *v* or *u* started from certain perfect forms in which it belonged to the root itself, e.g. *mōv-ī* (cf. the pres. *mov-e-ō*), and thence spread throughout the rest of the conjugational system,¹ especially in verbs of secondary derivation.

(106) V. *Stems with suffix -sē- (-rē- after a vowel)*: imperfect subjunctives *es-se-m* (*es-sē-s*), arch. *faxem* (?), *ī-re-m*, *da-re-m*, *stā-re-m*.—These formations have nothing corresponding to them in Greek except in the futures and aorists subjunctive with a short vowel (βή-σο-μεν), which have already been connected with the Latin forms represented by *faxō*. Now a form **essō*, for example (= Gk. ἔσ-σο-μαι, later ἔσομαι), must have been conjugated **essō* **essēs* **essēt*, whence, if the vowel remained short, **essīs*, *essīt* (cf. Lat. *faxit*), or, if it was lengthened owing to some corruption, *essēs*. It remains to find the influence which lengthened the termination. This may be the influence of the termination of the old Latin subjunctives afterwards used as futures, in which the termination was long because it arose from a contraction (*infra* 143); in other words, **faxēs* would become **faxēs* through the analogy of *faciēs* (thou wilt do). In this somewhat complicated way the Latin subjunctive may be connected with a proethnic category, into which however both Greek and Latin introduced considerable modifications.

¹ Thus *nōvī*: *nōtus* = *mōvī*: *mōtus*.—In forms like *nexuī* (rare) from *nec-tō*, there is an analogical combination of the two signs *-s-* and *-u-*.

SECTION II.

NOMINAL STEMS.

§ 1. *Common Formations.*

(107) Here as in the verbal stems a large number of formations are characterized by a vowel *o/e*, alternating according to regular laws. Assuming this point to be thoroughly understood, we shall henceforth represent this vowel simply by the letter *o*. Moreover, as this vowel *o*, with the addition in the nominative singular of the termination *-s* or *-m* respectively, was the usual characteristic of masculine and neuter nouns, and as on the other hand the nouns ending in *ā* were mostly feminine, the custom arose in prehistoric times of introducing the same variations into the termination of nouns in apposition (adjectives),¹ in order to make them agree in gender with the nouns they qualify: Gk. *φῶλ-ο-s*, *φῶλ-ᾱ*, *φῶλ-ο-ν*, Lat. *bon-u-s*, *bon-a*, *bon-u-m*. Hence it is sufficient to mention once for all that every suffix given under the thematic form *o* may appear either exclusively under this form (masculine or neuter nouns, *οἶ-νο-s*, *νῆ-νυ-m*), or exclusively under the form *ā* (feminine nouns, *ποι-νή*, *λύ-να*), or, lastly, may alternate between these forms in those nouns, called adjectives, which admit of a change of gender.

(108) I. *Root-stems*.—This type is rather rare: Gk. *ὄψ* (voice)=**fóp-s*, root *fεπ* (to speak), cf. *ἔπ-ος* and Lat. *vōx*; *φλόξ* (flame)=**φλόγ-s*, cf. *φλέγ-ω* (to burn); *εἷς*, *ἓν* (one)=**σεμ-s*,**σεμ*, cf. Lat. *sem-el*, etc.; Lat. *vōc-s*=**ōψ*, plus a lengthening in the nominative which spread to the oblique cases, and so also in *lēx*=**lēg-s*, cf. *lēg-er-e*, *rēx*=**rēg-s*, cf. *rēg-er-e*; also *lūx*=**louc-s*, cf. the normal root in *λευκ-ός* (white), *pāx*=

¹ The adjective is really nothing else, and this may be seen especially in adaptations of a comparatively late date, like Lat. *ager ūber* (fertile field), literally "a field (which is a) breast." Hence we should expect in the plural *agrī ūbera*; but *uber*, naturally agreeing in number and case with the word it qualified, by analogy came to agree with it in gender also, and hence became an adjective, *agrī ūberēs*. Cf. Fr. *un cheval pie* [a piebald horse, literally "a horse (with different colours like) a magpie"], Eng. *lilac ribbons*.

**pāc-s*, cf. *πήγνυμι* and *pāc-isco-r*, etc. The root-stem does not appear very often except as the second term of a compound: Gk. *σίζυγ-s* (yoke-fellow), *χέρνιβ-s* (washing, cf. *νίπτ-τω*), *ἐπίτεκ-s* (about to bring forth), *εὖ-ωπ-s* (beautiful), *παρά-βλωπ-s* (squinting, cf. *βλέπ-ω*); Lat. *con-jug-s*, *prae-sēs* = **prae-sēd-s*, *haru-spec-s* (cf. **spec-iō*, to look), *jūdex* = **jū-dīc-s*,¹ *ōs-cen* (a bird whose song is an omen, cf. *can-ō*), etc. It will be seen by these examples that the root may here appear in any of the three grades.

(109) II. *Stems with suffix -o-*.—These suffixes generally have the deflected or reduced root, and in this case appear to represent original oxytones, e.g. Gk. *λοιπ-ός* (remaining), *νομ-ός* (pasturage), *φορ-ός* (bearing),—*στραβ-ός* (squinting, cf. *στρέφ-ω*), *ζυγ-ός* *ζυγ-όν* (yoke); but the accent is often thrown back, e.g. Gk. *νόμ-o-s* (law), *φόρ-o-s* (tribute), *πλότ-o-s* (sailing),—*στίχ-o-s* (row, cf. *στείχ-ω*), *λύκ-o-s* (wolf). Latin has, in the first case, *rūf-u-s* (red, cf. *ἐρυθ-ρός*), and old abl. *pond-ō*,² in the second, *lup-u-s*, *av-o-s*. In composition, Gk. *δύσ-φορ-o-s*, *δί-φορ-o-s* (root *φέρ*), *ἰππό-δαμ-o-s*, etc., Lat. *pro-fūg-u-s*, *causī-dīc-u-s*, *mītri-fic-u-s*, etc. But there is also another rather large class of words in which the root is normal and accented: Gk. *ἐργ-o-ν* (work), *πέδ-o-ν* (ground); Lat. *fid-u-s* (faithful), *merg-u-s* (water-bird, cf. *merg-ō*), (*lūci-*)*fer*, etc.; and even an oxytone form with normal root, *λευκ-ός* (white).

(110) III. *Stems with suffix -ā-*.—Three classes: (1) oxytones with reduced root, Gk. *φυγ-ή* (flight), *βαφ-ή* (dipping), Lat. *fug-a*, *gul-a*; the accent is thrown back in *δίκ-η*, *μάχ-η*, *λύπ-η*, etc.; (2) oxytones with deflected root, a type extremely common in Greek, *ρο-ή* (stream, cf. *ῥέφ-ω*), *σπουδ-ή* (zeal, cf. *σπευδ-ω*), *φορ-ά*, *πλοκ-ή*, *τομ-ή*, *σκοπ-ή*, but hardly represented at all in Latin, *tog-a* (garment, cf. *teg-ō*); (3) paroxytones with normal root, Gk. *στέγ-η* (dwelling), *ἔρσ-η* (dew = **Férs-ā*, Sk. *varṣ-d-s*, rain), *λείκ-η* (white poplar), Lat. *herb-a* (Gk. *φορβ-ή*, fodder?), *ped-a* (foot-print);³ in Latin compounds, *indi-gen-a*,

¹ *Jūdex* no doubt on the analogy of *haruspex*, etc., on account of the similarity of the genitives *jūdicis* and *haruspicis*.

² I eg. XII Tab., "XV pondo" = 15 by weight, 15 pounds.

³ *Peda vestigium humanum* in the *Epitome* of Paulus Diaconus, 211.

agri-col-a, parri-cīd-a. Greek alone possesses an oxytone type with deflected root and reduplication, ἀκ-ωκ-ή (point), ὀδ-ωδ-ή (smell), ἐδ-ωδ-ή (food), which seems not to have been developed elsewhere.

(III) IV. *Stems with suffix -i-* (alternating with *-ey-* in declension).¹—Paroxytones, very few; πόλ-ι-s (city, root πελ, to fill), *ὄκ-ι-s (eye) preserved only in the nom.-acc. dual ὄσσε = *ὄκ-y-ε, οἷς (sheep) = *ὄf-ι-s, Lat. *ov-i-s*; *ὄf-ι-s (bird), whence οἴομαι (I augur) and οἰω-νός, Lat. *av-i-s*; Lat. *pisc-i-s*, root unknown; neut. *mare* = *mar-ī.

V. *Stems with suffix -u-* (alternating with *-ew-* in declension).—To this class belong the very numerous Greek adjectives in -ύ-, which are all oxytone, πολ-ύ-s, βαρ-ύ-s, βαθ-ύ-s, γλυκ-ύ-s (cf. γλεῦκ-os, sweetness), etc., and all have the reduced root, except ἡδ-ύ-s, ὠκ-ύ-s, and εὐρ-ύ-s. They recur in Latin as the basis of secondary stems formed by the addition of a new suffix *-i-*, e.g. *gra-v-i-s* = *βαρ-v-ι-s; but of stems in *-u-* properly so called, Latin has very few, e.g. *ac-u-s* (needle), *ιδ-ῦ-s* (nights when there is a full moon).² The suffix remains unchanged in the paroxytone νέκ-v-s (corpse) and a few other words.

(II2) VI. *Stems with suffixes -io-, -yo-, and -i-*.—The first two forms, which are somewhat rare as primary suffixes, of course coalesce in Latin, *gen-iu-s*, *fluv-iu-s*, *ex-im-iu-s* (chosen, exquisite), but remain distinct in Greek, ἅγ-ι-o-s (holy, root *yag*, to worship, cf. Sk. *yaj-ñā-s*, sacrifice), στυγ-ι-o-s (hateful), and on the other hand ἄλλο-s = *ἄλ-yo-s, Lat. *al-iu-s*.³ In the prehistoric period the feminine form of these suffixes seems to have become by contraction *-ī-*, at least if we may judge from Sanskrit. Now, according to the same evidence, in the oblique cases the *-ī-* of the stem was resolved into *iy* before terminations beginning with a vowel, e.g. *dhī-s* (thought), acc. *dhty-am*. Hence we may assume a stem like *nek-ī, (destruction), *spek-ī (appearance), etc., which, under certain conditions, not yet clearly determined, became in the acc. *nek-iy-m̐m, a form represented in Latin by (*per*-)nic-i-em; on

¹ This gradation, which is common to all suffixes ending in *i* and *u*, will be examined in detail *infra* 214.

² See *supra* 41, 2

³ Cf. *supra* 39 C.

the model of this accusative Latin formed a whole analogical declension, and in particular a nominative in *-i-es*, *speciēs*, *perniciēs*. Under the same conditions in Greek, the accusative of a word **woq-i* (voice) would be represented by **fót-y-ān*, whence *ῥοσσᾶν*, on the model of which was formed a new nominative *ῥοσσᾶ*. Such is the probable origin, in Greek, of the suffix *yā*, in other words, of the numerous words of the 1st declension which have their nominative in *ā*, e.g. *μοῖρα* = **móy-y-ā* (cf. *μέρος*, part, lot), *γλώσσα* = **glōχ-y-ā*, *ρίζα*, *σφαῖρα*, etc., and, in Latin, of the stems, almost all secondary,¹ of the so called 5th declension.

VII. *Stems with suffix -wo-*.—We may cite in Greek: *οἶος* (alone) = **oi-fo-s*, with root *i* (one) in the deflected form, cf. Zend *aeti-* (one) and Lat., with another suffix, *ūnus* = *oi-no-s*; *πολ-λό-* (many) = **pol-fó-*, cf. *πολ-ύ*; *λαίος* (left) = **lai-fó-* Lat. *lae-vo-s*; **ῥᾶλος ῥᾶλος*, Ion. *οὔλος* = **sol-fo-*, Lat. *sol-lu-s* and *sal-vo-s*;² *ἵππος* = **ik-fo-s*, Lat. *eq-uo-s*; in Latin, besides the above examples, *ae-vo-m* (age), cf. Gk., with another suffix, *αἰών* = **ai-fón-*, *ar-vo-m* (ploughed land), *al-vo-s* (stomach, cf. *al-ō*, to feed), and a good many adjectives, *vac-uo-s*, *noc-uo-s*, *as-sid-uo-s*,³ etc.

VIII. *Stems with suffixes -en- -on-* (alternating in *φρήν* *ἄφρων* and similar cases).—Greek *φρ-ήν* (mind), gen. *φρ-ει-ός*, root unknown; **φρήν* (sheep) in the Homeric compound *πολύρρην* and the gen. *ἄρνός* = **wṛ-n-ós*; *ἄρσ-ην* (male) = Sk. *vṛś-an-* (male); *κύ-ων* (dog), gen. *κυ-ν-ός*; *εἰκ-ών* (image), root *feik* in the perfect *ἔοικα* = **fé-foik-a*, etc.;—Latin: *pect-en* (comb, cf. *pectō* and Gk. *πέκτω*); **felen* (gall), lost, but indicated by the regular gen. **fel-n-is*, which by a Latin phonetic law became *fellis*, and under this new form gave rise to an analogical nom. *fel* (the root is **ghel*, yellowish-green, cf. Gk. *χόλ-ος*, bile [Eng.

¹ Cf. *infra* 151 and 197.—There is an evident parallel, for example, between Gk. *πῶν* (fat) = **pi-fōn*, fem. *πῆρᾶ* = **pi-fer-yā*, and Sk. *pivān*, fem. *pivar-i* (id.), between *πόνυᾶ* (goddess) and Sk. *pātnī*, etc. In *πόνυα* (*Hymn to Demeter*. 118), the *ν* represents an *n* palatalized through the following *ι=γ*, and (*δέσ-*)*ποινα* is only another mode of representing the same modification of the *ν* (*supra* 39 C a).

² See *supra* 40 C a.

³ *Ad-sid-uo-s*, "one who resides," hence "owner," instead of the fanciful etymology which connects it with *assem dare*.

gall)); *hom-ō*, gen. *hom-in-is*, cf. *hum-u-s*; *ed-ō* (glutton), gen. *ed-ōn-is*, etc.

(114) IX. *Stems with suffix -mo-*.—Gk. *θῦμός* (heart, passion), Lat. *fū-mu-s*, cf. Sk. *dhū-mā-s* (smoke); Gk. *θερμός* (hot), *θερ-μη* (heat), Lat. *for-mu-s* (hot), Sk. *ghar-mā-s*; Gk. *κευθμός* (hiding place), cf. *κεύθ-ω*; Gk. *ὁμός* (way), cf. *εἶμι* (I go); Gk. *φήμη* (report), Dor. *φᾶ-μᾶ*, Lat. *fā-ma*, cf. *φη-μί* and *fā-rē*; Gk. *γνώμη* (opinion), root *γνω* (to know); Lat. *for-ma* (shape), cf. Sk. *dhār-ma-s* (rule, right, justice); Lat. *fir-mu-s* (solid), cf. Sk. *dhar* (to hold fast); Lat. *al-mu-s* (tutelary), cf. *al-cr-e* (to nourish), etc.

(115) X. *Stems with suffixes -men-, -mon-, -μη-, mno-, -meno-, -mono-*.¹—This very numerous group includes among others, both in Greek and Latin, the following subdivisions:

1. *Suffix -men-* in Greek masculine nouns, e.g. *πυθ-μῆν* (bottom), *λι-μῆν* (harbour), gen. *λι-μέν-ος*, *ποι-μῆν* (shepherd), with reduction in the secondary form *ποί-μν-ιο-ν* (sheepfold); lost in Latin.

2. *Suffix -mon-*: Gk. *ἄκ-μων* (anvil), gen. *ἄκ-μων-ος*, *ἰδ-μων* (skilful), *τέρ-μων* (boundary);² Lat. *ser-mō*, gen. *ser-mōn-is*, *tēmō* (pole) = **tēx-mō*, cf. *tēx-er-e* (to make, originally "to make out of wood"), *ter-mō* (boundary), etc.

3. *Suffix -μη-* in neuter nouns, in Greek *-μα-*, in Lat. *-men-*: Gk. *εἶ-μα*, Lesb. *φέμ-μα* (clothing) = **φέσ-μα*, root *φες* (to clothe); Gk. *ρήγ-μα* (breakage), cf. *ρήγ-νῦ-μι*; Gk. *σῶ-μα* (body), root unknown; Gk. *ὄνο-μα* (name),³ root uncertain; Lat. *nō-men* = **gnō-men*, cf. *cō-gnō-men*, root *gnō* (to know); *sē-men*, *tēg-men*, *āg-men*. The root is in the normal grade.⁴

4. To this suffix *-μη-* is very often added, without any change of meaning, a secondary suffix *-to-*: hence in Latin the well-known doublets *aug-men* and *aug-men-tu-m*, *cō-gnō-men*

¹ In other words, exhausting all the possible forms (normal, reduced, deflected) of the dissyllabic group *-m.n-*.

² It will be noticed that the suffix when accented is in the normal form, whereas the deflected form is almost always unaccented.

³ The same suffix with consonantal *n* before a following vowel in the secondary derivative *ν-ώνν-μν-ος* (nameless).

⁴ Notice that this reduced suffix takes the deflected form when the stem changes its character on becoming the last term of a compound, e.g. *ἀν-εἰ-μων* (without clothing).

and *cō-gnō-men-tu-m*, and many others, also the forms *ar-mentu-m* (ploughing animal), *jū-mentu-m* (beast of burden, from **jug*, to yoke, or *juvāre*, to help), *in-crē-mentu-m* (increase), etc. In Greek this secondary suffix appears even in the declension of the primary stems in *-μα*; for it is clear that *σώ-μα-τα* would be more properly the nom. pl. of a word **σώ-μα-το-ν* = **σώ-μη-το-*, than of *σῶ-μα*. From the plural, favoured perhaps by other accessory circumstances,¹ this *τ* passed by analogy into the singular; hence the great difference between the oblique cases in Greek and Latin, e.g. dat. *nō-min-ī* and *ὀνό-ματ-ι*.

5. An important class of Greek words, however, remained uncontaminated, and may be directly compared with the Latin neuters, namely the Æolic and Doric infinitives in *-μεν-αι* and *-μεν*, e.g. *ἔμμεναι* (to be) = **ἔσ-μεν-αι*, and *ἔμμεν*, *δός-μεν-αι* (to give), *τι-θή-μεν-αι* (to put), *στᾶ-μεν* (to stand), etc. That from a morphological point of view the infinitive, like the participle, is the case-form of a noun, is evident from the mere consideration of its meaning and its use in the sentence. Hence, if, as is possible, *-αι* is a dative termination lost in the rest of the Greek system of declension, and if on the other hand the bare stem *δός-μεν* is to be compared with certain locatives found in the oldest language of India, and which have been called locatives without a suffix,² it will be seen that *δός-μεν-αι* and *δός-μεν* are respectively the dative and locative of a stem in *-μεν*,³ the corresponding forms to which occur above in the Latin neuters and below in the participles in *-μενο*.⁴

¹ Cf. *infra* 187, 5, and 204, 7.

² Vedic Sk. *vyōman*, "in the sky." The classical form would be *vyōman-ī*.

³ There are other possible explanations of these infinitives (e.g. *μενα-ι* might be the locative of a feminine stem in *-μενᾶ*, cf. the suffix *-μενο- infra*). But the above explanation is by far the most probable.—Hom. *ἔμμεν* (Od. x. 416) for *ἔμμεν* is modelled on the participle *ἔών* and the relation of *ἔμμεν* to *ἰών*.

⁴ Quite recently (*Esq. morph.* V) I have suggested the hypothesis that the gerundive *dandī* might, by a process of dissimilation similar to that supposed by M. Havet (*Mém. Soc. Ling.* vi. p. 231), go back to **da-men-ay*, and hence be identical with Gk. *δός-μεν-αι*. The Latin genitive of the gerundive would then be originally a dative, which its termination in *-ī* caused to be taken for a genitive, and on this analogy there would then be formed a dative-ablative in *-ō* and an accusative *-um*. The phonetic difficulty of the co-existence of *dandī* and *daminī* might be explained by supposing that the dissimilation first took place in verbs in which a nasal preceded the

6. The suffix **-mno-** is rarely primary: Gk. *σπρω-μνή* (bed) *βέλε-μνο-ν* (dart);¹ no instance in Latin.

7. The suffix **-meno-** is that of the medio-passive participles, *θέ-μενο-ς τι-θέ-μενο-ς, δό-μενο-ς δι-δό-μενο-ς*. It generally reduces the root. In Latin, it occurs in *ter-min-us, fē-mina* (she who suckles, cf. *fē-tu-s* and *fē-lāre*), and in the 2nd pl. pass. *da-minī* = *δό-μενοι*, after which we must supply *estis* to explain the transition from the participial to the verbal use.

8. The suffix **-mono-** characterizes a few Greek feminines in *-μονή*: *χαρ-μονή* (joy), *πη-μονή* (woe), etc.

(116) XI. Stems with suffixes **-ro-** and **-lo-**, almost always oxytone in Greek: *ἐρυθ-ρό-ς, ruber* = **rub-ro-s*; *ἀγ-ρό-ς* = *ager*; *λυπ-ρό-ς* (wretched), *λαμπ-ρό-ς* (bright, cf. *λάμπ-ω*), *δῶ-ρο-ν* (gift), *ἔδ-ρᾱ* (seat); Lat. *sac-er* (sacred), *gnā-ru-s* (knowing), etc.;—Gk. *δει-λό-ς* (timid), *βη-λό-ς* (threshold), *φῦ-λο-ν* (class), *φῦ-λή* (tribe); Lat. *tē-la* (web) and *tē-lu-m* (dart) = **tēx-la, *tēx-lo-m*, root *tēx* (to weave, make out of wood), *sella* (seat) = **sed-la*, etc.

XII. Stems with suffixes **-ri-** and **-li-**, very rare: Gk. *ἱδ-ρι-ς* (skilful), Lat. *āc-ri-s, āc-er* (spirited);—Lat. *tā-li-s, quā-li-s*,² *cal-li-s* (path, root uncertain). The latter suffix became widely extended as a secondary suffix, and will be discussed again later on.

XIII. Stems with suffixes **-no-**, **-ni-**, **-nu-**.—With the first suffix we find in Greek: *ὑπ-νο-ς* (sleep) = **sup-nó-s*, root *swep*; *τέκ-νο-ν* (child); *ποι-νή* (penalty) = **qoy-nā*, root *qey*, cf. *τί-ω*; *πόρ-νη* (prostitute), cf. *πέρ-νη-μι* (to sell); *σεμ-νός* (holy), cf. *σέβ-ο-μαι*; *δει-νός* (terrible); *φερ-νή* (dowry), cf. *φέρ-ω*, etc.;—Lat. *som-nu-s* = **swép-no-s*, Sk. *sváp-na-s*; *māg-nu-s*, cf. Gk. *μακ-ρό-ς* with a different suffix; *dō-nu-m*, cf. *δῶ-ρο-ν*; *plē-nu-s*, cf. *πλή-ρης*, etc. The forms **-ni-** and **-nu-** are somewhat rare, especially in Greek, e.g. *μῆ-νι-ς* (wrath), root *mā*, to think (?); Lat. *īg-ni-s* (fire), cf. Sk. *ag-ni-s*, root uncertain; *pā-ni-s*, cf. *pā-scō* (to feed); perhaps *ma-nu-s* (the measuring thing), root *mā*, to measure (?); neut. *cor-nū*.

suffix (e.g. **nā-men-ay* then **nāmeday *nāmday nandī*), and was thence introduced analogically into all the others.

¹ Cf. in regard to meaning and formation the primary form *βέλε-μνο-ν* and the secondary form *βαλ-λό-μενο-ν* (that which is thrown).

² Cf. Gk. (with an additional suffix) *τη-λι-κο-ς, πη-λι-κο-ς*.

To this class apparently must be referred the Hellenic formation in *-ανο-*, in which the *n* must have developed a vowel sound before itself; e.g. ὄργ-ανο-ν (instrument), πόπ-ανο-ν (cake, root *πεπ*, to cook), δρέπ-ανο-ν (scythe), στέφ-ανο-ς (crown), οὐρ-ανός (heaven, cf. εὐρ-ύ-ς, wide), μηχανή (device), etc., and, with nasalization of the root,¹ τύμπ-ανο-ν (drum, cf. τύπ-τω).

(117) XIV. *Stems with suffix -to-*.—These include two formations of very unequal importance. The first comprises only a few stems with deflected root: Gk. κοί-τη (bed, cf. κεί-μαι), βρον-τή (thunder, cf. βρέμ-ω, Lat. *frem-ō*), χόρ-το-ς and Lat. *hor-tu-s*. The other includes the large class of stems called in Greek verbals in *-τό-* and in Latin past participles passive: θε-τός-ς, δο-τός-ς, στα-τός-ς, κλυ-τός-ς, λυ-τός-ς, σχι-στό-ς (= *σχιδ-τό-, split); Lat. *da-tu-s*, *stā-tu-s*, (fixed), *in-clu-tu-s*, *stric-tu-s*, *quassus* (= *quat-tu-s, shaken),² etc., etc. Sanskrit and other analogies show that in Indo-European this suffix *-tō-* took the accent and consequently reduced the root. In Greek the primitive accentuation was respected, that is, whenever the stem retained its function as a verbal adjective;³ but the root, which was reduced in all the above examples, was often influenced by the analogy of the tenses of the verb, especially the present and sigmatic aorist, so that it shows the normal grade in λειπ-τός-ς (left), ῥηκ-τός-ς (fragile), φευκ-τός-ς (to be avoided, cf. Hom. φυκ-τός-ς), and many other cases. In Latin the same phenomenon took place: by the side of *stric-tu-s*, which is attested by Fr. *estroit* and Ital. *stretto*, we find *lēc-tu-s*, on the analogy of *lēqu-ī*, *frāc-tu-s* on that of *frāg-mentu-m*, and so also *scrip-tu-s*, *strūc-tu-s*, *junc-tu-s*, **fūd-tu-s* (*fūsus*), *vēc-tu-s*, on the analogy of *scripsī*, *strūxī*, *junxī*, *fūdī*, *vēcī*, etc., *lēc-tu-s* on the analogy of *lēgī*, and *rēc-tu-s* on that of *lēc-tu-s*. Sometimes the suffix is added to a dissyllabic form, the origin of which is not clear, e.g. *geni-tu-s*, cf. Gk. γένε-σι-ς.⁴

(118) XV. *Stems with suffix -ti-*.—In common Greek the suffix is usually assibilated to *-σι-*.⁵ All these stems are

¹ Cf. *supra* 93, 3.

² Cf. *supra* 64 A.

³ Compare σπαρ-τός-ς (sowed) and Σπάρ-τη (proper name) = σπαρτή γῆ (cultivated land), and also the participle πέμπ-τός-ς (sent) with the ordinary πέμπ-το-ς (fifth).

⁴ Cf. *supra* 97.

⁵ Cf. *supra* 59, 1.

paroxytone, and many have the root in its normal form; but it is very doubtful whether this was the case originally, and the very common type *λαῖψις* may have been influenced by *ἐλψα*. However this may be, this class consists mainly of feminine nouns of action, e.g. *δέξις* (reception), *τάσις* (tension) = **τη-τί-ς*, *ζεύξις* (junction), *φάτις* (speech); exceptions *πόσις* (husband) and *μάντις* (seer). In Latin this suffix is not easy to recognise, except in the basis of secondary stems formed by means of a new suffix *-on-*; for this is the ordinary type of Latin nouns of action, e.g. *nā-ti-ō*, *por-ti-ō*. But the details of declension and the analogy of the sister-languages make it certain that forms like *gēns*, *mēns*, *pars*, and others go back to **gen-ti-*, **men-ti-*, **par-ti-*, cf. the gen. pl. *gen-ti-um*, etc., and the acc. sing. *par-ti-m* retained as an adverb. The suffix is manifest in *ves-ti-s* and *messis* (harvest) = **met-ti-*, cf. *met-er-e*.

(119) XVI. *Stems with suffix -tu-*.—Very rare in Greek, e.g. *βρω-τύς* (food), *ἄσ-τυ* = *φάσ-τυ* (town), root *was* (to dwell), cf. Sk. *vas-tu* (dwelling). This suffix is fairly common in Latin: *frūc-tu-s* (fruit, enjoyment), cf. root *frug* in *frūg-ēs*, *frūg-i*; *vīc-tu-s* (mode of life), cf. *vī(g)v-er-e*; *can-tu-s* (singing), etc. The grammatical forms commonly called supines are merely case-forms of similar stems in *-tu-* which have become more or less obsolete; namely, (1) the "active" supine, an accusative, *can-tu-m*, *lū-su-m* (*eō lūsum*, "I go to play"); and (2) the "passive" supine, an ablative, *dīc-tū* = **dīc-tūd*, cf. *manū* (*facile dīctū*, "easy in the saying"), confused also in this use with the dative, which still appears in the phrase *lepida memorātū*,¹ "agreeable to relate."

(120) XVII. *Stems with suffix -t-*.—This suffix, plainly recognisable in Gk. *νύξ* and Lat. *nox*² (gen. *νυκ-τός* *noc-t-is*), is especially common in the last term of compounds: Gk. *ἀδμής* (gen. *ἀδμη-τός*, indomitable, root *δαμ δμā*), *ἀκμής* (*ἀκμη-τός*, unwearied, root *καμ*), *ὠμοβρώς* (*ὠμο-βρω-τός*, eating raw flesh, root *βρω βρω*), etc.; Lat. *superstes* (gen. *super-sti-t-is*, root *stā* in reduced form); *comes* (gen. *com-i-t-is*, root *i*, "one who goes with"), and probably also *pedes*, *eques*, *mīles* (one who goes

¹ Plaut. *Bacchid.* 60 (Ussing).

² The Latin *o* corresponding to Greek *v* is quite exceptional.

in a troop of a thousand men), *cael-i-tē-s* (the gods, perhaps originally the stars), *satelles* (guardian of the sown fields?, later "life-guard"), etc.

(121) XVII. *Stems with suffixes -ter-, -tor-, -tro-, -tero-, -toro-(?)*.—This important group, which may be compared with that considered in X, comprises the following subdivisions:

1. *Suffix -ter-*, in nouns of relationship: *πα-τήρ* (acc. *πα-τέρ-α*, gen. *πα-τρ-ός*), *μή-τηρ* = *μᾶ-τηρ*, *θυγά-τηρ* (daughter), cf. Sk. *duhi-tā*, Dor. *φῤῥᾱ-τήρ* and Att. *φράτηρ* (brother, clansman); Latin *pa-ter*, *mā-ter*, *frā-ter* (etymology obscure).

2. *Suffix -ter-*, in nouns denoting agent:¹ in Greek, oxytones, generally with reduced root, *δο-τήρ* (acc. *δο-τῆρ-α*, gen. *δο-τῆρ-ος*, giver), *λυ-τήρ* (deliverer), *μνη-σ-τήρ* (wooer, root *μνᾶ*,² cf. *μνά-ο-μαι*, to woo), *πεισ-τήρ*; lost in Latin = **πενθ-σ-τήρ*, cable, root *bhendh*, to bind.

3. *Suffix -tor-*, in nouns denoting agent: in Greek, paroxytones, with the root in its normal form, *δώ-τωρ*³ (gen. *δώ-τορ-ος*, giver), *ῥή-τωρ* (orator, root *ῥεφ ῥρη*, to speak), *Μέν-τωρ* (proper name, root *μεν*, to think), *ἴσ-τωρ* (knowing, root *ῥεδ* reduced); in Latin, *da-tor* (gen *da-tōr-is*⁴), *fac-tor*, *mēnsor* (measurer = **ment(s)-tor*,⁵ cf. the verb *mēt-ior*, to measure), etc.

4. *Suffix -tro-*: generally forms neuter nouns denoting instrument, sometimes feminine nouns in *-trā-*: Gk. *λού-τρον* (bath, cf. *λού-ω*), *νίπ-τρον* (water for washing), *κέν-τρον* (goad), *βάκ-τρον* (walking-stick);⁶ Lat. *lūs-tru-m* (purification, cf. *lu-ō* to wash), *claus-tru-m* (closing thing), *plaus-tru-m* (waggon); feminines, Gk. Ion. *ῥή-τηρᾱ*, Att. *ῥή-τρᾱ*, Elean *ῥᾱ-τρᾱ* (agreement, root *ῥρη supra*), Lat. *mulc-tra* (milking-pail, cf. *mulg-ed*); masculines, Gk. *δαι-τρός* (carver), Lat. *cul-ter*.

5. *Suffix -tero-*, in comparatives: rarely primary, and always implying a choice or comparison between two terms only. In Greek we have *ἑ-τερο-ς* (one of two), probably corrupted through

¹ Originally no doubt identical with the preceding.

² With the analogical epenthesis of *σ* already explained, *supra* 64 A note.

³ This suffix was often confused with the preceding one, and even with the suffix of nouns of relationship, for we find *δωτήρ* and *φράτωρ*.

⁴ The Latin long vowel is due to the nominative, *infra* 211.

⁵ Cf. *supra* 64 A.

⁶ Root *βᾱ* with a *κ* of unknown origin, cf. *θε-ρός* and *fac-iō*.

the analogy of εἰς and substituted for ἄ-τερος (Dor.-Boeot. = *sm̄-tero-s, root *sem*, one), which is still indicated by the Attic forms θάτερον θᾶτερον; πό-τερος (which of two), ἐν-τερον (intestine),¹ βέλ-τερος (better), φέρ-τερος (*id.*), perhaps even καρ-τερός κρα-τερός (strong).² In Latin: *al-ter* (one of two, cf. *al-iu-s*); *u-ter* (which of two), comparative of a pronominal stem *u-* which recurs in *u-bi*; *dex-ter* (right, as opposed to left)³; **intero-s*, **ex-ter-os*, stems lost, but still recognisable in their derivatives *in-ter-ior*, *ex-ter-ior*, which thus contain two comparative suffixes; *in-ter*, *sub-ter*, adverbial neuters used as prepositions, etc.

6. *Suffix -toro-*: lost in Greek; perhaps recognisable in Latin, but with an unaccountable corruption, in the suffixes *-tūro-* of future participles active and *-tūra* of nouns of action: *lēc-tūru-s* *lēc-tūr-a*, *mēnsūrus* *mēnsūra*, *quaestūrus* *quaestūra*, etc.

(122) XIX. *Stems with suffixes -tlo-, -dhro-, and -dhlo-*.—Besides nouns of instrument in *-tro-*, Greek and Latin have nouns, also neuters as a rule, the suffixes of which appear to correspond to these three Indo-European syllables, namely:—(1) Gk. -τλο-, Lat. *-clo-* (*-culo-*) dissimilated *-cro-*,⁴ χύ-τλο-ν (liquid), ἄν-τλο-ς (hold), ἐχέ-τλη (handle), *sae-clu-m* *sae-culu-m* (generation),⁵ *vin-clu-m* (= **vinc-clo-m*) *vin-culu-m* (fetter), *ful-cru-m* (support);—(2) Gk. -θρο-, Lat. *-bro-*, ἄρ-θρο-ν (joint, cf. ἄρ-αρ-ίσκω, to fit), βᾶ-θρο-ν (ground), *flā-bru-m* (blast), *crī-bru-m* (sieve, cf. κρί-νω *cer-nō*), *tere-bra* (borer, cf. Gk. τέρε-τρο-ν);—(3) Gk. -θλο-, Lat. *-bulo-*, θύ-σ-θλο-ν (sacrificial implement), γενέ-θλη (race), *pā-bulu-m* (fodder), *sta-bulu-m* (stable), *fā-bula* (story).

(123) XX. *Stems with suffix -nt-*: present participles.—This suffix, when primary, reduces the root; hence it must have had the accent originally, at any rate when its nasal was sonant. In Greek we have τι-θέ-ντ- (nom. τιθείς = *τι-θέ-ντ-ς), ἰ-στά-ντ-, δι-δό-ντ-, and other well known instances; in Latin,

¹ The inside (of the body) as contrasted with the outside.

² Originally no doubt "stronger," in spite of the accentuation, which is modelled on that of the adjectives in *-pō-*.

³ At a very early period **dex-tero-s*, etc., became **dextros* by syncope (*supra* 79, 2), then regularly *dexter* (70).

⁴ *Supra* 51, 1 and 2.

⁵ Cf. *Sae-turno-s*, doublet of *Saturnus* (god of sowing).

da-nt- (nom. *dāns*), *sta-nt-*, **s-ent-* (being) = **s-ñt-*, in the compounds *prae-sēns*, *ab-sēns*, *Di Cōn-sent-es*, *i-ent-* (going) = **i(y)-ñt-*, *d-ent-* (tooth) = **d-ñt-*.¹ It was precisely these last three participles which were corrupted in Greek: *ᾠν* = Hom. *ἰών* (stem **ἰσ-ό-ντ-*), *ιών* (*i-ό-ντ-*), *ὀδούς* (*ὀδ-ό-ντ-*); the analogy of the secondary forms *φέρων*, *λπών* seems to have introduced into them the *o* of the participles of thematic forms;² moreover the root is in the normal form in *ἰών* and deflected in *ὀδούς*, Ion. *ὀδών*. Furthermore, the thematic *o* appears in Latin also in the doublets *s-ont-* (real)³, restricted to the sense of "guilty" (nom. *sōns*), and *e-unt-* = **ey-o-nt* (root in the normal form), which serves as the stem in the oblique cases of *iēns*.

(124) XXI. *Stems with suffix -os- (-es-)*.—Of these there are two classes: (1) primitive oxytones, masculine or feminine (of all three genders when adjectives); (2) primitive paroxytones, which regularly have the normal root and are of the neuter gender. To these must be added the Latin infinitives.

1. *Oxytones*: Gk. *αἰδ-ώς* (shame, gen. *αἰδός* = **αἰδ-ό-σ-ος*), *ἡώς* (dawn = **āf-ό-σ-?* cf. Dor. *αἰώς* and Lat. *aur-ōr-a* with an additional suffix); and compound adjectives, whether derived from these nouns, e.g. *ἀν-αἰδ-ής* (shameless), or from those of the following class, e.g. *γέν-ος εἰ-γεν-ής* (cf. Lat. *dē-gen-er*), *μέν-ος δυσ-μεν-ής*, etc.;⁴ even simple adjectives like *ψευδ-ής* (false) by the side of *ψεῦδ-ος* (lie). To this class in Latin, more or less corrupted by various analogical influences,⁵ belong:—(a) the abstract nouns in *-or*, *dol-or*, *cal-or*, *pud-or*, etc., gen. *pud-ōr-is*, cf. *αἰδ-ώς* **αἰδ-ό(σ)-ος*, and the nominatives *hon-ōs*, *arb-ōs*, retained as archaisms; (β) the type seen in *nūb-es* (Sk. *nabh-as*, gen. *nabh-as-as*), *sēd-es* (Gk. *ἔδ-ος*, gen. *ἔδ-ε(σ)-ος*, *caed-es*, etc., which ought regularly to be inflected *nūb-es* **nūb-ēr-is*); (γ) the best preserved type of all, *Ven-us (-er-is)*, *Cer-es (-er-is)*, *cin-is (-er-is)*, *pulv-is*; *celer* (cf. Gk. *κέλ-ης -ητ-ος*, saddle-horse), with rhotacism introduced into the nominative, etc.

¹ Roots *es* (to be), *ey* (to go), *ed* (to eat) in the reduced form.

² Cf. *supra* 86, and *infra* 160.

³ *Leg. XII Tab.*: *morbus soticus*, "a disease proved to be real."

⁴ But the accent is thrown back when the adjectives are used as substantives: cf. *κράτ-ος*, *ἀ-κράτ-ής*, and *Σω-κράτ-ης*.

⁵ Discussed further in the remarks on declension, *infra* 212.

2. *Paroxytones*: in Greek the accent is always thrown back as far as possible. Nowhere perhaps can the law which combines the accent with the normal form of the root be more easily verified; it is only necessary to compare the forms πένθ-ος (grief), βένθ-ος (depth), κλέος = *κλέφ-ος (glory), μῆκ-ος (length), ἐρενθ-ος (redness), etc., with the oxytones παθ-εῖν (to suffer), βαθ-ύς (deep), κλυ-τός (celebrated), μακ-ρός (long), ἐρυθ-ρός (red), etc. Still there are not wanting in this class forms with the reduced root: βάθος (depth), βάρος (weight), θάρσος (boldness), τάχος (quickness), πάθος (suffering); these must either be referred to the analogy of βαθύς, βαρύς, θαρσύς, ταχύς, παθεῖν, or else the original declension must have been βένθ-ος *βηθ-εσ-ός, whence the doublet βένθος βάθος. The form with deflected root ὄχ-ος = *φόχ-ος (car), cf. ἔχω and veh-ō, is due to the analogy of the secondary form ὄχ-έ-ω (to carry).—In Latin we have: *gen-us*, *temp-us*, *fūn-us*, *mūn-us*, etc., which are or seem to be normal; *rōb-ur*, *aequ-or*, where rhotacism has crept in from the oblique cases; stems with the character of the vowel uncertain, like *op-us*, *on-us* (cf. *hon-ōs* and the doublets *decus decor*), *voln-us*, etc.; lastly, *pond-us* and *foed-us*, which certainly have the deflected root.¹

(125) 3. *Latin Infinitives*.—If we compare, on the one hand, a dative like *gen-er-i* with an infinitive passive like *fī-er-i*, and, on the other hand, the locative (confused with ablative) *gen-er-e* = **gen-er-i* with the infinitive active type *fī-er-e*,² it is impossible not to be struck by the agreement and correspondence which they show, both with one another and with the Greek infinitives in -μεν-αι and -μεν.³ Hence, like the latter, the Latin infinitive seems to be, either the dative, **fei-es-ay*, or the locative, **fei-es-i*, of a stem in -es-, **fei-es-*; thus *caed-er-e* (to cut) would be the locative of *caed-ēs*, *nūb-er-e* (to veil oneself, marry) the locative of *nūb-ēs*, *veh-er-e* (to carry) the locative of **veh-es* (carrying), which is found also in the Greek ἔχ-εσ- (car), a doublet of ὄχος.⁴ It is clear that a few forms of this kind might

¹ But the former at any rate originally belonged to stems of the 2nd decl., s. p. 34 A.

² Archaic, common in Plautus and exactly synonymous with *fieri*.

³ Cf. *supra* 115, 5.

⁴ ἔχεσφιν· ἄρμασιν, ὄχεσφιν (gloss of Hesychius).

by analogy give rise to the other infinitives, *leg-er-e*, *cap-er-e*, etc. The forms *dā-re*, *stā-re*, *es-se*, *fer-re*, *vel-le*, are still more primitive, and are formed by the addition to the root of a simple -s-, the reduced form of the same suffix of which -os- and -es- represent respectively the deflected and the normal grade.¹ The divergence into active and passive meaning which has taken place between the endings -ē and -ī must be regarded as a later development, as is shown by many synonymous uses and by the active meaning of the infinitives of deponent verbs. Nevertheless, this hypothesis still leaves partially unexplained the type *veh-ī*, *leg-ī* in the infinitive passive (we should have expected **veh-er-ī*) and the very common archaic type *veh̄ter*, *loqūter*, *ut̄ter* (Ep. Scip.), *sparḡter* (Hor.), which it is difficult to connect with *spargī*, etc.²

(126) XXII. *Stems with suffixes -ios- and -yos-*: Greek and Latin comparatives.—The suffix appears in Greek under a nasalized form -ίον, nom. -ίων, which it also assumes in certain cases in Sanskrit, e.g. nom. *mdh-tyān* (greater); in Latin, it always has the form -ios- rhotacized with analogical lengthening of the vowel, *mel-iōr-em*. This suffix is very common under one or other of these forms: Gk. *μείζων* (Ion. *μέζων*) = **μέγ-γων*, *κρείσσων* (Ion. *κρέσσων*) = **κρέτ-γων* (normal root of *κρατ-ύ-s*, strong), *βάσσων* (Epicharmus) = **βάθ-γων*, *θάσσων* (quicker) = **θάχ-γων*, but also *βαθ-ίων*, *ώκ-ίων*, etc.;³ Lat. *dc-ior*, *mā(h)-jor*, *pē-jor*, *prop-ior*, etc.; in *minor* (cf. Gk. *μείων*) the formation is obscure.

This suffix appears again under the reduced form -is- in the base of secondary formations, Greek superlatives in -ιστο-, Latin in -is-sumo-, and others which will be seen later on.

(127) XXIII. *Stems with suffix -ko-*, very rare in primary derivation: Gk. *θήκη* (box), which might also be divided *θήκ-η*; ⁴ Lat. *lo-cu-s* = **stlo-co-*, root unknown, *pau-ci* (few), cf. Gk. *παῦ-ποι*, *sic-cu-s* = **sit-kó-s*, cf. *sit-i-s*.

¹ I have developed this point further, and endeavoured to prove it in my *Esq. Morph. V (les Infinitifs latins)*, where I connect *stā-r-e* with *στυγ-σ-αι*.

² See an attempt at explanation, *Mém. Soc. Ling.* vi. p. 62, and *Esq. Morph. V*.

³ Cf. *supra* 39 C δ.

⁴ Cf. *supra* 41 in fine and 99.

XXIV. *Stems with suffix* ρ(t):¹ a few neuters, Gk. ἥπ-αρ (liver), Lat. *jec-ur*=Sk. *ydk-rt*.—These curious forms have a special declension² (gen. ἥπ-ατ-ος); and yet Greek has several, which, either through analogy, or as belonging to a different system of derivation, keep the ρ in all the cases, θέν-αρ (palm of the hand), ἔαρ=*φέσ-αρ (spring). Sometimes the nominative shows a final -ωρ, which is still unexplained: ὕδ-ωρ (gen. ὕδ-ατ-ος), σκ-ώρ (excrement), and the doublets τέκμαρ τέκμωρ (sign). Latin still has *fem-ur*; but it is doubtful whether its other nominatives in -ur or -or (neuters) should be referred to this class or to class XXI. 2.

XXV. *Stems with suffixes* -ak- (-ag-)³ and āk-: rare.—In Greek, ἄρπ-αγ- (nom. ἄρπ-αξ, robber), κόρ-ακ- (crow), ῥύ-ακ- (stream), θώρ-āk- (breastplate), etc.; in Latin, *rap-āc-* (nom. *rapāx*), *vor-āc-*, *sal-āc-*, *ed-āc-*, *fer-āc-*, etc.

XXVI. *Stems with suffix* -id- (-idh-?).—The latter form appears only in Greek, where it is very rare and obscure: ὄρν-ιθ- (bird, nom. ὄρνις). The former is rather common in Greek, where it is especially used to form feminines, which are nearly all oxytone: ἐλπ-ιδ- (hope, cf. ἐλπ-ο-μαι, ἔολπα=*φέ-φολπ-α), κλη-ιδ- (Att. κλείς, key)=*κλāf-ιδ-, cf. *clāv-i-s*, *κνημ-ιδ-ες* (greaves, suffix -ιδ-), ἔρ-ιδ- (strife); the few masculines are paroxytone: παῖς=πα-ιδ-=*πάf-ιδ- (child), σίν-ιδ- (robber). Latin scarcely has any instances except the masc. *lap-id-* and the two feminines *cas-id-* (helmet) and *cusp-id-* (point) of unknown etymology.

XXVII. *Stems with suffix* -ud- (-udh-): Gk. χλαμ-ύδ- (mantle), κόρ-υθ- (helmet); Lat. *pec-ud-* (beast belonging to a flock, cf. *pec-us -or-is*): unimportant.

XXVIII. *Stems with suffixes* -et-, -ēt-: very rare and somewhat obscure: Gk. πέν-ητ- (nom. πένης, poor), πλάν-ητ- (nom. πλάνης, wandering); Lat. *ter-ēt-* (nom. *tērēs*, round), *qui-ēt-* (rest), etc.

¹ Sanskrit shows the final t, which has been regularly lost in Greek and Latin, *supra* 65.

² See *infra* 215.

³ Cf. *supra* 62 §.

§ 2. *Hellenic Formations.*

(128) I. *Stems with suffix -fóτ- (-fós-)*: perfect participles.— This formation is Indo-European, but it has been lost in Latin and greatly corrupted in Greek, so that the primitive form of the suffix, **wós-*, can no longer be recognised except in the nom. neut. in *-ós* = **-fós*, and in the feminine, where it is reduced to **-us-* before the secondary suffix *-ī-*, e.g. *εἰδύια* = **φειδ-ύσ-ια*, cf. Sk. *vid-úṣ-ī*. Everywhere else the suffix lost its *f* from the first, no doubt on the analogy of the forms in which the *f* was dropped as being intervocalic; thus **τε-θυη-φώς* naturally became *τεθυώς*; but **εἰκ-φώς* (likely) ought to have given **εἰππώς*,¹ whereas we have *εἰκ-ώς*, based on a supposed suffix *-ώς*. Moreover, in the oblique cases the syllable *-fós-* changed its *σ* for a *τ* of obscure origin, due perhaps to the analogy of the participles in *-ντ-*, *εἰδ-ότ-ος*, *εἰκο-ότ-ος*, *τε-θυη-ότ-ος* (Ion. with metathesis *τε-θυε-ώτ-ος*), etc., on the model of *ιδ-ό-ντ-ος*, etc.

(129) II. *Stems with suffix -ᾱτ- (-ᾱσ-)*. It is impossible not to connect with the preceding type the neuters in *-ᾱς*, *κέρ-ας* (horn), *γέρ-ας* (reward), *γῆρ-ας* (old age), etc. For, on the one hand, the oblique cases have a *τ* instead of *σ*, gen. *κέρ-ατ-ος*; on the other hand, they still show the presence of *σ* in the contracted form *κέρως* = *κέραος*, which cannot go back to *κέρατος*, since intervocalic *τ* is not liable to be dropped, and must consequently go back to **κέρ-ασ-ος*. This being the case, and as there are no materials for comparison outside Greek, the real form of the suffix cannot be determined. What seems more clear is an undoubted connexion of the stems in *-ᾱς* with those in *-ος* (*-εος*). Both are neuters, and throw the accent back as far as possible;² moreover the forms *κέρεα* (horns), *τείρεα* (wonders)³ exist side by side with *κέρατα*, *τέρατα*, and certain words even, like *βπέρας* (miraculous statue), *οὔδας* (ground), are declined only like *τείχος*, e.g. gen. *βπέρεος*, loc. *οὔδει*, etc.⁴

(130) III. *Stems with suffix -fεν- (?)*: Greek infinitives.— We have seen⁵ the Æolic infinitives in *-μεν-αι* and *-μεν*. It is

¹ Cf. *supra* 40 C β.² Cf. *supra* 124, 2.³ Or "stars," II. xviii. 485.⁴ Cf. neut. pl. *γέρεα* (rewards), etc., always in Herodotus.⁵ *Supra* 115, 5.

quite plain that an Ionic-Attic infinitive like *ἰέναι* (to go) cannot go back to *ἴμεναι*, the loss of an intervocalic *μ* being unprecedented. But we are at liberty to suppose before the suffix the existence of a consonant the loss of which was inevitable, e.g. *f*, and to restore **i-fén-ai*. This restoration is supported also by one or two Sanskrit infinitives in *-van-ε* and by the infinitive *δο-φέν-αι* (to give, contracted in Ion.-Att. to *δοῦναι*), which is believed to occur on a Cyprian inscription. If, on the other hand, we also take into consideration the fact that the infinitives of thematic forms, *λείπειν*, *λιπεῖν*, may likewise go back to **λείπ-ε-φεν*, **λιπ-έ-φεν*,¹ we see that the two hypothetical terminations *-φεν-αι* and *φεν* bear exactly the same relation to one another as *-μεν-αι* and *-μεν*, the one representing the dative, the other the locative of a stem in *-φεν*.

The suffix *-φεν-αι* was not kept unchanged; the *f* having disappeared and the *ε* having been contracted with the final vowel of the root, the Greeks no longer saw in *δοῦναι*, *σῆναι*, any termination except *-ναι*, which they took for the sign of the infinitive;² hence it was introduced by analogy into *εἶ-ναι*, *τι-θέ-ναι*, *δι-δό-ναι*, etc.

IV. *Stems with suffix -σθ-*,³ used only in the dative, *-σθ-αι*, as passive infinitives: *θέ-σθαι*, *δι-δό-σθαι*, etc.

(131) V. *Stems with suffix -ω-*.—Most of these are oxytone and feminine, *πειθ-ώ* (persuasion), *ῥηχ-ώ* (sound), *Λητ-ώ* (Latona); masc. and paroxytone, *ῥρ-ω-s*. The acc. *ῥρ-ω-α*, *Λῆτ-ο-α*, in which the final *m* is treated as a vowel, undoubtedly shows the presence of a lost consonant between the *o* and *m*; if we may judge from the other form of the accusative, Ion. *Λητοῦν*, this consonant may have been *f*, but it may also have been *y*, as is indicated by the voc. *Λητοῖ* and the evidence of the grammarians, who recommend in the nom. the spelling *Λητώ*. Hence two distinct suffixes, *-of-* and *-oy-*, have been confused in this formation.

VI. *Stems with suffix -ηύ-*, changed phonetically to *-εῦ-* in

¹ Secondary formations further discussed *infra* 167.

² Just like the ending *-se* in Latin, *supra* 125 and 161.

³ The primitive suffix may have been *-dhi-* if we may judge from the Sanskrit infinitives in *-dhy-āi*, cf. *infra* 296.

the nominative.¹—This formation, which is perhaps secondary, seems, as far as is known at present, to be peculiar to Greek, where however it has become very common and has all the appearance of being primary: e.g. γραφ-εύς (writer, gen. γραφῆος = *γραφ-ῆf-ος, Ion. γραφέος, Att. γραφέως), ἵππ-εύς (horseman), δρομ-εύς (runner), νομ-εύς (shepherd), etc.

(132) VII. *Stems with suffix -τᾱ-*: names of agent, masculine in spite of the feminine vowel of the suffix.²—This is somewhat rare as a primary formation: κρι-τῆς (judge), δεσ-πό-τῆς = *δεμσ-πό-τῆς (master of the house, cf. Sk. *ddm-pa-ti-s* with a different suffix), δρα-σ-τῆς (doer), γενε-τῆς (father), παν-όπ-τῆς (all-seeing), εὐ-έκ-τῆς (of good habit), Ἀργει-φόν-τῆς (murderer of Argus, epithet of Hermes). There is no corresponding form in Latin, for *nauta* is a borrowed word, and *nāvita* is modelled on *nāvis* in imitation of *nauta*.

(133) VIII. *Stems with suffix -τέο-*: verbal nouns denoting obligation, δο-τέο-ς (which ought to be given), δρα-σ-τέο-ς, ῥη-τέο-ς, etc.—This formation is modelled entirely on that of the verbals in -τό-.³

(134) IX. *Stems with suffix -τατο-* (very rarely primary): superlatives, e.g. φιλ-τατο-ς (dearest), ὕσ-τατο-ς (last), βέλ-τατο-ς (best), φέρ-τατο-ς, cf. the comparatives φιλ-τερο-ς, etc.⁴

(135) X. *Stems with suffix -ιστο-*: the ordinary primary superlatives.—Every comparative in -ων⁵ has a corresponding superlative in -ιστο-, where the element -ισ- is merely the same comparative suffix reduced before the secondary suffix -το-.

(136) XI. *Stems with suffix -ᾰδ-*, very common, forming either adjectives or feminine substantives: φορ-ᾰδ- (nom. φορ-άς, bearing), λογ-ᾰδ- (chosen), σπορ-ᾰδ- (scattered); —δυ-ᾰδ- (the number two), δεκ-ᾰδ- (ten), λαμπ-ᾰδ- (torch), Ἑλλ-ᾰδ- (Greece), etc. The Latin *lampās* is a borrowed word.

¹ Cf. *supra* 76, 1 A.

² To explain this irregularity, it is supposed that these nouns were originally feminine: thus *ναύτη, fem., would originally have meant "seamanship," *ἵππότης, "cavalry," afterwards changing their meaning. Cf. Fr. *un trompette* [a trumpet, then a trumpeter], *un garde-française*, and Lat. *juventa* (youth).

³ *Supra* 117.

⁴ *Supra* 121, 5. The form *πρώτος* cannot go back to *πρό-τατο-ς; it contains, like *ἑσχατο-ς*, a special suffix -ατο-.

⁵ Cf. *supra* 126.

XII. *Stems with suffix -ιτ-, very rare*: χάρ-ιτ- (nom. χάρις, favour), μέλ-ιτ- (nom. μέλι, honey).

XIII. *Stems with suffix -ωτ-, very rare*: ἔρ-ωτ- (nom. ἔρως, love), γέλ-ωτ- (laughter).

XIV. *Stems with suffixes -ερ- -ορ-, very rare*.—The first type is masculine: ἄ-ήρ (gen. ἄ-έριος) and αἰθ-ήρ.¹ The second is neuter, ἄ-ορ (sword, root unknown), with a suffix which is usually lengthened, as in ἔλδ-ωρ (wish), ἔλ-ωρ (prey), πέλ-ωρ (monster).

§ 3. Latin Formations.

(137) I. *Stems with suffix -ndo-*: gerundives and passive participles denoting obligation.—This formation is rarely primary, *da-ndu-s*, *sta-ndu-m*, *fa-ndō*, *eu-ndu-m* (corrupted like *eu-nt-em*),² and seems to be indirectly connected with the suffix -μεν-αι of the Greek infinitive and -μενο- of the middle participle, e.g. *fandī* = *φά-μεν-αι and *dandus* = δό-μενο-ς.³

(138) II. *Stems with suffix -bili-* (very rarely primary): adjectives of quality, e.g. *sta-bili-s*, *in-ef-fa-bili-s*, perhaps *flē-bili-s*, *scī-bili-s* (post-class.). We cannot fail to recognise its connexion with the nominal suffix -bulo- = *blo-.

(139) III. *Stems with suffixes -tumo-, -sumo-, and -issumo-*: Latin superlatives.—Some superlatives are formed by means of the simple suffix -mo-: *sum-mu-s* (highest) = *sup-mo-s, *prī-mu-s*. But the usual suffix is -tumo- (Sk. -tama-), which in classical prose is written -timu- and seems to have given rise to its doublet -sumo- (-simu-),⁴ e.g. *op-timu-s*, *in-timu-s*, *mag-simu-s*.⁵ The suffix -simu- again is added to

¹ *ἀρήρ* is not one of these; in this word *ῥερ-* appears to be the root, and *ἀ* a prothesis.

² Cf. *supra* 123.

³ The original meaning of the future participle of obligation is that of a simple passive participle. Cf. L. Havet (*Mém. Soc. Ling.* vi. p. 231), V. Henry (*Esq. Morph.* V), and *supra* 115, 5.

⁴ This change is not very clear from a phonetic point of view.

⁵ The superlative *infimus*, like the corresponding comparative *inferus*, belongs to a somewhat different mode of formation: cf. Sk. *a-dhamā-s* *ā-dhara-s* (Goth. *un-dar* [Eng. *un-der*]) = L.-E. **n-dhero-s*. Cf. F. de Saussure, *Mélanges Renier*, p. 385.

the suffix *-is-* of the comparative, and gives rise to the compound suffix *-issimu-*, the usual sign of the Latin superlative, whether primary or secondary, e.g. *parisuma* (= par-is-suma), which is found in one of the epitaphs of the Scipios.

CHAPTER II.

SECONDARY DERIVATION.

(140) Most of the primary suffixes are also secondary, and these will not be repeated in this new enumeration except in so far as they have very important formations depending on them. Much less can the suffixes which are purely secondary find a place in a short sketch like the present; only the commonest can here be dealt with, and for the rest the student must be referred to the special treatises on Greek or Latin derivation.

SECTION I.

VERBAL STEMS.

§ 1. *Common Formations.*

I. *Suffix -nū-, -nu-.*—This suffix has spread only in Greek, where it appears secondarily under the form *-nnū-, -nnv-*, e.g. *κρεμά-nnū-μ* (to hang), *κορέ-nnū-μ* (to satiate), perhaps on the analogy of the regular doubling in *σβέννυμι, ἔννυμι*.¹ But some of these formations seem primary, e.g. *σκεδά-nnū-μ* (to scatter), *πετά-nnū-μ* (to spread), etc., compared with *σκιδ-νῆ-μ*, *πίτ-νῆ-μ* (same meanings).

(141) II. *Suffix -yo-.*—The derivative suffix *-yo-*, by far the most important of the secondary suffixes of the present tense, is added in Greek and Latin to all kinds of nominal stems, which it is convenient to distinguish and classify as follows:

1. Stems ending in *e(o)*, *a*.—Types: *φιλ-έ-ω* = **φιλ-έ-γω* from *φίλ-ε* (*φίλ-ο-ς*), *flāv-e-ō* from *flāv-o-ς* (yellow); *ζυγ-ό-ω* (to yoke)

¹ Thus *κρεμάννυμι*: *κρεμάσω* (fut. of *κρεμάω*) = *σβέννυμι* (for **σβέσ-νυ-μ*): *σβέσω* (for **σβέσσω*).

from ζυγ-ό-ν;¹ τῖ-μά-ω (to honour) from τῖ-μή, *formō* = **for-mā-yō*, *fugō* = **fug-ā-yō*, *operor* = **oper-ā-yō-r* from *opera* (fem., work), etc. When once the verbal endings -έω, -όω, -αό had been thus developed, it was inevitable that they should be confused in the process of derivation. This is very common: thus, in Greek, φωνή gives φωνέω instead of φωνάω,² ἱερός on the contrary gives ἱεράω, and γέφυρα (bridge) γεφύρω; in Latin we have *laetārī* from *laetus*, *foedāre* from *foedus*, *captāre* from *captus*, and this termination -tāre, being extended, forms the numerous class of verbs called frequentatives, *ten-tāre* (cf. *ten-ēre*), *fac-tāre* (cf. *fac-ere*), *versāre* (cf. *versus* and *vertere*), etc.

By a new extension, these terminations are added entire to primary stems not ending in *e* or *a*, and so without any intermediate stage ἀφρονέω is formed from ἀφρων, πυρόω from πῦρ, arcēre from *arc-s*, necāre from *nec-s*, equitare from *equ-i-t*, etc.³ This termination -itō in its turn has also been introduced elsewhere, and produces *vol-itō*, frequentative of *volō*, and then, combined with the type in -tō which we have just seen, the not uncommon frequentative termination -titō, as in *lēc-titō*, *fac-tito*, etc.

The result of all this is, that very often, especially in Latin, the base of derivation in these verbs is entirely wanting, either because it has been lost through disuse, or because it never had any existence at all, the verb having been created by a mere analogical association. Thus we can find no substantive forming the base of the verbs *amāre*, *monēre*, *nocēre*, and many others; and the same remark may also be made in regard to all the classes of secondary derivation.

Before the suffix -yo- the ending of the primary stem seems to be always short, at any rate in Greek; but this regularity is not original, and forms like Hom. ἀδικήομεν (we injure) from

¹ As a general rule the verbs in -έω have an active, those in -όω a causative sense, e.g. πολεμέω (to make war), πολεμώω (to cause war). Latin has no verbs in *oō*, except perhaps **aegr-oō* (to make sick), of which *aegr-ō-tu-s* may be the passive participle.

² Which exists in Pindar, if it is not a hyper-Dorism.

³ In Latin especially this process has been carried to very great lengths, and the Romance languages have followed in the same track, with a marked preference for verbs of the 1st conjugation. No one in French would dream of creating a verb **salicyltir* or **téléphonoir*.

ἀδικέω, φοιτήτην (they went) from φοιτάω, and even Att. πεινῆτε = *πειν-ᾱ-ε-τε (ye are hungry) from πεινάω,¹ χρῆσθαι (Ion. χρᾶσθαι, to use) from χρᾶομαι, etc., show a variation between the long and short vowel, which must have been regulated by fixed laws.² Here also analogy has been at work; in the present it has generalized the short vowel, but in the other tenses and before secondary nominal suffixes, φιλ-ή-σω, πε-φίλ-η-κα, πε-φίλ-η-μαι, φιλ-η-τός, φιλ-η-μα, φίλ-η-σι-ς, φιλ-η-τή-ς, etc., the long vowel appears almost always, either because the analogy of the relation between λῶω and λῶσω³ introduced it into the future and aorist, whence it would easily spread to other forms, or because a very old contraction is concealed in φιλήσω = *φιλ-ε-γέ-σω, or lastly, and quite simply, because the long vowel, which was regular in certain forms of the conjugation, was gradually extended to other similar cases, and through them to the derivative nominal formations.

2. Stems ending in *i* and *u*.—Types: κονίω = *κον-ι-γω (to cover with dust) from κόν-ι-ς (dust), *φιτιδ* = *φι-τι-γῶ from *φι-τι-ς*; *φι-τύ-ω* (to beget) from *φι-τυ-ς* (father), *στα-τυ-δ* = *στα-τυ-γῶ, etc. Neither of the two types is contracted in Greek. The first is contracted in Latin, where it forms the 4th conjugation, which has been greatly extended, either through analogical creations like *fulcīre* from *fulcrum*, or more especially by attracting to itself verbs in *-iō* of the 3rd conjugation, such as *ven-iō* = βαίνω and *sal-iō* = ἄλ-λο-μαι.⁴ To this class belong indirectly the Greek desideratives in *-σειώ* = **-σει-γο-* (ὀψείω, I wish to see), the origin of which is obscure;⁵ to the second, derivatives like *ἵππ-εύ-ω* from *ἵππ-εύ-ς*, *νομ-εύ-ω* from *νομ-εύ-ς*, whence the termination *-εύ-ω* spread to the analogical *θηρ-εύ-ω* (to hunt), *παιδ-εύ-ω* (to educate), etc.

¹ Cf. Hom. πεινᾶοντε (Il. xvi. 758).

² In Latin it is impossible to recognise the quantity of this vowel, since it is always contracted with that of the secondary suffix, *supra* 73.

³ Cf. *supra* 96–97.

⁴ This contamination makes great progress during the historic period of Latin; thus *pariō* develops, by the side of *parēre*, an infinitive *parire*, and the Romance infinitive corresponding to *morī* presupposes **morīrī*, etc.

⁵ Wackernagel has conjectured in the case of the Homeric *ὀψέσθαι* the combination *ὀψεῖ λόγος* (going to the sight, going to see), wrongly supposed to contain a suffix *-σειώ*, which was afterwards extended by analogy.

3. Stems ending in a *nasal*.—From μέλ-αν- (black), ποι-μέν- (shepherd) there arose very naturally μελαίνω = *μελ-άν-γω, ποιμαίνω = *ποι-μη-γω, etc.; whence the termination -αίνω, which spread to λευκαίνω (to whiten), γλυκαίνω (to sweeten), and served as a model for the termination -ύνω, which was similarly formed from υ-stems, θαρσύς (bold), θαρσύνω (to make bold), and then similarly extended, κακύνω (to injure), μεγαλύνω (to magnify).

4. Stems ending in a *liquid*.—From τέκμαρ regularly comes τεκμαίρομαι = *τεκ-μάρ-γο-; but from ἐχθ-ρό-ς, καθαρό-ς, ἄγγελος the proper derivatives would seem to be *ἐχθ-ρέ-ω, *καθαρ-ό-ω, *ἄγγελ-έ-ω. The Greek language neglects to some extent the vowel of the primary suffix, and, adding the secondary suffix directly to the consonant, derives ἐχθαίρω from *ἐχθ-τ-γω, καθαίρω, ἀγγέλλω, etc. Besides the formative suffix -αίρω thus obtained, there are also others less important, -είρω, -ύρω, of similar origin. In this class Latin has the desideratives, *par-tur-iō* (to be in travail), *ēsuriō* = **ēd-tur-iō* (to be hungry), etc., which have passed into the 4th conjugation, though we do not know the precise nature of this element -*tūr-*, to which the verbal suffix is added, nor whether it has any connexion with the suffix -*tūro-* of future participles, in which the *ū* does not seem to be original.¹

5. Stems ending in a *voiceless explosive*.—Greek types: φυλάσσω = *φυλ-άκ-γω, αἰμάσσω = *αἰ-μάτ-γω, ἀνάσσω = **fan-άκτ-γω*, etc., then also φαρμάσσω (to physic) from φάρμακον, πυρέσσω (to have fever) from πυρετός, χαλέπτω (to make angry) from χαλεπός. It is very likely that the neuter verbs in -ώσσω have this origin, e.g. τυφλώττω (to be blind) from τυφλω-τό-ς (blinded), verbal of the causative τυφλόω. Latin has a class of verbs closely resembling the latter both in meaning and formation, namely, those in -*ūt-iō*, *caecūtiō* (to see dimly), *balbūtiō* (to stutter), which have passed into the 4th conjugation.

6. Stems ending in a *voiced explosive*.—Greek types: ἀρπάζω = *ἀρπ-άγ-γω, μαστίζω (to whip) = *μαστ-ίγ-γω, ἐλπίζω = *fel-p-iō-γω*, πεμπάζω (to count by fives) = *πεμπ-άδ-γω, etc. The frequency of the nominal stems in -άδ- and -iō-² caused an

¹ Cf. *supra* 121, 6. We must probably restore **par-tr-γo-*, -*tr-* being the reduced form of the suffix of nouns denoting agent, *ibid.* 2 and 3.

² Cf. *supra* 127 and 136.

extensive development, at first parallel with these stems, but afterwards quite apart from them, of the verbs in *-άζω* and *-ίζω*, so that these two terminations spread in all directions, until the Greek lexicon was filled with them: *ονομάζω* (to name), *ιεάζω* (to be young), *τεράζω* (to work miracles), *βασιλίζω* (to reign), *δνειδίζω* (to utter reproaches), *λογίζομαι* (to reason), etc.¹ These verbs in their turn have nominal derivatives in *-ασ-μός*, *-ασ-μα*, *-ασ-τής*, *-ασ-τι-κό-ς*, *-ισ-μός*, *-ισ-μα*, etc., which are still created by borrowing and analogy in our own day, e.g. *art-ist*, *journal-ism*, and so on indefinitely. Latin also borrowed from Greek at all periods a certain number of verbs of this class, which passed into the 1st conjugation, e.g. Old Lat. *cōmissārē*, cf. *κωμάζειν* (to revel), post-class. *thēsaurizāre* = *θησαυρίζειν*, etc.

(142) III. *Suffix -sko-*.—This secondary suffix is not very common, Gk. *ἡβ-ά-σκ-ω* (to be young), *μεθ-ύ-σκω* (to intoxicate), Lat. *tr-ā-sco-r*, except however in two classes of formations which are different in each language. In Greek, the addition of the suffix *-σκο-* to a thematic form, especially in the present or aorist, produces the forms called iteratives, *φεύγ-ε-σκε* (he fled), *καλέ-ε-σκε* (he called), *φύγ-ε-σκε* (fled), *ἴδ-ε-σκε* (he saw), which are extremely common in Homer² and Herodotus. These forms show the curious peculiarities of never being used in the present and not taking the augment, even in the prose of Herodotus, who never neglects it. In Latin, intransitive verbs in *-eō* often have side by side with them verbs in *-escō*, which are almost synonymous with them, but have an inchoative shade of meaning, e.g. *alb-e-ō* (to be white), *alb-e-scō* (to begin to be white), *ad-ol-ē-scō* (to grow up, cf. *ad-ul-tu-s*), *in-nō-tē-scō* (to begin to be known), etc.

IV. *Suffix -dho-* (?).—Greek shows in certain forms, chiefly poetic, a similar addition of the suffix *-θο-*: Hom. *φλεγ-έ-θει* (he burns, cf. *φλέγ-ω*), *ἡγερ-έ-θο-ντο* (they assembled, cf. *ἀγείρω*).

(143) V. *Suffix -o-(-e-)* secondary: subjunctives.—We have seen that the non-thematic forms are changed to subjunctives

¹ The similarity of the futures, e.g. *φυλάξω* and *σαλπίζω*, gave rise to the dialectical doublet *σαλπίσσω*, and even *φράσσω* by the side of *φράζω*.

² So also *μνησάσκετο* (Il. xi. 566) *στρέψασκον* (Il. xviii. 546), *σπείσασκε* (Od. viii. 89) by addition to the sigmatic aorist.

by the addition of the thematic vowel.¹ Hence if a present **bhér-mi* (I bear) regularly becomes in the subjunctive **bhér-o* or **bhér-e*, it is quite natural that a thematic present **bhér-o* or **bhér-e* should in its turn become in the subjunctive **bhér-ō* = **bhér-o-o* or **bhér-ē* = **bhér-e-e*. In short, the subjunctive with a long vowel in the thematic tenses exactly corresponds to the subjunctive with a short vowel in the non-thematic forms. Hence the law which simply lengthens in the subjunctive the short vowel of the indicative, *φέρ-ο-μεν* *φέρ-ω-μεν*, *φέρ-ε-τε* *φέρ-η-τε*, *ἐ-λίπ-ο-μεν* *λίπ-ω-μεν*, *ἐ-λίπ-ε-τε* *λίπ-η-τε*, and so everywhere.

If we pass to Latin, it seems difficult to overlook the close connexion between *λέγ-η-τε* and *leg-ē-tis* (future of the 3rd and 4th conjugations). On the other hand, *leg-ē-s* and *leg-e-t* = **leg-ē-t* with long vowel exactly correspond to the short forms of the present indicative, **leg-ē-s*, **leg-ē-t*, which have become *leg-i-s*, *leg-i-t*. The 1st and 3rd pers. pl. *leg-ē-mus* (for **leg-ō-mus*) and *leg-e-nt* (for **leg-ō-nt*) must have taken the vowel *ē* through the analogy of the other forms. There remains the 1st sing. *leg-a-m*, which was borrowed from the subjunctive in *-a*.² The connexion of meaning is no difficulty; the subjunctive, denoting essentially a prayer or an eventuality, is well suited to express the future meaning, and there are examples of a similar process in various languages.

Thus the future of the 3rd and 4th conjugation is identical with the secondary subjunctive of Greek.³ Perhaps the same should be said of the subjunctive of the 1st conjugation, *amem*; thus *amētis* would go back to **ama-ē-tis*, cf. *τιμά-η-τε*, *amēs*, *amet* to **ama-ē-s*, **ama-ē-t*, the *ē* having then contaminated the other three persons. This is extremely probable.

(144) VI. *Suffix -yē(-i-)*: secondary optatives. — In this way are formed the optatives of non-thematic tenses, especially the present in *-vā*, *δύ-να-μαι* *δύ-να-ί-μην*, and the two passive

¹ Cf. *supra* 86 and 89, VII.

² Cf. *supra* 104.

³ This explanation is far from being universally admitted; some, disdaining phonetic laws, would see an optative in *legēs* = *λέγεις*; others connect *cap-iēs* with *δο-ιη-s*, not seeing that the *i* of *cap-iēs* comes from the present *cap-iō*. We cannot stop to discuss this point.

aorists, ἐτύπην τυπ-ε-ίην, ἐλύθην λυ-θε-ίην, which were naturally influenced by the analogy of ἔθην θείην. A much later analogy substituted this formation for the following one in the present optatives of contracted verbs: φιλοῖην, τιμῶην, by the side of φιλοῖμι, τιμῶμι; and even in some optatives of thematic aorists, σχο-ο-ίην, ἀγ-αγ-ο-ίην,¹ etc. Some see the same suffix in the Latin subjunctive of the 1st conjugation, e.g. *amēs* = **amā-yē-s*. Apart from this very doubtful case, it no longer exists in Latin except in the reduced form -*ē*, which was introduced from the plural into the singular, e.g. *faxim* = *fac-s-i-m*, *vīd-er-ē-s* for **vīd-er-iē-s* = Gk. **ῥειδ-εσ-ίης* (εἰδείης, opt. of perf. οἶδα), through the analogy of the regular *vīd-er-i-mus*;² it forms in Latin the tense called perfect subjunctive, which is strictly a perfect optative.

The form of the future-perfect, *vīd-er-ō*, very greatly resembles the last form. It differs from it however, not only in the 1st pers. sing., but also, at any rate originally, throughout, in the quantity of its vowel *i*, which is always short; hence it ought to be included in the preceding class. Thus we should have *vīd-er-ō* = εἰδ-έ-ω (I may know), *vīd-er-īs* = **vīd-er-ēs*, and the Latin future-perfect would be the regular perfect subjunctive (with short vowel), as *vīd-er-i-m* certainly represents the perfect optative.

VII. *Suffix -i-*: optative of the thematic tenses. — Instead of the alternation between -*ιη*- and -*ῑ*- which we have just seen, Greek, which in this point agrees with Sanskrit, regularly shows in the optative of the thematic tenses only a simple -*i*- between the thematic vowel and the termination, e.g. λείπ-ο-ι-μι, λίπ-ο-ι-μι, λείπ-σο-ι-μι, etc. This formation has entirely disappeared in Latin, unless we are willing to admit that *leg-ē-s* = λέγ-ο-ις, or *amēs* = **amāīs* = **amā-o-i-s*, which is quite improbable.³

¹ Thus σχοίην: σχοῖμεν = δοίην: δοῖμεν. Cf. *supra* 95.

² These quantities are archaic; in the classical period we have *vīderis*, *vīderimus* in the perf. subj. as in the fut.-perf. Cf. Neue, ii. p. 510. But we still find, for example, *dederitis*, Ov. *Metam.* vi. 357.

³ It will be seen that there is a troublesome uncertainty in the Latin correspondences in classes V, VI and VII; but this uncertainty is confined within narrow limits.

(145) VIII. *Suffix -s-*.—In Greek the secondary formation of the aorists in *-σ-* (e.g. ἐ-φύλ-η-σ-α, ἐ-φύλ-ακ-σ-α, etc.) is extended to all the derived verbs with no other corruptions than those which will be mentioned in regard to the future. Latin has lost it, and forms the perfects of its secondary verbs in *-uī* and *-vī*.

(146) IX. *Suffix -so-*.—Latin has perhaps preserved amid many corruptions a few traces of the future suffix *-so-* in the rare and obscure formations used as presents, of which instances are to be found in *cap-es-sō* (to try to take), *lac-es-sō* (to try to attack), cf. *cap-iō*, *lac-iō*. In Greek, this suffix, which is used to form the future of all derivative verbs, requires the following observations:—

1. Verbs of which the base is a stem ending in a voiceless guttural or dental both have the same form in the present originally ending in *-γω*, e.g. φυλάσσω and αἰμάσσω; but in the case of the former verbs the guttural reappears in the future, φυλάξω. In imitation of this was created the future αἰμάξω, the true form of which would be *αἰμάσω = *αἰμάσσω = *αἰ-μάτ-σω; in other words, all verbs which have their present in *-σσω* form their future in *-ξω* without distinction.

2. The same assimilation took place, but only in Doric, between all verbs which had their present in *-ζω* (= *-γ-γω* or *-δ-γω*). Thus the future of ὑστερίζω (to be late) is regularly in ordinary Greek ὑστερίσω = *ὑστερ-ίδ-σω, but in Doric ὑστερίζω,¹ in imitation of μαστίξω, the regular future of μαστίξω, etc. This corruption even extends to primary formations, e.g. Dor. καθίζας (having sat).

3. Secondary verbs with a nasal or liquid form their futures just like primary verbs of the same type,² e.g. ἐχθαίρω ἐχθαρώ, ἀγγέλλω ἀγγελῶ, ποιμαίνω ποιμανῶ.

4. The Ionic-Attic formations in *-έω*, *-ῶ* and the Doric formations in *-σέω*, *-σίω*, *-σῶ*³ belong to the system of secondary derivation as much as, or even more than, to that of the primary stems.

¹ Similarly Hom. πτολεμίζομεν (Il. ii. 328), πολεμίζομεν (Il. xxiv. 667), κτερεῖζω (Od. ii. 222). The Homeric and classical ἥρπασεν (Od. xv. 250) is the result of the converse analogy.

² *Supra* 141, 3 and 4, and 97.

³ *Supra* 97.

§ 2.—*Hellenic Formations.*

(146) I. *Suffix* -κ-.—All secondary perfects have this sign, before which the final vowel of the primary stem undergoes the same lengthening as before the -σ- of the aorist and future, *πε-φίλ-η-κ-α*, *τε-τί-μη-κ-α*, etc. The perfect middle simply adds the person-endings to the stem, which eventually became similarly lengthened, *πε-φίλ-η-μαι*, *τε-τί-μη-μαι*.

II. *Suffix* -σο- of the future-perfect; this form is rather rare, and presents no difficulty: *πε-φιλ-ή-σο-μαι*, *τε-τί-μή-σο-μαι*.

III. *Suffix* -εσ- of the pluperfect: added directly to the perfect stem, whatever this may be: *ἐ-λε-λύ-κ-ε-α* (I had loosed), class. *ἐ-λε-λύ-κ-η* and *ἐ-λε-λύ-κ-ει-ν*.¹

IV. *Suffix* -θη-.—Derivative verbs no longer possess the aorist passive in -η-; but the aorist passive in -θη- has been extended so far as to be the only form in classical Greek. The long vowel of *ἐ-φίλ-η-σα* recurs in *ἐ-φιλ-ή-θη-ν*, *ἐ-τί-μή-θη-ν*, etc.

V. *Suffix* -θήσο-.—Similarly it is the future passive in -θήσο-, not that in -ήσο-, which has been adopted by secondary verbs: *φιλ-η-θήσο-μαι*. It will be noticed that these two formations are liable sporadically to the analogical insertion of the same -σ- which has been already mentioned and explained in the case of the perfect,² e.g. *κελεύ-ω* (to command), *κε-κέλευ-σ-μαι*, *ἐ-κελεύ-σ-θη-ν*, *κελευ-σ-θήσο-μαι*.

§ 3.—*Latin Formations.*

(147) I. *Suffix* -ā-: forms the subjunctive present of all verbs of the 2nd, 3rd, and 4th conjugations without distinction: *mon-e-a-m*, *cap-i-a-m*, *ven-i-a-m*, *par-tur-i-a-m*.

II. *Suffix* -bā-: forms the imperfect of all verbs.—In the 1st and 2nd conjugation we have quite regularly *amā-ba-m*, *monē-ba-m*; for in the first place we have seen that the final vowel of *amā-*, *monē-*, may very well have been long in certain positions;³ and even supposing it was not long here, it must necessarily have become so, at any rate in *monēbam* = **mone-ē-bam*. But in the 3rd conjugation we should expect

¹ Cf. *supra* 101 and *infra* 298.

² *Supra* 64 A note.

³ Cf. *supra* 141, 1.

**leg-ē-ba-m* ; for here the *e* is simply the thematic vowel of the verb, the same vowel which appears in *leg-i-tis* = **leg-ē-tis* = *λέγ-ε-τε*. Hence it must have been lengthened through the analogy of *monē-ba-m*, and so also in the 4th conjugation, *audi-ē-ba-m*. The regular contracted form *audībam* = **audi-ē-ba-m* exists as an archaism.

III. *Suffix -bo-* : futures of the 1st and 2nd conjugation (the analogical futures of the 3rd and 4th, *dīc-ē-bō*, *aud-ī-bō*, were created, but not retained, in the classical language).—This formation can only be regarded as being essentially secondary. In a combination like *ārefaciō* (to make dry), the word *āre* was originally quite distinct and is still kept so in the time of Lucretius, who writes *sōl facit āre*. Now, just as *āre* thus became joined to *faciō* and *fiō*, it may have been joined also to the verb *fu-* (to be), e.g. **āre fuō*, a group in which medial *f* would have phonetically become *b*, *āre-bō* (I may be dry, shall be dry); then, through the analogy of *ārere* and *ārēbō*, *monēbō* from *monēre*, *amābō* from *amāre*. If we adopt this attempt at explanation, without however concealing its defects,¹ it will be seen that it is equally applicable to *ārēbam* = **āre fuām*, and consequently for the imperfects.

(148) IV. *Suffixes -v- and -u-* of the perfect.—It is by means of one or other of these suffixes that Latin forms its secondary perfects. The first appears chiefly in the 1st and 4th conjugations, *amā-vī*, *aud-ī-v-ī*, whence analogy sometimes introduces it into verbs of the 3rd, *pet-ī-vī* from *pet-ō*; the second is the ordinary suffix of the 2nd conjugation, *mon-u-ī*, *tim-u-ī*, and of certain derivative verbs of the 3rd, *statu-ī* = **sta-tū-ū-ī*(?). The syncope of the *v* in *audī*, *petī* does not seem to be a phonetic phenomenon, but a mere analogical corruption,² which however spread very widely and resulted in a still further syncope in the tenses derived from the perfect: *audī* naturally gave rise to *audieram*; imitation of *audieram* produced **amāderam*, *amāram*, and the corruption extended to more

¹ The most serious is the difference of quantity between *ārēfaciō* and *ārēbō*.

² Thus *audī*: *audītum* = *statu-ī*: *statūtum*, with shortening of the vowel before a following vowel.

primitive forms, e.g. *mōrat* = *mōverat*, *vōrat* = *vōverat*; and similarly in the pluperfect subjunctive, *audissem*, whence *audissem*, *amāssem*, *nōssem*, etc.

(149) V. *Suffix* **-es-ā-* of the pluperfect indicative.—Whatever is to be thought of the form *erat*, it seems pretty clear that it must have served as a model for *fuera*, that is to say, that the language, when once in possession of the ratio of *es-t* to *er-a-t*, derived thence, by a clumsy but easily conceivable proportion, the ratio of *fu-i-t* to *fu-er-a-t*, to express the past tense of the perfect. If, however, we wished to establish a closer connexion between the Greek and Latin pluperfect, we should call attention to the fact that the form *fu-er-a-m*, for example, bears to *ἐ-λε-λοίπ-ε-α* = **ἐ-λε-λοίπ-ε-σ-μ*₀ exactly the same relation as *er-a-m* to *ἦ-α* (I was) = **ἦ-σ-μ*₀ (without augment **ἔ-σ-μ*₀); in other words, that in both cases Latin has the group *ām* corresponding to *μ*₀, a correspondence phonetically impossible. Hence we should reconcile everything by restoring **er-ēm*, **fu-er-ēm*, etc., and supposing that *ē* became *ā* under the influence of the imperfect terminations in *-bā* (cf. *erās* and *amābās*). The choice remains open between these two explanations. The only point that is certain is that this suffix *-erā-* of the pluperfect is added without distinction to all the possible forms of primary, secondary, and tertiary perfects of all conjugations.

(150) VI. *Suffix* *-sē-* in the imperfect and pluperfect subjunctive.—From the form **es-sē-m* on the one hand, and the infinitive forms *fī-er-e* and *es-se*¹ on the other, there was easily obtained the fourth proportional, **fī-er-ēm*, and thence *legerem*, *caperem*, in short the exact parallel between the infinitive and the imperfect subjunctive, which was naturally lengthened in the other conjugations, *amāre amārem*, *monēre monērem*, *audire audīrem*. In the case of the pluperfect, it seems that the element *-sse-* of *essem*, being regarded as a suffix, was added by analogy to the form *fu-i-*, which was itself wrongly taken to be the perfect stem; hence *fu-i-sse-m*²

¹ See *supra* 106 and 125.

² Thus approximately *fuisse*: *fuit* = *esset*: *est*. or better still *fuisse*: **fuisat* (? old form of *fuera*) = *esset*: **esat* (*erat*). It is true that in old

and the pluperfect subjunctive of all conjugations, in regard to which we must also take into account the exact parallel between it and the perfect infinitive, *fuisse*, *amāvisse*, etc.¹

SECTION II.

NOMINAL STEMS.

§ 1.—Common Formations.

(151) I. *Suffix -yo-, -io-, fem. -ī-, -iā.*—Of all the primary suffixes used as secondary, this group is by far the most important. Indeed to some extent it is the key to the system of secondary nominal derivation; hence it will be convenient to give it the first place and to consider it at some length, according to the ending of the primary stem which is affected by it.

1. Final *-e* (*-o-*), *-ā-*.—The purest form seems to be that in which the vowel of the primary suffix takes the form *e*, with loss of intervocalic *y*: *χρύσεος* = **χρῦσε-yo-s*, *aureus* = **aus-e-yo-s*. Hence in Latin the suffix *-eu-*, which forms a large number of adjectives denoting material and attributes: *ros-eu-s*, *litor-eu-s*, etc.

In another type, peculiar to Greek, the intervocalic *i* remains:² *ὄμ-ός*, *ὄμ-ο-ῖο-s*, *δίκ-ᾱ* *δίκ-α-ῖο-s*, *πομπ-ή* *πομπ-ᾱ-ῖο-s*; hence the suffixes *-ᾱῖο- -οῖο-*,³ which spread in all directions, e.g. *νησαῖος*, *παντοῖος*, though there are no primary stems **νησ-ᾱ-*, **παντ-ο-*. Often, in imitation of what takes place after a consonantal stem, the suffix *-io-* expels the final vowel of the primary stem and is added directly to the preceding consonant, e.g. Gk. *οὐρ-ανός* *οὐρ-ᾱν-ῖο-s*, *θάλασσο-α* *θαλάσσο-ῖο-s*, and Lat.

inscriptions we do not find the double *s*, e.g. FVISET (*i* scanned as long); but in old Latin consonants are not doubled, and the pronunciation must still have been *fuisset*, for **fuisset* would necessarily have been rhotacized.

¹ Cf. *infra* 161.—Some essentially Latin present formations, e.g. *nāv-ig-ō* *pos-tul-ō*, *alb-ic-ō*, *rac-ill-ō*, may be passed over, as being comparatively rare; they no doubt go back to primitive nominal formations which had fallen into disuse.

² This may be connected, as we have already seen, with the fact that the suffix is sometimes *-yo-*, sometimes *-io-*, *supra* 39 *in fine*.

³ Cf. also *infra* 3 and 4. Still the Homeric scansion *ομολῖον* (Od. iii. 236) seems to point to a primitive suffix *-iyo-*, cf. *supra* 71 note.

Tul-lu-s and *Tul-l-iu-s*, *ser-vo-s* and *Ser-v-iu-s*, *som-nu-s* and *som-n-iu-m*, etc. The Latin termination *-aeu-s* is of course borrowed.

2. Final *-i-*.—In Greek, the suffix *-yo-* added to the suffix *-τι-*, e.g. *θυ-σί-ᾱ* (sacrifice) = **θυ-τί-γᾱ*, produced the suffix *-σιο-*, which became very common: *θau-μά-σιο-s* (wonderful), *δη-μό-σιο-s* (popular), *εὖ-εργ-ε-σίᾱ* (kindness). In Latin, the very common suffix *-tio-* must have the same origin: *nūp-ti-ae*, *ser-vi-tiu-m*, *amīc-i-tia*; then, through the intimate relation between the two suffixes *-iā* and *-i*,¹ the doublets *avāritia avārities*, etc.

3. Final *-u-*.—Gk. *νέκ-υ-ᾱ* and *νέκ-υ-ᾱ* (calling up of the dead) from *νέκ-υ-s*, etc. But adjectives in *-ύ-* take the form *-έ-* before the secondary suffix *-ι-* (Gk. *-ᾱ*) of the feminine gender: *ἡδ-ύ-s ἡδέῖα* = **ἡδ-έ-ῖᾱ*, like gen. *ἡδέος* = **ἡδ-έ-ος*.² Stems in *-εύ-* naturally follow the same rule, *βασιλ-εύ-s βασιλείος* (royal) = **βασιλ-έ-ῖος*, *γραφ-εύ-s γραφεῖον* (stylus for writing): whence the suffix *-εῖο-* *-εῖο-*, extended to forms like *παρθένεος* (maidenly), *γυναικεῖον* (women's quarters).

4. Final *-es-* (*-os-*).—The perfect participle in *-φόσ-* reduces its suffix before the secondary suffix *-ᾱ* = *ι* of the feminine: *εἰδῶῖα* = **φειδ-ύ-s-ᾱ*. In the other formations the primary suffix remains unchanged: *Ἀργεῖος* = **Ἀργ-έ-s-ῖος* from **Ἄργος*, *ἀλήθεια* = **ἄ-λαθ-ε-s-ᾱ* and Ion. *ἀληθείη* = *ἄ-λαθ-ε-s-ᾱ*, *αἰδοῖος* (venerable) = **αἰδ-ό-s-ῖος*, etc.; whence a fresh source for suffixes *-εῖο-* and *-οῖο-*. Latin has in this class the forms *plēb-ē-iu-s plēb-ē-ju-s*, with the same lengthening as in *plēb-ēs*, *vener-iu-s* from *Ven-us* (*Ven-er-is*), and *Hon-ōr-iu-s* with the same lengthening as in the gen. *hon-ōr-is*, cf. Gk. **αἰδ-ό-s-ος*.

5. Final *nasal*.—Primary suffix reduced before *-γᾱ*: *θεράπ-ων* (servant), fem. *θεράπεινα* = **θεράπ-η-γᾱ*, whence the fem. suffix *-aina* extended to *θέ-αινα* (goddess), etc. The same reduced before *-io-*: *ποι-μήν* (shepherd), *ποι-μν-ιο-ν* (sheepfold). The same without any reduction or change: *τέρ-ην* (soft), fem. *τέρεινα* = **τέρ-ε-ν-γᾱ*; *τέρμ-ων* (boundary), *τερ-μόν-ιος* (extreme). In Latin, with the lengthening already noticed, *quer-i-mōn-ia* (complaint), *mātri-mōn-iu-m*, etc.

¹ See *supra* 112.

² Cf. *supra* 111.

6. Final *liquid*.—Primary suffix reduced, *πά-τρ-ιο-ς* *pa-tr-iu-s*; normal without lengthening, *δο-τήρ*, fem. *δότειρα* (giver) = *δό-τερ-ya*; normal with lengthening, *σω-τηρ-ιά* (safety), *κοι-μη-τήρ-ιο-ν* (sleeping-room); deflected with lengthening, *prae-tōr-iu-s*, *vic-tōr-ia*, *vom-i-tōr-iu-m*; reduced before the fem. suffix *-ī* which is accompanied by a guttural addition still unexplained, *vic-tor*, fem. *vic-tr-ī-c*; the termination unchanged before the Latin suffix *-iē* = *-ī*, which changes the adjective to a feminine abstract noun, *pauper pauper-iē-s*.

7. Final *-nt-*.—The Latin participles have lost their feminine. The Greek participles of all kinds form theirs very regularly in *-iā* = *-ī*, e.g. *τιθείς* = **τι-θέ-ντ-s*, fem. *τιθείσα* = **τι-θέ-ντ-γα*,¹ *φέρουσα* = **φέρ-ο-ντ-γα* (Sk. *bhār-a-nt-ī*), *λιποῦσα* = **λι-π-ό-ντ-γα*, *λύσασα* = **λῦ-σα-ντ-γα*. On the contrary, it is the suffix *-iā* (*-io-*) which is to be recognized in *γερονσιā* = **γερ-ο-ντ-iā* (council of old men), as well as in Latin abstract nouns derived from the same participles, *sci-e-nt-ia*, *cōn-sta-nt-ia*, and the proper nouns *Cōn-stantius*, *Prudentius*.

8. Final *explosive*.—The suffix *-io-* in Greek often had a diminutive function, e.g. *ψῆφο-s* (pebble), *ψῆφ-ιο-ν* (small pebble). When joined to stems ending in an explosive, it produced the forms *ὀμ-μάτ-ιο-ν* (little eye), *ὀλκ-άδ-ιο-ν* (little ship), *πα-ιδ-ιο-ν* (little child). Then these elements *-διο-*, *-ίδιο-*, being regarded as diminutive suffixes, were introduced into other formations: *ζώ-διο-ν* (small animal), *ἀγρ-ίδιο-ν* (small field), *ἱ-ματ-ίδιο-ν* (small garment); so also in certain adjectival formations, *ἐπι-θαλασσ-ῖδιο-s* (maritime), *ἴδιος* (own) = **ἴδιος* = **σφ-ἴδιο-s* (his own). In Latin there is no special peculiarity: *aud-āc-ia* from *audāx*, *fast-ig-iu-m* (top), primitive form unknown.

(152) II. Suffix *-i-*.—Very rarely secondary in Greek, but in Latin is added as a secondary suffix to all primary adjectives in *-u-*, e.g. *gra-v-i-s*, cf. Gk. *βαρ-ύ-s*, *suāv-is* = **suād-v-i-s*, cf. Gk. *ῥῆδ-ύ-s* = **σφαδ-ύ-s*, etc.; so also *na-v-i-s*, cf. Gk. *ναῦ-s*. This *-i-* is perhaps a relic, though much corrupted, of the old *-ī-* which

¹ Cf. *supra* 47 C. So also the Hom. fem. of *πρόφρων* (kind) is *πρόφρασσα* (e.g. Il. x. 290) = **προ-φρη-τ-γā* with an additional suffix *τ*. *Πρόφρων* is also fem., e.g. *Hymn to Demeter*, 226.—For the probable explanation of the form *χαρίεις*, of which the fem. is *χαρίεσσα*, see *infra* 165.

formed the feminine of these adjectives (in Sk. *svād-ū-s* (sweet), fem. *svād-v-ī*), just as the fem. *ācris* contrasted with the masc. *ācer* is perhaps a reminiscence of some prehistoric feminine **āk-r-ī*, so that these derivatives would belong to the preceding class.

(153) III. *Suffix -wo-*.—This suffix seems to have developed in Latin the secondary derivatives in *-ivo-*, which are rather common as adjectives: *noc-ivo-s*, *capt-ivo-s*, *fug-i-t-ivo-s*, and others.

(154) IV. *Suffix -on-*.—Secondary in Greek in *κοινών* (partner, gen. *-ῶν-ος*) derived from *κοιν-ός* (common), in *αἰ-ών* (age, gen. *αἰ-ῶν-ος*¹) derived from a lost form **ai-fó-v* identical with Lat. *ae-vo-m*. It is especially common in Latin, where, under the same form *-ō -ōn-is*, it is added to the primary or secondary suffix *-ti-*² to form feminine nouns of action, *āc-ti-ō*, *auc-ti-ō*, *or-ā-ti-ō*, *aud-ī-ti-ō*, *suāsiō*, by a regular and well known process. It is also found added, either to stems in *-io-*, in which case it is contracted with the thematic vowel *o*, *leg-i-ō*, cf. *col-lēg-tu-m*, *ob-sid-i-ō*, cf. *ob-sid-iu-m*, or to consonantal stems, especially adjectives in *-āc-*, in which it changes the final guttural (*vor-āg-ō* from *vor-āc-*, *supra* 62 ζ), whence the multitude of feminine nouns in *-āgō*, *farr-āgō*, *im-āgō*, and subsidiarily in *-īgō* and *-ūgō*, *or-īgō*, *rūb-īgō*, *ferr-ūgō*, *lān-ūgō*, etc. It was doubtless an exactly similar phonetic process which changed the secondary suffix *-tūt-* to *-tūd-ō* (*infra* 174), e.g. the doublets *servitūs* and *servitūdō* (through the genitive *servitūdinis* = **servi-tūt-ŋn-is*), and we know how often this element *-tūdō* in Latin forms feminine abstract nouns, *sōli-tūdō*, *valē-tūdō*, *cōn-sue-tūdō*, etc.

(155) V. *Suffix -mo-*.—Rarely secondary in Latin; very common in Greek, where it forms nouns of action (oxytone) corresponding chiefly to verbs in *-άζω* and *-ίζω*, *ἄπ-αγ-μός* (robbery), *ἐρ-ισ-μός* (strife),³ and adjectives of quality derived from

¹ In the circumflex accent we still have a reminiscence of the very old contraction of **aiwōn-* = **ai-wo-on-*, etc.—Add the suff. *-law* of Ionic patronyms, *Κρω-law* (and *Κρω-ίων*) from *Κρόνιος*.

² Cf. *supra* 59, 118, and *infra* 210, II.

³ With the sigmatic epenthesis which is very common in this and the following classes. *κελευ-σ-μός* (command), *πατ-η-σ-μός* (trampling).

nominal stems in *-τι*, *δρά-σι-μο-ς* (active). From the last type was formed the suffix *-ιμο-* with the same function, *ἐδ-ώδ-ιμο-ς* (eatable), of which suffix the rare and obscure derivative element *-άλιμο-* seems to be only a particular variety, *εἰδ-άλιμο-ς* (beautiful).

(156) VI. *Suffix -men-, etc.*—The secondary suffixes *-μα* and *-μεν-* form in Greek: (1) the numerous neuters in *-μα*, *ποίη-μα* (work, poem), *πάθ-η-μα* (suffering), *ψήφ-ισ-μα* (decree), corresponding to the Latin neuters in *-men*, *reg-i-men*, *sōl-ā-men*, and the subsidiary forms in *-mento-*, *arm-ā-mentu-m*; (2) all the secondary Æolic infinitives in *-μεν* and *-μεν-αι*, e.g. *φερ-έ-μεν* and *φερ-έ-μεν-αι*, formed on the analogy of the primary forms *στᾶ-μεν* and *δό-μεν-αι*. It must be observed that before the suffix *-μεν-* of the infinitive the thematic vowel assumes the form *ε*, whereas it takes the deflected form before the almost identical suffix *-μενο-* of the middle participle, *φερ-ό-μενο-ς*, Lat. *al-u-mnu-s* (one who is nourished, nursling). The last formation, which is extensively represented in Greek, where it forms the participles of all tenses in the mediopassive voice, is represented in Latin only by a few nominal stems¹ in which the suffix is rather *-mno-* than *-meno-*, e.g. *Vertumnus* (god of spring) = **vert-o-meno-s*, he who returns (the year), *autumnus* (an obscure formation); also by the 2nd pers. pl. of all tenses in the passive voice, *leg-i-minī*, *am-ā-minī*, and by analogy *amā-bā-minī*, *audī-rē-minī*, etc.

(157) VII. *Suffix -ro-, -lo-*.—This suffix is often secondary in Greek, where it forms adjectives, usually oxytone: *φαν-ε-ρό-ς* (evident), *φοβ-ε-ρό-ς* (terrible, cf. *φόβ-ο-ς*), *ισχ-υ-ρό-ς* (strong), *σίγ-η-λό-ς*, Dor. *σίγ-α-λό-ς* (silent), from *σίγ-ή* (silence), etc. From these types and others false suffixes were afterwards detached, which became very widely extended, e.g. *θυ-ηλή* (sacrifice), *κῦ-ματ-ηρό-ς* (billowy), *πέδ-ιλο-ν* (sandal), *εἰδ-ωλο-ν* (image), *ἁμαρτ-ωλή* (sin), etc. Similarly Latin has *τ.* suffix *-ēla*, forming feminine nouns, *loqu-ēla* (speech), *quer-ēla* (also *quer-ella*, complaint); but the secondary suffix *-lo-* was almost entirely confined in Latin to a diminutive function, e.g. *par-vo-*

¹ Unless we accept the hypothesis that *legundus* = **leg-o-mdo-s* = **leg-o-mrdo-s* = *λεγ-ό-μενο-ς*, *supra* 137.

lu-s from *par-vo-s*, *homullus* = **hom-on-los*, *agellus* = **ag-er-lo-s*; whence the diminutive suffixes *-ulu-*, *-ullu-*, *-ellu-*, which became exceedingly common. It was probably a confusion with the primary suffix *-culo*¹ which gave rise to the diminutive type *frā-ter-culu-s*, and this suffix, added to the syllable *-on-* of the nouns in *-tiō-*, *ōr-ā-ti-un-cula* (little speech), produced the suffix *-unculu-* of *av-onculu-s* (little grandfather, term of endearment for "maternal uncle").

VIII. *Suffix -ri-, -li-*.—This secondary suffix is very common in Latin, where it assumes the forms: (1) *-ili-*, *fac-i-li-s*, *frag-i-li-s*, *ūt-i-li-s*; (2) *-tili-*, *dūc-t-i-li-s* (cf. *dūc-tu-s*), *fer-tili-s*; ² (3) *-ili-*, *host-ili-s* = **hosti-ili-s* (?), *Pāl-ili-a* (feast of Pales); (4) *-āli-*, *augur-āli-s*, and (5) *-āri-*, *milit-āri-s*, showing the alternation already noticed.³ The neuter of several of these adjectives, when used separately as a substantive, lost its final letter in the nominative singular,⁴ *animāl* = *anim-āle* (that which is endowed with life), *laqueār* (panelling) = *laque-āre* (that which is panelled), from *laqueus* (intricate pattern); but the *i* reappears in all the rest of the declension. On the other hand the regular nom. pl. *laque-āri-a* brought about the creation of a nom. sing. *laque-āri-u-m*, whence doublets like *auxiliāris* and *auxiliārius*, gen. pl. *Saturnālium* and *Saturnāliorum* (Macrob.), which are especially common in post-classical Latin and are perpetuated in the Romance languages.

(158) IX. *Suffix -no-*.—Secondary in Greek and Latin under the forms: *-ino-*, adjectives denoting material, *φῆγγ-ι-vo-s* (oaken), *fāg-i-nu-s*; *-ineo-*, by addition to *-eo-*, the other suffix of adjectives denoting material, *φῆγγινέος*, *fāgineus*; ⁵ *-ino-*, *Ῥῆγγ-ινο-ι* (inhabitants of *Ῥῆγγ-ιο-ν*), *div-īnu-s*, *coqu-īna*, with

¹ Cf. *supra* 122. Was this on account of the diminutive *amīculus*?

² It is impossible to overlook the connexion in meaning between these adjectives and those in *-bili-*, *supra* 138.

³ *Supra* 51, 2. The *a* of the suffix seems to be borrowed from the original termination of the feminine nouns, cf. *canna* and *cand-ā-li-s*, *insula* and *insulā-ri-s*, *supra* 83 and *infra* 193, 1.

⁴ Probably through analogy, e.g. **animāl* : *animalis* (gen.) = *sal* : *salis*, the final syllable in *l* being afterwards shortened.

⁵ This Latin type is probably a Hellenism. Cf. however *extr-āneu-s*, *for-āneu-s*, etc.

reduction of the preceding primary suffix *doc-tr-īna*, in a more complex and obscure formation *disc-i-pl-īna*; *-ēno-*, *πετ-ε-ηνός* (winged), *terr-ēnu-s* (earthly); in Latin only, *-āno-*, *-iāno-*, *Rōmā-nu-s*, from **Rō-mā*, old form of *Rōmā*, *hūm-ānu-s*, *Claud-i-ānu-s*, *christ-iānu-s* (Greek forms like *χριστιανός* are borrowed). Also in Latin, *-no-* added to a primary stem in *-r-* of doubtful origin, *noc-tur-nu-s* (cf. Gk. *νύκτωρ*, by night), produced the suffix *-urno-*, which appears in *di-urnu-s*, and *tac-i-urnu-s*.

X. *Suffix -to-*: forms in Greek and Latin the verbals or past participles of all secondary verbs: *φιλ-η-τός*, *τῖμ-η-τός*, *ἐλπ-ισ-τός*, *κελ-ευ-σ-τός*; *am-ā-tu-s*, *mon-i-tu-s* = **mon-ē-tu-s*, cf. the doublet *Mon-ē-ta* (wise, epithet of Juno), *aud-ī-tu-s*, *stātū-tu-s*, etc.

Latin also has the suffixes *-āto-*, *-īto-*, *-ūto-*, without any corresponding verb, in *dent-ātu-s*, *crīn-ītus*, *corn-ūtus* (cf. *corn-ū*); and secondary forms based on a stem in *-es-*, e.g. *fūn-es-tu-s*, *hon-es-tu-s*, *on-us-tu-s*, *ven-us-tu-s*, etc.

XI. *Suffix -ti-*: in Greek under the form *-σι-* and in Latin under the amplified form *-tīōn-* forms the nouns of action derived from all secondary verbs, *φιλ-η-σι-s* (affection), *αἵρ-ε-σι-s* (choice), *op-er-ā-ti-ō*, etc.

XII. *Suffix -tu-*: as a secondary suffix, is scarcely found except in Latin (Gk. *βο-η-τός* shouting), where it forms nouns of action, *vēn-ā-tu-s* (hunting), *mūg-ī-tu-s*, of which the active and passive supines of secondary verbs are only particular cases.¹

(159) XIII. *Suffix -ter-, etc.*—Greek has the two secondary suffixes *-τήρ-* and *-τορ-* for nouns denoting agent, *νικ-η-τήρ* and Dor. *νικ-ά-τωρ* (conqueror); Latin only the suffix *-tōr-*, *mon-i-tor*, *im-per-ā-tor*, also *-tūro-* for future participles and *-tūra* for feminine nouns of action, *am-ā-tūru-s*, *arm-ā-tūra*. The various suffixes of nouns denoting instrument recur in secondary derivation in both languages: *ἄρο-τρον* (plough), *ἐχ-έ-τλη* (handle), *κοι-μή-θρᾱ* (sleeping-place); *ar-ā-tru-m*, *pi-ā-culu-m*, *lav-ā-cru-m*, *cūn-ā-bula*. But by far the most im-

¹ Cf. *supra* 119.

portant secondary suffix belonging to this group is that of the comparative in *-tero-*; in Greek, nearly all the secondary comparatives have *-τερο-*, just as nearly all the primary comparatives end in *-ίων*.

When the primary stem is an *o*-stem, its vowel is always *o*, *κονφ-ό-τερο-s*; but when the preceding syllable is short by nature and by position, this vowel is lengthened to *ω*, *σοφ-ώ-τερο-s*.¹ This phenomenon, which is still partly unexplained, is due, either to the Greek rhythmical law which forbids too many short vowels to follow one another, or perhaps rather to the analogy of the comparatives of adverbs (old ablatives),² *ἀν-ω-τέρω*, *κατ-ω-τέρω*, *σοφ-ω-τέρω(s)*, from which the lengthening may have wrongly passed into the corresponding adjectives.

When the primary stem is one in *-εσ-*, *ψευδ-έσ-τερο-s*, a termination *-έστερο-* is produced, which has been wrongly introduced into other formations, especially into adjectives in *-ον-*, *εἰ-δαιμον-έστερο-s*. On the other hand, the comparative of the adverb *πάλαι*, *παλαί-τερο-s*, being wrongly referred to *παλαιός* (old), has given rise to a formation in *-αίτερο-*, which, though at first restricted to adjectives in *-αιω-*, *γεραίτερος* (Hom.), *σχολαίτερος*, has gradually spread outside these limits, *μεσαίτερος*, *φιλαίτερος*. Lastly, the secondary suffix *-τερο-* seems to be added to the primary suffix *-ισ-* of the comparative in formations like *ἀρ-ισ-τερός* (left),³ which become much commoner in post-classical Greek, e.g. *κλεπτίστερος* (more thievish).

To the last type belong some Latin words with the secondary suffix *-tero-* which have lost their comparative meaning: *mag-is-ter* ("the greater of two," master), *min-is-ter* ("the less of two," servant), *sin-is-ter* (left, root unknown, hardly the same as that of Gk. *σίν-ο-μαι*, to injure). Much more prolific is the suffix *-ter* which goes to form adverbs, which are really comparatives (no doubt neuters, we know that the Greeks said

¹ The form *στενότερος* (narrower) is only an apparent exception, for we must restore **στενφότερος* (Æol. *στέννος*, Ion. *στευνός*).

² See *infra* 187, 4.

³ Originally no doubt "the better side," by a euphemism like *εὐώνυμος*. When the comparative meaning ceased to be felt in this word, it was accented like the adjectives in *-ρός*.

indifferently *σχολαίτερα* or *σχολαιτέρως*, etc.) used as positives, *levi-ter*, *libenter* = **libent-ter*, *audāc-ter*, *fēlic-i-ter* (with analogical *i* as in *fēlic-i-bus*, *infra* 206, 5), *firmi-ter*, and so in old Latin many adverbs derived from adjectives of the 2nd declension (*superbiter* Naev.), which disappeared in classical Latin, being superseded by the adverbial ablatives in *-e*.

(160) XIV. *Suffix -nt-*: forms in Greek and Latin the participles corresponding to all the thematic forms of verbs, *φέρ-οντ-* (nom. *φέρων*), *λαβ-ό-ντ-*, *λύ-σ-οντ-*, etc., *fer-e-nt-* (nom. *ferēns*), *amāns*, etc. It will be noticed that the thematic vowel is always *o* in Greek and *e* in Latin.¹

(161) XV. *Suffix -es-*.—This suffix is scarcely ever secondary in Greek except in those adjectives in *-έσ-*, whose formation is not original, e.g. *καταχ-ής* (noisy, from *καταχή*), *λίπαρ-ής* ("stick-ing" to a thing, earnest), contrasted with *λιπα-ρός* (oily). It is so indirectly in Latin, through the introduction into all verbs of the infinitives in *-re* and *-rē*, of which we have already seen the nominal origin and meaning,² *amāre amārē*, *audire audirē*, and through the analogical creation of the perfect infinitives, *fuisse* (modelled on *esse*), *vixisse*, *amāvisse*, etc. The archaic type *amārier*, *audīrier* remains obscure.

XVI. *Suffix -ios-*.—Very rarely secondary in Greek (e.g. *χερείων*, worse, = **χερ-εσ-ίων*); but in Latin it forms the comparative of all adjectives without distinction: *doc-t-ior*, *for-t-ior*, *sap-ie-nt-ior*, *bene-fic-e-nt-ior* (from the obsolete **bene-ficēns*, but used as comparative of *beneficus*). We know however that custom denies a comparative to adjectives in *-uo-*, *-io-* and some others less important.

(162) XVII. *Suffix -κό-*.—Very common; in Greek it invariably has the accent, *φυ-σι-κό-ς*, *μαν-τι-κό-ς*. From this common type has been formed a suffix *-ικό-*, which has become widely disseminated, *λογ-ικό-ς*, *ἀστ-ικό-ς* (urban), *ὠρ-ικό-ς* (ripe), *δερ-ματ-ικό-ς* (cutaneous), and from the last type again has arisen a suffix *-τικό-*, which appears in numerous complex formations like *ἐκ-κλη-σι-α-σ-τικό-ς*. Another suffix equally common, *-ιακό-*, e.g. *πελοποννησ-ιακό-ς* must have come originally from the combination of the suffix *-κό-* with feminine primary stems in *-ια-*

¹ Cf. *infra* 209.

² *Supra* 125.

Besides *-iaco-*, which is borrowed (*daemoniacus*), Latin also shows exactly similar phenomena: *-co-* in *hos-ti-cu-s*; *-ico-* in *urb-icu-s*, *so-nt-icu-s* (real); *-tico-* in *rust-icu-s*, *lūnā-ticu-s*, etc.; then a combination of the affix *-io-* with the two preceding ones, *patr-ic-iu-s*, *fic-tic-iu-s* (imaginary), the last type being very common in legal and post-classical Latin, *recepticius*, *adventicius* (wrong spellings *fictitius*, etc.).¹

This suffix *-kó-*, which is so rarely primary and so often secondary, may fittingly conclude the list of suffixes which are both primary and secondary. The following suffixes are always secondary.

(163) XVIII. *Suffixes -do-, -don-, etc.*—It is true that we can already recognise in primary derivatives a few traces of a suffix beginning with a dental, Gk. κληδών² (renown), κρύβ-δην (secretly), φύγ-δα (to flight); but here the secondary formations, which are infinitely more numerous, seem to have served as models. There is, in the first place, to mention only the chief instances, the Latin type in *-dō-, -idō-*, which is so common in adjectives, *herb-i-du-s*,³ *flōr-i-dus*, and which might possibly have some very indirect connexion with the gerundive type in *-ndo-*, cf. the adjective *rot-undu-s* from *rot-a* (wheel). Its Greek correlative seems to be the suffix *-δό-, -ηδό-* of adverbs like βαθμ-ηδό-ν (by steps), στιχ-ηδό-ν (line by line). Next comes the suffix *-δᾱ-, -ιδᾱ-, -ιαδᾱ-* of Æolic patronymics, e.g. Κρον-ίδης; lastly, the suffix *-don-*, somewhat rare in Greek, ἀλγ-ηδών (suffering), but very common in Latin in somewhat obscure formations, and preceded sometimes by a nasal, *ar-un-dō* (reed), *hir-un-dō* (swallow), sometimes by a long vowel, *hir-ū-dō* (leech), *lib-ī-dō*, *cup-ī-dō*. It is very possible that this last class does not really contain a suffix *-don-*, but has a phonetic origin similar to that of the suffix *-tūdō* already analysed.⁴

(164) XIX. *Suffix -tat-*.—Very common; it forms, both

¹ There is some doubt as to the suffix *-ico-* seen in the forms *pudicus* and *antiquos* (also *antīcus*). Another variant *-inquo-* occurs in *long-inquo-s*, *prop-inquo-s*.

² Hom. κληηδόνα (Od. iv. 317) and κληηδόνι (Od. xviii. 117).

³ The explanation of this form as being due to composition with the root *do* (to give) "giving grass," etc., seems not at all probable.

⁴ *Supra* 154.

in Greek and Latin, feminine abstract nouns derived from adjectives, βραδ-υ-τή- (nom. βραδυτής, slowness, Dor. βραδυράς), *fac-ili-tāt-* (nom. *facilitās*), etc. The final vowel of *o*-stems appears under the form of *o* in Greek before the suffix *-tāt-*, φιλότης, κουφότης, whence the suffix *-ότη-* which has spread to other formations, παν-ότης (universality), έν-ότης (unity). In Latin, on the contrary, it assumes the form of *e*, *fir-mi-tās* = **fir-me-tāt-*, *novitās*, *vānitās*, *veritās*, whence the suffix *-itāt-* in *vēlōc-itās*, *rapāc-itās*, etc. But after an *i* the thematic vowel *e* is not changed, *pie-tās*, *varie-tās*.

(165) XX. *Suffix -went-*.—It is especially the Sk. *-vant-* that shows us the original form of this suffix (in Greek *-εντ-*), which helps to form many secondary adjectives meaning "provided with": χαρίεις = *χαρ-ί-*feντ-*s (graceful), πτερό-εις (winged), ἀλκή-εις, Dor. ἀλκᾶεις (vigorous). From these last types were formed the terminations *-όεις*, *-ήεις*, which became very common, σκιά-εις (shady, from σκιά), δακρυόεις (tearful), δεινδρήεις (woody), κυδήςεις (glorious, from κῦδος), etc. This suffix must have been originally reduced to *-ητ-* before the feminine suffix *-ι-*, whence *χαρί-*ητ-*-ya, *χαρί-*fatya*, *χαρί-*fassa*; then the analogy of the masculine and neuter forms substituted *ε* for *α*, and so we have the fem. *χαρίεσσα*, by the side of the regular form *τιθεῖσα* derived from *τιθεντ-*.¹

It is probably the same suffix, together with a new element *-ο-*, which is to be recognised in the Latin type *cruentus* = **cru-uent-o-s* (?); hence would arise the suffix *-ento-*, the addition of which to diminutives in *-olo-*, e.g. *vīn-ol-entu-s* (drunken),² is perhaps the origin of the not uncommon suffix *-olento-*, *vi-olentu-s*, *pulver-ulentu-s*, etc.

Another and much more important Latin formation certainly belongs to this series. Suppose in Greek a word *ιόεις* = **fiō-*feντ-*s* (poisonous); the regular Latin correlative would be **vīro-uent-*, and with a tertiary suffix *-to-*, **vīro-uent-to-*, whence **vīro-uensso-*, then by syncope or contraction of the

¹ We might however, perhaps more simply, start from the regular comparative χαριέστερος = **fēro-repo-*, *supra* 47 C [and 64 A].

² Perhaps an old euphemism, "one who has taken a little wine" of French *saoul* (surfeited, drunken) = *satullus* (dimin. of *satur*).

group *oue* to δ ,¹ *vīrōnso*, *vīrōso*-, in short, the common suffix *-ōso*-, which is still found written *-onso*- in inscriptions of popular origin: *form-ōsu-s*,² *furi-ōsu-s*, *lib-tdin-ōsu-s*, and many others.

§ 2. Greek Formations.

(166) I. *Suffix* *-ότ-*, later *-ότ-*: forms the participles of all perfects in *-κ-*: *λε-λυ-κ-ότ-* (*λελυκώς*), *πε-φιλ-η-κ-ότ-* (*πεφιληκώς*), fem. *λελυκῶα*, etc.

(167) II. *Suffixes* *-εν-αι*, *-εν*, of infinitives.—The first is added under the form *-έναι* to perfect stems, *λε-λοιπ-έναι*, *λε-λυκ-έναι*, and under the shortened form *-ναι*³ to the stems of presents in *-νν-* and *-να-*, *δεικ-νύ-ναι*, *δαμ-νά-ναι*, and of aorists passive, *τυπ-ῆ-ναι*, *λυ-θῆ-ναι*, etc. The second is the usual termination of the infinitives of thematic forms, e.g. **λέγ-ε-εν* **λέγ-ε-εν* *λέγειν* and **λιπ-έ-εν* *λιπ-έ-εν* *λιπεῖν*. It is really *λιπέεν* which should be read wherever the Homeric poems show as the second aorist infinitive the impossible form *λιπέειν*, in which the termination *-ειν* cannot be explained; in most places this correction leaves the metre unchanged, inasmuch as the final short syllable is followed by an initial consonant, and so becomes long by position; in the few cases where this is not so, the syllable is lengthened through the cæsure.⁴ In Lesbian, the *εε* seems to be contracted to *η*, *λείπην* *λίπην*. But the short final syllable in Doric, *ᾶγεν*, *φέρειν*, *ἔχεν*, *λιπέν*, is embarrassing; the most probable explanation is that here also the contraction to *η* took place (Lacon. *σιγῆν* = *θιγείν*), and that the vowel was afterwards shortened on the analogy of the conjugated forms of the present (2nd pers. sing. *φέρεις*, *ᾶγεις*, etc.) In the contracted verbs we have *φιλεῖν* = **φιλ-έ-ε-εν*, *τίμᾶν* = **τί-μά-ε-εν*, *δηλοῦν* = **δη-λό-ε-εν*, etc.⁵

¹ Cf. *cōmis* (affable) = **co-ven-i-s*, root *ven*, the same as *ven* in *venire*.

² The verse *omnia formonsis cupio donare puellis* is found written on a wall in Pompeii.

³ Cf. *supra* 130.

⁴ The spelling *λιπέειν* is due to a comparison of the two perispomena *λιπεῖν* and *φιλεῖν*, the latter of which is contracted from *φιλέειν*.

⁵ The 1st aor. infinitive *σῆσαι* = *σᾶ-σ-αι* (subsidiarily *λύσαι*, *φάσαι*, etc.) is evidently the dative of the same stem of which *stāre* = **stā-s-i* is the locative. Cf. *supra* 125.

III. *Suffix -σθαι*: forms all infinitives in the middle voice, δείκ-νυ-σθαι, δύ-να-σθαι, λύ-ε-σθαι, λύ-σε-σθαι, λύ-σα-σθαι, λυ-θή-σε-σθαι, etc.

(168) IV. *Suffix -εύς*: forms secondarily a very large number of nouns denoting agent, κεραμ-εύς (potter) from κέραμ-ος (clay), γραμματ-εύς (scribe) from γράμ-μα (letter), ἀγωγ-εύς (leader) from ἀγ-ωγ-ή, and a few nouns denoting instrument, ἀγ-ωγ-εύς (rein), ἀμολγ-εύς (milk-pail), etc.

(169) V. *Suffix -τᾱ*: very important. (1) Nouns denoting agent, derived from verbs, and generally oxytone: with short thematic vowel, εὐρ-ε-τής (inventor), ναι-έ-της (inhabitant); with sigmatic insertion, ἐρα-σ-τής (lover); with long thematic vowel, ποι-η-τής, νικ-η-τής; with sigmatic insertion, ὄρχ-η-σ-τής (dancer). (2) Nouns derived from nouns, generally paroxytone: οἰκ-έ-της (servant), δημ-ό-της (citizen), πρῶρᾱ-της (look-out man). In most cases the vowel of the primary stem undergoes before the suffix -τη a lengthening of doubtful origin:¹ δεσ-μῶ-της (prisoner) from δεσ-μός (fetter), πολ-ῖ-της from πολ-ῖς, πρεσβῦ-της (old man) from πρέσβ-ῦς, etc. From these and similar formations have been formed the common suffixes -ῖτη -εῖτη, -ήτη, -ώτη, -ιώτη: ὁδ-ί-της (traveller), ὁπλ-ί-της (hoplite), ἱερ-εῖ-της (priest) γυμν-ή-της (light-armed soldier), στρατι-ώ-της (soldier) from στρατιά, στασι-ώ-της (partisan) from στά-σις, νησ-ιώ-της (islander) from νῆσος, etc. By the substitution of -τικό- for -τη- adjectives are derived from these nouns, στρατιωτικός (military).

VI. *Suffix -τέο*: verbals denoting obligation from all derived verbs, φιλ-η-τέος (meet to be loved), τῖ-μη-τέος, etc.

VII. *Suffix -τατο*: serves to form the superlative of all adjectives which have their comparative in -τερο-, and appears under precisely the same conditions as the latter suffix,² κουφ-ό-τατος, σοφ-ώ-τατος, εὐ-δαι-μον-έσ-τατος, λαλ-ίς-τατος (very talkative), ἰδι-αί-τατος (entirely one's own), etc.

(170) VIII. *Suffix -άδ*: very rare as a secondary suffix, ἑβδομ-άς (week), from ἑβδομ-ος (seventh).

IX. *Suffix -ιδ*: common as a primary, but still more common

¹ Probably partly imitated from the lengthening which took place regularly in derivatives from verbs in -έω, -άω, -όω.

² Cf. *supra* 159.

as a secondary suffix. Its chief function seems to be to form feminines of adjectives or nouns,¹ which have mostly become independent feminine substantives: thus *πέτρα Δελφίς* (Soph.), "the Delphian rock": *ήμερ-ίς* (*-ίδος*, tame), fem. of *ήμερος* (tame), and, with ellipse of *δρῦς*, "oak with esculent acorns"; *πατρ-ίδ* "paternal," and, with ellipse of *γῆ*, "native land"; then by analogy *ἡγεμονίς* (sovereign), *βασιλίς* (queen), etc.

X. *Suffix -ισσα*: this somewhat rare suffix is apparently connected with the preceding one and likewise forms feminine nouns, *βασιλ-ισσα* (queen). It was borrowed by Latin, *prophetissa*, and thence passed into the Romance languages, and we know how common it has become in French under the form *-esse* [Eng. *ess*, e.g. *prophet-ess*].

XI. *Suffixes -ίσκο-, -ίσκη, and -ίσκιο-*: form a few diminutives, *νεαν-ίσκο-ς* (young man) from *νεαν-ιά-ς*, *παιδ-ίσκη* (little girl), *ἀσπιδ-ίσκιο-ν* (small shield).

XII. *Suffix -σύνᾱ*: forms abstract nouns derived from adjectives, *δικα-ιο-σύνῃ* (justice), *μνη-μο-σύνῃ* (memory), from *μνή-μων*, whence the suffix *-οσύνῃ* in *τεχν-οσύνῃ* (art), *μαντ-οσύνῃ* (art of divination), *κλεπτ-οσύνῃ* (thievishness).²

§ 3. Latin Formations.

(171) I. *Suffix -ndo-*.—The gerundives and future participles passive are formed by the addition of this suffix to the verbal stem, the final vowel of which assumes indifferently the form *o* or *e*: *dīc-u-ndu-m*, *lēx re-pet-u-ndā-rum* (*pecūniārum*, law against extortion), and *dīc-e-ndu-m*, *amandus*, *monendus*, etc. The form in *u* however was regarded as archaic and the form in *e* prevailed, except in *eundum* and the adj. *secundus* (following) from the verb *sequ-o-r* (= **sequ-o-ndo-s*). Is it to the supposed existence in this last type of a suffix *-cundu-* that we must ascribe the origin of *fā-cundu-s*, *trā-cundu-s*, etc.? This point is obscure. The suffix *-bundu-* seems clearer; we

¹ Probably through a faint reminiscence of the feminine function of the suffix *-ίς*, which also recurs in Latin expanded by a guttural instead of a dental in forms like *vic-tr-ī-c-s*.

² The form *-συνο-* (very rare) is an adjectival suffix: Hom. *γηθ-ῖ-συνο-ς* (joyful).

must probably see in it a gerundive of the verb **fū*- or *fuō* combined with a verbal form as an auxiliary,¹ *mori-bundu-s*, *popul-ā-bundu-s*, etc.

(172) II. *Suffix -bili-*: very common, but with no important peculiarities, *am-ā-bili-s*, *terr-i-bili-s*, *aud-ī-bili-s* (post-class.), etc.

(173) *Suffix -tumo-*.—Under the form *-timu-* it is found in a few adjectives, *mari-timu-s*, *lēg-i-timu-s*. Under the form *-simu-*, in which the initial *s* is assimilated, it is the sign of the superlative in adjectives whose stem ends in *r* or *l*: *celer-rimu-s*, *facil-limu-s*. In this function it is mostly joined to the suffix *-is*, thus forming the suffix *-issimu-*, the usual sign of the superlative in Latin.²

(174) IV. *Suffix -ēnsi-*: in adjectives denoting origin or relation, *for-ēnsi-s*, *Rōm-ān-ēnsi-s* (slave freed by a Roman citizen). This suffix seems to be related to the one already discussed under the form **-went-*.³

V. *Suffix -ēstri-*: the same function, *silv-ēstri-s*, *camp-ēstri-s*, *agr-ēstis* = **agr-ēstri-s* by euphonic syncope, whence also *cael-ēstis*, etc. The undeniable relation of *mēnsis* and *sem-ēstris* shows that this suffix is an expansion of the preceding one.

VI. *Suffix -gno-*: rather rare, the same function, *ben-ī-gnu-s*, *abi-ē-gnu-s* (of fir), *mal-ī-gnu-s*, etc.⁴

VII. *Suffix -aster*: rare, with a disparaging sense, *patr-aster* (father-in-law, mother's husband), *ole-aster* (wild olive-tree). It is believed to go back very indirectly to a Greek origin.⁵

VII. *Suffix -tūt-*: forms feminine abstract nouns, *vīr-tūt-*, *servi-tūt-*, *juven-tūt-*, and hence must be more or less connected either with the Græco-Latin suffix *-tāt-*, or with Gk. *-ούνη*,⁶ perhaps with both. The type *salūs* is regarded as inexplicable; cf. however the type γέλως (laughter).⁷

¹ Cf. *supra* 104 and 147.

² Cf. *supra* 126 and 139.

³ *Supra* 165.

⁴ It probably contains the root **gen* (to be born) in the reduced form, together with the suffix *-ō-* (*supra* 109); cf. *prīv-ī-gn-u-s* (step-son, son by a former marriage), literally "born aside."

⁵ *Mém. Soc. Ling.* v. p. 346.

⁶ Cf. *supra* 164 and 170.

⁷ *Supra* 136.

CHAPTER III.

COMPOSITION.

(175) Certain derivatives, as we have seen, may be compounds in disguise, in the sense that their apparent suffix conceals a significant root; but composition properly so called exists only when several stems, each of which taken by itself has retained its meaning in the language, coalesce and form a single word, in which the meaning of the one is determined by that of the other: *μεγαλό-πολις*, *lūci-fer*, *porte-feuille*, *sonnen-schein*, *apple-tree*, etc. This process, which was already considerably developed in the Indo-European language, has been carried still further in classical Sanskrit, where the power of composition is almost unlimited. Greek on the contrary seems to have restricted it, so far at least that it scarcely allows any compounds of more than two terms; it has however extended it, inasmuch as it possesses a whole class of compounds peculiar to itself, namely those in which the first term is verbal, *ἀγέ-στρατος*. In Latin the power of composition is much smaller and much less varied than in Greek; and, if the Romance languages, which are themselves greatly inferior in this respect to the Teutonic languages, are still fairly well provided with compounds of a certain class, they have developed nearly all of these¹ by opening up entirely new paths, unknown to the Latins.

¹ The prevailing type of compound in these languages is that in which the first term is verbal: French *coupe-gorge* (cut-throat place), *tirebouchon* (cork-screw); Ital. *passatempo* [pastime]; Span. *mata-moro* ["kill-the-Moor," nickname for a boasting soldier], cf. Gk. *ἀγέ-στρατος*. [Cf. English *cut-throat*, *hang-dog*, *dare-devil*, etc.]

SECTION I.

CLASSIFICATION OF COMPOUNDS.

§ 1. *Morphological Classification.*

(176) From the morphological point of view, we must distinguish syntactical composition from non-syntactical composition.

The latter, which is the only real kind of composition, consists in the combination of two stems or themes, of which the first appears in the simplest thematic form, just as in secondary derivation, e.g. *σεμνό-μαντι-s*, *auri-fex*, where the first term does not differ from the primary stem on which have been based the secondary stems *σεμνό-τητ-*, *aure-u-*. Thus, like derivation, this kind of composition goes back ultimately to the prehistoric and quasi-fabulous period in which the bare stem without affixes of any kind could appear in language and take the function of a word in the sentence. These compounds are as it were the fossils of language, and show us a host of primitive elements, combined and welded together, which language no longer knows in their separate state.

Syntactical composition, on the contrary, is merely the juxtaposition and combination under one accent of two words, one of which, being subordinate to the other, is put in the case required by the ordinary relations of syntax. Take, for example, the two words *Πέλοπος νῆσος*, pronounced with two distinct accents; it only requires a very slight change to transform them into a single word *Πελοπόννησος*,¹ in which the double *ν* still points to the original *σ* of the genitive; and so also the accent is the only point of difference between the Latin *senātūs cōsultum* and *senātūs-cōsultum*. Latin has many of these false compounds, e.g. *pater-familiās*, *rēspūblica*, *vēnīre* and *vēnum-īre* (to be sold), *pessūm-dare* (to destroy), *manū-missio* (freeing), and they are not wanting in French, e.g.

¹ We know that it is essentially the single accent which constitutes the unity of a word. Often indeed it is only a question of writing.

œil-de-bœuf (bull's eye, round window), *arc-en-ciel* (rainbow), *tête-à-tête*, also *Fête-Dieu* (Corpus Christi), *Hôtel-Dieu* (hospital), *Pont-Oise*, etc., in which the last term is a genitive.¹ But they are especially abundant in Greek, where nearly all the cases supply their contingent: gen. sing. Διός-κουροι (Castor and Pollux), νεώς-οικοι (docks); loc. sing. ὁδοι-πόρο-ς (wayfarer), Ἀλκί-νοος (Homeric proper name, cf. the Homeric phrase ἀλκὶ πεποιθώς, "confident in his strength"), ἄλι-πλόο-ς (sailing on the sea), whence by analogy forms like ἄλι-πόρφυρο-ς (of sea-purple); acc. sing. ὀνομά-κλυτο-ς (celebrated), for it is clear that a syntactical phrase ὄνομα κλυτός is the exact equivalent of πόδας ὠκός; loc. pl. ὄρεσσι-γεν-ής (born in the mountains), ὄρεσι-τροφο-ς (reared in the mountains), Ναυσι-κάᾱ (proper name, meaning of last term uncertain); instr. sing. or pl. Ἰφι-κράτ-ης (proper name), Ἰφι-άνασσα (proper name), where ἱ-φι = *fī-φι means "with force," this word however being so little understood by the Greeks as a case-form that they derived an adjective from it (ἱφία μῆλα, "fat sheep") as early as the time of Homer; perhaps also χαλκή-λατος (forged out of copper) = *χαλκῇ ἐλατός (?), διφρή-λατος (borne on a car), etc., in which we might recognise instrumentals in -α.²

It will be enough here to point out that syntactical composition really depends upon syntax, and that we shall only be concerned with non-syntactical composition. Sometimes the whole problem is to know which we are dealing with in a given case; thus Ἀλό-νησο-ς seems non-syntactical, but may very possibly be a corruption of the syntactical Ἀλόνησος, which likewise exists; on the other hand ὀνομάκλυτος is explainable as a syntactical form, but it is also possible that it contains the pure stem ὄνο-μα- with suffix -μη,³ and to this primitive difference perhaps may be attributed the different accentuations ὀνομάκλυτος and ὀνομακλυτός.

¹ *Festa Dei, hospitale Dei*; at the period to which these words go back the nominative was *Diez*.

² Cf. *infra* 187, 7.

³ Cf. *supra* 115, 3.—The Latin type *triumvir* is curious; it arises from a syntactical phrase like *magistrātus trium virōrum*, from which were formed successively a nom. pl. *triumvirī* (for *trēs virī*) and a nom. sing. *triumvir*.

§ 2. *Functional Classification.*

(177) From the point of view of their function or meaning, compounds may be distinguished as **copulative**, **determinative** and **possessive**.

I. A **copulative** compound is one in which neither of the terms determines the meaning of the other, but both, being placed as it were on the same footing, retain in composition the meaning and the function which they would have if used separately. This class, which has been immensely developed in Sanskrit, e.g. dual *Mitrā-varundāu* (Mitra and Varuna) has scarcely any representatives in Greek: *νυχθ-ήμερον* (night and day), *μυρο-πισσό-κηρο-ς* (ointment made of scented oil, pitch, and wax).¹ In Latin we may quote *su-ove-taur-ilia* (solemn sacrifice of a swine, a sheep, and a bull).

II. A **determinative** compound is one which is equivalent in meaning to a phrase in which one of the two terms would be put in a certain case, as being subordinate to the other. This class in its turn comprises (1) **attributive** or **appositive**, and (2) **dependent** compounds.

1. In an *attributive* compound, the first term is the attribute of the second and would consequently in a syntactical phrase be put into the same case:² *μεγαλό-πολι-ς*, *κακο-πάρθενο-ς* (unlucky maiden), *ἀνδρό-παι-ς* (male child), *λογ-αιιδ-ικός* (connected with speech and singing), the exact equivalents of *μεγάλη πόλις*, *κακή παρθένος*, *παῖς ἀνήρ*, etc.; Latin (very rare), *meri-diē-s* corrupted for **medīē-diē-s*,³ equivalent to *media diēs*.

2. In a *dependent* compound, one of the terms is dependent on the other and hence in a syntactical phrase would be in an oblique case, provided that it is declinable. This class includes:—(a) compounds in which the first term is *nominal* and

¹ There are also the burlesque compounds created by Aristophanes, e.g. *Τίσαμενοφαυνίππους* "Tisamenes and Phaenippus", *Acharn.* 603, etc.—*Ἀνδρῶ-γυνος* is an appositive, and *κλαυσγέλως* (*risus cum fetu*) a dependent compound.

² This corresponds to the French type *porte-fenêtre*, *wagon-salon*, *bleu-vert*, except that in French the last term is the determining one.

³ The substitution of *r* for *d* is perhaps due to an old locative phrase **meri diē*, "in full day."

governed by the second: Gk. ἀνδρ-άδελφος (husband's brother), ἀνδρείκελος (man-like), νωτοφόρος (carrying on the back), ποδωκής (swift-footed), equivalent respectively to ἀνδρὸς ἀδελφός, ἀνδρὶ εἶκελος, νῶτῳ φορός, πόδας ὤκυσ, etc.; Lat. *lūci-fer* = *lūcem ferēns*, *pēdi-sequo-s* = *pēde sequēns*, *volnificus*, *malivolus*, *ignivomus*, etc.; (β) compounds in which the first term is *verbal*, governing the second¹ (only in Greek): ἀγέ-στρατο-ς, φερέ-οικο-ς, δακέ-θυμο-ς = ἄγων στρατόν, φέρων οἶκον, δακὼν θυμόν (biting the heart); (γ) compounds in which the first term is an *indeclinable particle*: η negative, Gk. ἄρρηκτος, ἀνήκουστος, Lat. *insulsus*, *immutūrus*; Gk. δύσγνωστος, εἰσόδος, πρόσοδος, πάροδος, σύνοδος; Lat. *consul*, *exsul*, *difficilis*, *perfidus*, etc.

III. In a **possessive** compound likewise one of the terms governs the other; but, further, the whole compound implies the existence of a subject possessing the quality which it expresses. Thus in English a *red-breast* is not simply a red breast, but a bird which has a red breast;² so also, in Greek and Latin, ῥοδοδάκτυλος, *capripēs* do not mean "rosy finger," "goat's foot," but "having rosy fingers," "having goat's feet." This class is very large and includes:—(α) compounds in which the first term is *nominal*, ξανθοκόμης, ἐκατόμυλος, ῥινόκερως, *flavicomus*, *centuplex* (hundredfold), *anguimanus* (elephant); (β) compounds with a *particle*, εὐγλωττος (glib of tongue), δύσφημος (ill-omened), ἀμήτωρ (motherless), δίκρανος (two-headed), *concors*, *discors*, *iners*, *bifrons*, etc.

It may be laid down as a general principle that the function of compounds has no influence on their formation. It must however be observed that in Greek, where compounds generally throw their accent as far back as possible,³ compounds with an active meaning are paroxytone if the penultimate is

¹ This corresponds to the French type *tournebroche* (= turnspit), *fainéant* (= do-nothing, idler), *pique-assiette* (sponger), which the school of Ronsard unsuccessfully tried to extend (*aime-lyre*, etc.), although it is very common in the popular speech.

² Cf. also *nu-pieds* (= bare-foot), *chèvre-pieds* (= goat-footed, Ronsard), *Barbe-rousse* (red-beard, [cf. Eng. *Bluebeard*]), a type especially common in nicknames of popular origin.

³ The chief exception is in regard to adjectives in -ης, which in so far as they are adjectives are generally oxytone, εὐγενής, δυσμενής. Cf. *supra* 124 and 161.

short, oxytone if it is long: θεοτόκος (mother of God), cf. θεότοκος (son of God), πυρφόρος, λογογράφος; ρυθμοποιός, ῥαψωδός. This distinction, which is peculiar to Greek, seems to be partly a new development.

SECTION II.

FORMATION OF COMPOUNDS.

(178) This is regulated by one main principle; there are no compound verbs. Those which are wrongly called by this name in Greek and Latin are either (1) formed by the mere juxtaposition of two elements, a preposition and a verb, whose union is very loose, since they can always be separated, the augment and reduplication perpetually come between them, and in Homer and old Latin one may occur at the beginning of a sentence and the other at the end, in short, the common type δια-βαίνω, *in-veniō*; or (2) they are verbs derived from compound nouns; thus ἀτυχέω, δυσχεραίνω, ἀτιμάω, δρύφακτώ (to fence with wood), *īnsānio* (to be mad), *dēmētō* (to make mad), *terrificō*, etc., are not compound verbs formed from simple verbs *τυχέω, *χεραίνω, τιμάω, etc., which indeed for the most part do not exist, but verbal derivatives formed, regularly or irregularly, from the nominal stems ἀτυχής, δυσχερής, ἀτιμος, δρύφακτος, *īnsānus*, *dēmēns*, *terrificus*,¹ and it would be easy to give many other examples.

Hence it follows that the last term of a compound is always a nominal stem. The first may be a nominal stem, or an indeclinable particle, or, in Greek only, a verbal stem. We have to consider each of these cases separately.

§ 1. *Form of the first term.*

(179) I. The first term is a *nominal stem*.—We have seen that, as a general principle, it must assume the thematic form

¹ Ἄριω (not to honour), if not a mere barbarism, is the only verbal compound in Greek; and it is easy to see the analogy to which it is due, ἀρίω: ῥίω = ἀτιμάω: τιμάω. Similarly, in Latin, *ignōscō* (to forget, forgive) is modelled on *ignōtus*. The common type *dēsquāmō* (to scale), *ēdentō*, *expectorō*, etc., is modelled, for example, on *squāma* and the relation of *turbā* to *dēturbō* (the latter being a combination of *dē* and *turbō*).

without any addition, and this is what actually happens in many cases; but, just as in derivation certain suffixes were amalgamated with the termination of the stems to which they were added, and were then under this new form introduced into other stems not containing this termination, so also in composition it was inevitable that such a vowel, when occurring usually or frequently at the end of the first stem, should pass by analogy into formations where it had no etymological justification.

It is essentially the thematic vowel *e/o*, the enormous expansion of which in derivation has been already established, that thus plays the part of an epenthetic or connecting vowel in compounds. In fact in both languages the stems in *e/o* are almost as numerous as all the rest put together. When they form the first terms of compounds, their final vowel regularly takes the form *o* in Greek, *e* (changed to *i*) in Latin, *λυκοκτόνο-s*, *māgni-ficu-s*,¹ and this Greek *o*, Latin *i* has been extended by analogy to a host of other nominal stems with quite different endings. This extension was aided by the fact that in both languages the vowel in question was also the sign of the genitive singular of the same stems, and so the linguistic consciousness instinctively translated *πυρο-κλόπο-s* (stem *πυρ-*) by *πυρὸς κλοπεύς* and *pāci-ficu-s* (stem *pāc-*) by *pācis factor*.

Latin knows no other connecting vowel besides *i* (*u*). Greek has some others besides *o*, but they are much rarer. Thus some stems in *-ā*, preserving their final letter unchanged in composition, *e.g.* *δαφνη-φόρο-s* (bearing laurels), contaminated other stems, and hence arose, aided especially by the rhythmical law which made the Greeks avoid three short syllables following one another, the curious forms, *στεφανη-φόρο-s* (*στέφανο-s*, crown), *βαλανη-φάγο-s* (*βάλανο-s*, acorn), *έκτη-βόλο-s* (*έκάς* far), which were extended by the poets in so far as they favoured the dactylic metre. Much less clear is the origin of the connecting vowel *ι* in *ἀργί-πους* (*ἀργό-s*, white), *καλλί-θριξ* (*κᾶλός* or rather **κᾶλλό-s*, beautiful); but it may have been borrowed

¹ The archaic type with the vowel *o* (*u*) *auru-fex* and by imitation *carnu-fex*, need only be mentioned here. Cf. the formation of nouns in *-iūt-*, *supra* 164.

from syntactical compounds in which the first term was in the locative.¹

It remains to verify these general remarks by examining the most interesting cases of composition, classified according to the nature of the nominal stem forming the first term.

1. *Root-stems* rarely show the pure root, $\acute{\alpha}\text{-}\pi\lambda\acute{o}\sigma\text{-}\acute{\varsigma}$ = **sm̥*-*plóo*-*s* (root **sem*, one), $\acute{\alpha}\text{-}\pi\alpha\acute{\xi}$, $\acute{\alpha}\text{-}\delta\epsilon\lambda\phi\acute{o}\varsigma$ (from the same womb, uterine brother), $\pi\upsilon\rho\text{-}\phi\acute{o}\rho\omicron\text{-}\varsigma$, $\pi\omicron\delta\text{-}\eta\gamma\epsilon\mu\omicron\text{-}\varsigma$, Lat. *simplex* = **sem*-*plec*-*s*, *sin-cēru*-*s*,² *ōs-cen* (bird whose song is an omen), *sōl-stitiu*-*m*; almost always with a vowel, $\pi\upsilon\rho\omicron\text{-}\lambda\alpha\beta\acute{\iota}(\delta)\text{-}\varsigma$ (fire-tongs), $\pi\omicron\delta\omicron\text{-}\sigma\tau\rho\acute{\alpha}\beta\eta$ (impediment), $\chi\epsilon\iota\rho\omicron\text{-}\theta\acute{\eta}\kappa\eta$ (glove), *lūci-fugu*-*s* *vōci-ferāti*-*o*, *ōri-ficiu*-*m*, etc.

2. Final *e/o*.—The pure stem, but different in each language: Gk. $\iota\pi\pi\omicron\text{-}\mu\alpha\chi\acute{\iota}\text{-}\acute{\alpha}$, $\tau\alpha\upsilon\rho\acute{o}\text{-}\mu\omicron\rho\phi\omicron\text{-}\varsigma$, $\mu\alpha\kappa\rho\acute{o}\text{-}\chi\epsilon\iota\rho$; Lat. *armi-ger*, *tardi-gradu*-*s*, *solli-pēs* (with uncloven hoof); except in Greek forms like $\beta\alpha\lambda\alpha\eta\phi\acute{\alpha}\gamma\omicron\varsigma$ and $\acute{\alpha}\rho\gamma\acute{\iota}\pi\omicron\upsilon\varsigma$, and also of course the cases where the thematic vowel is elided before the initial vowel of the second term, Gk. $\iota\pi\pi\text{-}\alpha\gamma\rho\omicron\text{-}\varsigma$ (wild horse), $\acute{\iota}\mu\upsilon\text{-}\omega\delta\acute{\iota}\acute{\alpha}$,³ Lat. *equ-it*- (horseman), *soll-emni*-*s*, etc.

3. Final $\acute{\alpha}$.—Sometimes in Greek the pure stem, $\acute{\alpha}\gamma\gamma\epsilon\lambda\acute{\iota}\acute{\alpha}\text{-}\phi\acute{o}\rho\omicron\text{-}\varsigma$ (messenger), $\nu\epsilon\phi\epsilon\lambda\eta\text{-}\gamma\epsilon\rho\acute{\epsilon}\tau\alpha$ (cloud-gatherer, $\acute{\alpha}\gamma\acute{\epsilon}\rho\omega$); but generally in Greek and always in Latin the $\acute{\alpha}$ is replaced by the ordinary connecting vowel, $\chi\omega\rho\omicron\text{-}\gamma\rho\acute{\alpha}\phi\omicron\text{-}\varsigma$ (describing countries), $\acute{\omega}\rho\omicron\text{-}\lambda\acute{o}\gamma\iota\omicron\text{-}\nu$ (clock), $\phi\omega\nu\acute{o}\text{-}\mu\acute{\iota}\mu\omicron\text{-}\varsigma$ (imitating the voice), *spīci-fer*, *spīni-ger*, *vēli-volu*-*s*, *tībī-cen* = **tībīē-cen* (*tībīā canēns*), etc.⁴

4. Final *i*.—The pure stem sometimes in Greek, $\pi\omicron\lambda\acute{\iota}\text{-}\pi\omicron\rho\theta\omicron\text{-}\varsigma$ (sacker of cities), and always in Latin; *au-cep*-*s*, *au-guriu*-*m*, *au-spiciu*-*m*, etc., syncopated for *avi-cep*-*s*, etc.; *ūpiliō* (shepherd) = **ou-piliō* syncopated for *ovi*-; *igni-vomu*-*s*, whence by imitation *lapi-cīda* (stem *lapid*-) *monti-vagu*-*s*, *ponti-fex*, etc.

¹ The short α which appears in the composition of the numerals, $\pi\epsilon\upsilon\tau\acute{\alpha}\text{-}\pi\omicron\lambda\iota\text{-}\varsigma$, $\acute{\epsilon}\xi\acute{\alpha}\text{-}\pi\omicron\upsilon\varsigma$, $\acute{\omicron}\kappa\tau\alpha\text{-}\delta\acute{\alpha}\kappa\tau\upsilon\lambda\omicron\text{-}\varsigma$, is due to the analogy of $\acute{\epsilon}\pi\tau\alpha\text{-}$, $\acute{\epsilon}\nu\eta\epsilon\alpha\text{-}$, $\delta\epsilon\kappa\alpha\text{-}$, which are regular ($\delta\acute{\epsilon}\kappa\alpha$ = *decem* = **dēkē*).

² Probably "of one piece" (cf. *cre-āre*), then "pure." Cf. also Gk. $\mu\acute{\omega}\nu\eta\zeta$ (with uncloven hoof) = * $\sigma\mu\text{-}\acute{\omega}\nu\eta\chi\text{-}\varsigma$ (having only one hoof).

³ Contracted in $\kappa\alpha\kappa\acute{o}\upsilon\rho\gamma\omicron\varsigma$ = $\kappa\alpha\kappa\acute{o}\text{-}\epsilon\rho\gamma\omicron\text{-}\varsigma$, etc., whence by analogy $\pi\alpha\nu\acute{o}\upsilon\rho\gamma\omicron\varsigma$ (stem $\pi\alpha\nu\tau\text{-}$).

⁴ The existence of doublets like $\chi\acute{\omega}\rho\acute{\alpha}$ $\chi\acute{\omega}\rho\omicron\varsigma$, *spīca* *spīcum*, naturally facilitated this process, which is still familiar to us from the creation of words like Eng. *phono-graph*, Fr. *gralli-pède* (grallatory or wading bird), etc.

In Greek: with vowel *o*, πολιο-φυλακ-έω (to guard the city), οιο-πόλο-ς (shepherd); with vowel *ā*, πολιā-νόμο-ς (civic magistrate).

5. Final *u*.—Pure stem in ναυ-κράτης (powerful at sea), βου-γενής, δρυ-τόμο-ς, δακρύ-ρροο-ς (bathed in tears), ναυ-fragiu-*m*, bū-bulcu-*s* (corrupted for *bū-bulcu-*s* = *bou-fulc-o-*s*, cf. *fulcīre*, to support, feed), σύ-bulcu-*s*, manū-briu-*m* (handle),¹ etc. The vowel *o* is added in δρυο-παγής (made of oak), δακρυο-ποιό-ς (lamentable), ιχθυο-φάγο-ς, etc. In Latin *i* replaces *u* in *manipulu-*s** (*manus plēna*), *frūcti-fer*, *corniger*, *arquitenēns*, etc.

6. Final *s*.—The stems in -*os*- (-*es*-) appear under four chief aspects:—(α) in Greek, pure stem, ἀνθεο-φόρο-ς (bearing flowers), σακεο-πάλο-ς (shaking a shield); (β) in Latin, vowel *i* added (rare), *veneri-vagu-*s** (dissolute), *honōri-ficu-*s**, etc.; (γ) in Greek, vowel *ā* added, βελεη-φόρος (bearing darts), or replacing the suffi -*es*-, ξιφη-φόρο-ς (armed with a sword); (δ) vowel *o* in Greek, *i* in Latin, substituted for the same suffix, ἀνθο-λόγο-ς (gathering flowers), ψευδό-μαρτυς (false witness), ἀληθό-μαντι-*s* (true prophet), *mūni-ficentia*, *volni-ficu-*s**, *opi-fex* (stem *op-os*-), *terri-ficu-*s**, etc.

7. Final *m̄*.—Three types:—(α) the pure stem, ὀνομά-κλυτο-ς, *nōmen-clātor*; (β) in Greek the stem of the oblique cases with vowel *o*, ὀνοματο-θέτης, σωματο-ειδής; (γ) the vowel substituted for the final *η*, αἰμο-βαφής (bathed in blood), *homi-cīda*.

8. Final *nasal*.—Usually epenthesis, χθονό-παις (child of earth), λιμενο-φύλαξ (guardian of a harbour); sometimes analogical syncope, ἀκμό-θετο-ν (anvil-block, stem ἄκ-*μον*-).

9. Final *liquid*.—Epenthesis together with the form of the oblique cases in πατρο-κτόνο-ς and *parricīda* (corrupted for *patri-cīda*).

10. Final *explosive*.—Widely divergent forms in Greek:—(α) αἰπόλος (goat-herd) = *αἰγ-πόλο-ς, μελί-φθογγο-ς; (β) γηρο-βαρής (burdened with old age); (γ) ἀσπιδη-φόρο-ς (armed with a shield), λαμπαδη-δρόμο-ς (running at the feast of torches); lastly and especially (δ) ἀσπιδο-πηγός (shield-maker), κορακό-φωνος, κερατο-

¹ The second term is very probably the root **bher* (to bear) in the reduced form, together with the suffix -*io*-.

φόρο-ς, κρεατο-βόρο-ς (carnivorous), ὕδατο-τροφής (living in the water),¹ etc.—Lat. *lacti-fer*, *lapidi-cida*.

II. The first term is an *indeclinable particle*.—This very simple case requires no elucidation.

(180) III. The first term is a *verbal stem*.—Greek has two kinds of compounds with the first term verbal, (1) the non-sigmatic, e.g. φερέ-οικο-ς (carrying its house), and (2) the sigmatic, e.g. φαεσί-μβροτο-ς (giving light to men). It is rather hard to state exactly the origin of these forms, which are peculiar to Greek. (1) The form of the non-sigmatic compounds points especially to the influence of exclamatory phrases, which through repeated use became nicknames, and then nouns, e.g. φέρε οἶκον (bear thy house!), an interjection addressed to the tortoise;² but compounds with the first term nominal likewise claim a share in their origin, in this sense, that a word like φιλο-κίνδυνο-ς, originally a possessive nominal compound meaning “one to whom danger is dear,” was translated “loving danger,” and hence gave rise to the innumerable compounds beginning with φιλο-, μῖσο-, τίμο-, etc., which appear to contain the verbs φιλῶ, μῖσῶ, τίμῶ.³ (2) The sigmatic compounds are certainly possessive nominal compounds, and στρεψί-κερω-ς, for example, may have meant originally “having the horns in a twisted state,” but the Greeks unconsciously translated it by στρέψῃς τὰ κέρα “twisting its horns,” and on such models formed an immense number of compounds in which the first term seems to be a sigmatic aorist stem.

In strict agreement with their origin, both these kinds of compounds nearly always show their etymological vowel, the non-sigmatic having ε, the sigmatic ι: ἐχέ-φρων (sensible), μανε-πόλεμο-ς (steadfast in battle), ἀρχέ-λαο-ς (leading the people); πανσί-κακο-ς (stopping evils), εὔρεσι-επής (with fluent speech), ἑλκεσί-πεπλο-ς (with trailing robe). But the influence of com-

¹ The stem ὕδατ- in composition usually takes the form ὕδρο-, which must go back to an adjectival stem in -ρό-, cf. ὕδρος ὕδρᾱ (hydra).

² On verbal compounds formed by means of an imperative, cf. for French A. Darmesteter, *Mots composés*, p. 148.

³ Similarly in French *crime de lèse-majesté* (high treason) = *crimen laesae majestatis*, where *lèse* is a feminine participle; but seeing in this the 3rd sing. of the present of *léser*, we form in the same way *lèse-entendement*, etc.

pounds formed from nominal stems sporadically introduces into both classes the vowel *o*: λιπο-ναύτης (a deserting sailor), λιπό-φθογγος (without voice), φυγο-πτόλεμος (cowardly); μισο-βάρβαρος (half-barbarian), ρυσο-κίνδυνος (venturesome). Further, through reciprocal analogy, we find (very rarely) *ε* in the sigmatic compounds, περσέ-πολις (sacker of cities), and *ι* in the non-sigmatic, ἀρχι-θάλασσο-ς (ruling the sea), ἀρχι-θέωρο-ς¹ (chief of the theori), λαθι-φθογγο-ς (destroying speech), τερπικέρανος = *τερπε-κέρανος (*fulmina torquens*), etc.

§ 2.—Form of the last term.

(181) As a general rule, when the last term ends in a vowel, this is not changed in the formation of Greek compounds, except that, if the compound is an adjective, it necessarily adapts itself to the changes of gender of which it is susceptible: θάνατο-ς ἀ-θάνατο-ς (η, ο-ν),² φλοῖσβο-ς πολυ-φλοισβο-ς (ο-ν); κόμη ξανθο-κόμη-ς and also ξανθό-κομο-ς, κεφαλὴ πολυ-κέφαλο-ς; πόλις περσέ-πολις; δάκρυ πολυ-δακρυ-ς. In Latin we have similarly *flāvi-comu-s*, and *angui-manu-s* (*a*, *u-m*) is declined like an *o*-stem; but usually, in forming an adjective, Latin changes the final vowel of the last term to an *i*, whence the common type *rēmu-s tri-rēmi-s*, *clīvo-s dē-clīvi-s*, *amnu-s (annus) sol-lemni-s*,³ *forma īn-formi-s*, *norma ab-normi-s*, *anima sēmi-animi-s*, etc.

When it ends in a consonant, the last term may undergo no change, and this is usually the case in Latin: *sīm-plec-s*, *prae-cep-s*, *opi-fec-s*, *capri-pēs*, *bi-dēn-s*, *quadri-frōn-s* etc. But in Greek the treatment is much more varied:—(1) No change: τρί-που-ς, σύ-ζυγ-ς (yoke-fellow), αἶθ-οπ-ς (dark), εὖ-ωπ-ς (beautiful), καλλί-θριξ, πολύ-χειρ. (2) Transition to the *o*-declension by the addition of an *o*: σύ-ζυγο-ς,⁴ καλλί-τριχο-ς, πολύ-χειρο-ς, ὁ-πατρο-ς

¹ Possibly this ἀρχι-, which is so common, may have been, like ἀλκι-, the locative of a lost nominal stem. Cf. *supra* 176.

² Greek usage generally rejects the feminine of these adjectives and replaces it by the masculine.

³ Properly "what suffices for the whole year," and hence takes place only once a year.

⁴ But here the word ζυγός may have had influence.

(by the same father).¹ (3) Transition to the *o*-declension by substitution of *o* for the regular vowel of the stem: *τρί-πος* (*ο-ν*), *Πόλυ-βο-ς* (proper name, rich in cattle), *Πάτρο-κλο-ς* (proper name) for *Πατροκλῆς* = **Πατρο-κλέης* (*κλέ(F)-ος*, glory), *ὁμο-αίμο-ς* (of the same blood, *αἷμα*). (4) Transition to the masculine declension in *ā-* (gen. *ου*): *ἄελλο-πόδη-ς* (with feet swift as a storm). (5) Addition or substitution of the adjectival ending *-έος*: ² *ἰδατο-τρεφής*, *πολυ-κλαδής* (with many branches), *θεο-φιλής* (dear to the gods), *ὑπερη-φανής* (arrogant), etc.

Besides these changes, two peculiarities of the Greek language must also be noticed. The first is the frequent lengthening of the initial vowel of the last term, *ποδ-ήνεμο-ς*,³ *ἀν-ήνεμο-ς*, *δυσ-ώνυμο-ς*, *τρι-ώβολο-ν*, etc. This lengthening, justified in the above examples by a succession of short syllables, has been extended by analogy to a number of other cases where this explanation does not hold good: *ἀν-ήκεστο-ς* (incurable), *ἀν-ήκουστο-ς* (unheard of), *εὐ-ήνωρ* (brave), *ἀμφ-ήκης* (two-edged), *αἰγ-ῶνξ*, etc. The other phenomenon, which is equally common, is the vowel-gradation already mentioned, which causes the final syllable of the last term to pass, either (1) from the reduced to the deflected grade, *e.g.* *αἷμα* = **αἰ-μη* and *ὁμο-αἰμων* (of the same blood), *κτημα* (possession) and *εὐ-κτημων* (rich); or (2) from the normal to the deflected grade, *φρήν ἄ-φρων* ἔχέ-φρων, *πατήρ ἄ-πάτωρ* *πατρο-πάτωρ* (paternal grandfather), *μήτηρ* *δυσ-μήτωρ* (of a bad mother), but *δυσ-μήτηρ* subst. (bad mother), and the phrase *μήτηρ ἀμήτωρ* (unnatural mother); or (3) conversely from the deflected to the normal grade, *αἰδώς ἀν-αιδής*, *γένος εὐ-γενής*, *κράτος Σω-κράτης*, etc.⁴ The only example in Latin corresponding to the last case is *genus dē-gener*.

¹ The vowel *δ*, which is etymologically obscure, has the same meaning as *ἀ-* copulative.

² This case is very common; cf. *supra* 161.

³ Cf. the same lengthening in *ἠνεμῆεις* (windy), *ἀθάνατος* (probably pronounced *ἀτθάνατος*), and other cases where otherwise three short syllables would follow one another.

⁴ But there is no need to bring under the head of gradation the type *κέρως αἰπύ-κερως* (with lofty horns), in which, as in the genitive *κέρως*, *-κερως* is merely a substitute for *-κέρως*, cf. the poetic doublet *εὐ-κέραιο-ς*, and *supra* 129. The accentuation, which seems to go against this etymology, is probably due to the analogy of that of forms like *εὐ-γεως* (fertile) =

There seems no doubt that a subsidiary use was made of vowel-gradation and lengthening by the Greeks to differentiate possessive from determinative compounds, and most of the preceding examples support this view; but a good many confusions have lessened the value of this criterion, which moreover is an artificial one.

**εὔγο-s*, where the *ω* is due to a metathesis of quantity. See *supra* 81 note. Similarly the first term of *κρεωφάγος* is explained by **κρεαο-φάγο-s*.

THIRD PART.

MORPHOLOGY.

(182) **Morphology** is the study of the forms of language, that is, of the modifications by means of terminations which nominal and verbal stems undergo in order to become nouns and verbs capable of forming part of a sentence.

If taken in a very wide sense, morphology might likewise include etymology, which has just been studied; and it would even seem at first sight that the formation of a tense like *λεχ-θή-σο* ought to be included under the head of conjugation just as much as the addition to this stem of the termination *-μαι*, **-σαι*, *-ται*, etc. But it has been thought better to restrict the name of morphology to the study of terminations, in order to make as clear as possible the line of demarcation between the formation of stems and the inflexion of words, and to insist on the elementary truth, too often ignored, that, for example, *λέγ-ο* and *λεχ-θή-σο*, on the one hand, are forms quite as distinct and quite as independent of one another as are *λόγ-ο* and **λέγ-τι* (*λέξις*) on the other. Hence morphology is reduced for our present purpose to declension and that part of conjugation only which is concerned with the person-endings.

The terminations, both those of declension or case-endings, and those of conjugation or person-endings, appear in language as the necessary complement of the nominal or verbal stems to which they are attached. It is only very rarely, as we have seen, that the simple root without any affix can be used as a stem; but it is still rarer for the bare stem

without any termination to act as a noun or verb.¹ In short, the stem is almost an abstraction, like the root. But this fact does not in the least invalidate the claims of morphology. For is not the word itself mainly an abstraction? *Man* thinks and expresses his thoughts by means of sentences, not isolated words.

At this point there arises a preliminary question. How is it possible to conceive that a mere termination, almost always monosyllabic, often reduced to a single consonant, and sometimes invisible to any other eye but that of the philologist, should, when added to a nominal or verbal stem, have the power of introducing into it a more or less complicated modification of meaning, such as singular or plural, subject or object, 1st, 2nd, or 3rd person, etc.? We may obtain, if not a solution of the problem, at any rate a hint towards its solution, from the languages called isolating or agglutinative, in which the elements denoting relation have not yet coalesced with the significant elements. In Chinese, for example, the plural does not differ in principle from the singular; but, in cases where it is absolutely indispensable to emphasize the notion of plurality, this may be done by placing after the noun another noun having the meaning of "crowd" or "universality," e.g. *thùng tsè kiài*=*juvenis filius multitudō* that is "the youths." Suppose *kiài* drops out of use as a separate word, then only the history of the language will be able to explain the plural meaning belonging to the affix. Again, certain Finnish languages still have a word *veli* (friend, companion), which Hungarian, a language of the same family, has entirely lost; but Hungarian has kept in its declension an affix *-vel* with a comitative or instrumental meaning, e.g. *kő-vel*=*lapis-comes*, "with the stone." Now, in accordance with the law of vocalic harmony, which requires the partial assimilation of the vowel of the suffix to that of the stem, this syllable *-vel* often becomes *-val*, *atyá-val* (with the father); in accordance with another law, the *v* is assimilated to the final

¹ There is scarcely any instance of the nominal stem free from all addition except in the vocative sing., *ἵππ-ε*, *equ-e*; or of the verbal stem, except in the 2nd pers. sing. of the imperative, *λέγ-ε*, *leg-e*. (The imperative is the vocative of the verb.)

consonant of the stem, *kert-tel* (with the garden), *kert-ek-kel* (with the gardens), *haz-zal* (with the house), *atyā-m-mal* (with my father), etc. After all these changes the original *veli* has become scarcely recognisable, and if this word had not been preserved somewhere, all the efforts of the analyst would have been powerless to restore it.

Much more difficult and uncertain than must such restorations be in the languages with which we are concerned, where the affix is reduced to its simplest form. We may attempt them; we may, for example, see in the final *-s* of the nom. sing. an old demonstrative **so*, which has given to Greek its article δ ; we may connect the gen. sing. $\delta\eta\mu\omicron\iota\omicron$ (of the people) = **dā-m-o-syo* with the adj. $\delta\eta\mu\omicron\sigma\iota\omicron\varsigma$ (popular) = **dā-m-o-tio-s*, which has the same meaning and almost the same form; and we may recognise in the *-m* and *-t* which serve as signs of the 1st and 3rd pers. sing. of verbs the shapeless relics of the stem **me-* (me) and the demonstrative **to-* (he, cf. the Greek article). But these are mere exercises of ingenuity, which are almost useless, and, if carried further, would become dangerous; all the attempts made to explain the *-es* of the nom. pl. through a sort of reduplication of the demonstrative *-s* of the nom. sing., the Latin passive through an addition of the reflexive pronoun (*feror* = **ferō sē*), the Greek mediopassive through a reduplication of the pronominal ending in a reflexive sense ($\phi\acute{\epsilon}\rho\omicron\mu\alpha\iota$ = **φέρ-ο-μα-μι*, $\phi\acute{\epsilon}\rho\epsilon\sigma\alpha\iota$ = **φέρ-ε-σα-σι*, etc.), are encountered by insurmountable phonetic obstacles, and it were to be hoped that they may not be renewed, the more so, because they entangle the science of language in a road which has no ending. Most of the errors of science, in all its branches, arise from its thinking itself bound to explain facts which its duty is only to state.

(183) Moreover, even supposing that the Indo-European languages did seem to have preserved all their case-endings and person-endings in the form of separate words, would a comparison of the latter with the inflexions be much more legitimate? We may be permitted to doubt it; for such a comparison would often leave out of sight a factor of the highest importance, the association of ideas, grammatical analogy,

which has no less influence in this department than in that of derivation.¹ For, like words, the forms of declension and conjugation classify themselves in our mind in series, in which classes regarded rightly or wrongly as identical from a logical point of view constantly tend to become identified in form also; hence a suffix which seems to be everywhere the same is perhaps so only because at some past time it has been detached from some words and then introduced into all the rest.² Further, if the language contains the suffix as a separate word, it is possible that the separate word has been formed from the suffix, instead of the suffix being a corruption of the separate word.³ This case is rare, but not unexampled.⁴

Let us consider this unceasing action of analogy in a department which is familiar to us. We have regularly in old French nom. *li chevaux*, acc. *le cheval*. This alternation is regular in all words of the Latin 2nd declension; but it is naturally absent in forms like nom. *li père*=*ille pater*, acc. *le père*=*illum patrem*. Thus the old form of the language knows only the nom. sing. *li père*; but little by little the *s* of the neighbouring declension, being wrongly regarded as the necessary sign of the nom. sing., makes its way into this word also, and so in the thirteenth century we find only the contaminated form *li pères*, *li lérres*, *li emperéres*.

So too in the verbs. In the third conjugation of Latin, forms of the 2nd person plural like *trahitis*, *cūrritis* would require in French the corresponding forms *vous *traïtes*, *vous *queūrtes*, etc. But of these the only traces are the two isolated forms

¹ Cf. *supra* 83.

² Looking at the imperative forms *leg-i-tō leg-u-ntō* (Gk. *φερ-έ-τω*, *φερ-ό-ντων*), who would not think that *-tō -ntō* are affixes of the 3rd person, containing, like *-ti -nti* of the indicative, an obscured demonstrative stem? Yet they are nothing of the kind; *legitō* is probably a nominal form, and *leguntō* is modelled on *legitō* and on the relation between *legit* and *legunt*.

³ This is what is maintained by those philologists according to whom the person-endings, having been detached and separated from the conjugated stem, became the personal pronouns (the "theory of adaptation," cf. Sayce, *Comparative Philology*, 2nd ed., *Preface* and pp. 132 ff.).

⁴ In French "a collection of *ana*" (memorable sayings); *ana* is simply the termination of the words *Voltaireana*, *Bolovana*, *Huetiana*, by which such collections are designated. Cf. A. Darmesteter, *Mots nouveaux*, p. 229, and more recently *Bull. Soc. Ling.* vi. p. cxxxv.

vous faites, vous dites, and even these have disappeared from the popular language. Everywhere else (*vous trayéz, vous couréz*) a termination *-ez* has crept in, which is regular only in the 1st conjugation, *vous améz*=*amdtis*, but has imperceptibly invaded the other three.¹

That similar phenomena have taken place ever since the Indo-European period, is a fact which it is as impossible to doubt as it is difficult to prove. That they abound in Greek and Latin declension and conjugation will become clear from the following pages.

¹ [English inflexions also are largely analogical in their origin. Thus the plural in *-s*, which has but a limited range in Anglo-Saxon, has been so extended by analogy as to be now almost universal; it is regular, for example, in *stones* (A.-S. *stān-as*) and *days* (A.-S. *dag-as*), but analogical in *eyes* (A.-S. *ēag-an*, cf. Scotch *een*) and *nights* (A.-S. *niht*). So too in the preterite of verbs the older form *shew* has been superseded by the analogical form *shew-ed*, *slep* by *slep-t*, etc., and the process is still going on; for example, *clomb* (Newman, *Gerontius*, "He *clomb* the giants of the wood") is now almost superseded by *climb-ed*.]

I.—DECLENSION.¹

(184) **Declension** is the modification of nominal stems by means of terminations, corresponding to the three grammatical categories of **gender**, **number**, and **case**, which are characteristic of these stems.

The Indo-European language had three **genders**, **masculine**, **feminine**, and **neuter**, which have been faithfully preserved by Latin and Greek.

It likewise had three **numbers**, **singular**, **plural**, and **dual**. But in it the dual had no doubt already been reduced to three case-forms, as in Sanskrit, or four at the most. In most of the derived languages it has been lost, only the faintest traces of it remaining. This is the case in Latin. Even in Greek, where it seems to have held its ground, its use is unknown to whole dialects, notably Lesbian, and in the classical language its use is almost optional, alternating with that of the plural.²

Of **case-relations**, so far as can be conjectured from the derived languages, Indo-European, at the period of separation, must have distinguished at least eight, namely: **nominative**, denoting the agent; **vocative**, a mere interjection;³ **accusative**, which might be called with more precision **illative**, denoting a tendency towards the object; **ablative** (tendency to move away from the object); **instrumental** or **comitative** (accompaniment); **dative** (assigning to); **locative** (situa-

¹ [Cf. Mr. W. M. Lindsay, "The Early Italian Declension," *Classical Review*, 1888, pp. 129 ff. 202 ff. 273 ff.]

² In Homer the agreement of the dual with the plural is not uncommon, e.g. τῷ δ' αὐτῷ μάρτυροι ἔστων (Il. i. 338), μήκετι παῖδε φίλῳ πολεμίζετε μηδὲ μάχεσθον (Il. vii. 279).

³ The vocative is not, properly speaking, a case, since it has no logical relation to any other term of the proposition.

tion in); lastly, **genitive**, which it would be more exact to call **possessive**, in virtue of its essential and primitive function.¹ Corresponding to each of these relations there were generally several terminations, which have nearly all survived in Greek and Latin, although Greek has nominally only five cases, and Latin six.

These terminations may be added to the stem without modifying it. This is usually the case, at least in Greek and Latin,² in the declension called *parisyllabic*, which hence may be treated separately and before the other declensions, not only because it is the most simple, but also because it has in many points contaminated by analogy the declension called *imparisyllabic*,³ while the latter has had very little influence on it. In the *imparisyllabic* declension, which has sometimes kept, sometimes very capriciously modified the original vowel-gradation of its stems, we shall have to study successively the terminations and the changes in the stem caused by the addition of these terminations. Lastly, the *pronominal* declension, which stands quite by itself, differs even more from that of the nouns properly so called than the two nominal declensions differ from one another, and will require a separate chapter. Such then is the division of our subject.

¹ Or better still "adnominal," since, properly speaking, it can only be governed by a noun of which it completes the sense.

² In primitive Indo-European all the declensions must have been more or less subject to vowel-gradation.

³ This terminology is unfortunately not very precise; for there are no more syllables in *γένους* or *nūbis* than in *γένος* or *nūbēs*, and on the other hand there are more in *θεοῖο* and *deōrum* than in *θεός* and *deus*. It has however been thought best to adhere to it, since it is both customary and convenient. The important point is not to take it too literally.

CHAPTER I.

PARISYLLABIC DECLENSION.

(185) Under this heading will be included the 1st and 2nd declension in Greek, the 1st, 2nd, and 5th declension in Latin, except that for this purely empirical classification will be substituted the more systematic distinction between stems ending in *o/e*, *a*, and *i*.

SECTION I.

STEMS IN *o-*.

(186) The vast majority of stems ending in *o-* are masculine or neuter. But feminines are not uncommon, both among nouns, *νήσο-s*, *ἄμπελο-s*, *πόρφυλο-s*, *ἀλφο-s*, and especially, but only in Greek, among those adjectives to which custom denies a feminine in *η*, *εὐώνυμο-s*, *ἐργάσιμο-s*. Moreover, the gender has no influence on the declension, except in the case of two forms confined to the neuter.

§ 1.—*Masculines and Feminines.*

(187) I. *Singular*.—1. *Nominative*: the sign is *-s* in Greek and Latin, *ἵππο-s*, *equō-s*, and offers no difficulty.

2. *Vocative*: the simple stem with the vowel *e*, *ἵππε*, *equē*, the only clear trace of an old vowel-gradation preserved by this declension. The regular identity of the nominative and vocative in the plural of all nouns and even in the singular of other declensions, led to the very frequent use of the nominative for the vocative in this declension also, Gk. ὦ φίλος, Lat. *da meus ocellus*,¹ and in certain nouns, *θεό-s*, *deu-s*, the vocative is entirely wanting even in the classical language.

¹ Il. iv. 189; Od. iii. 375.—Plant. *Asin.* 657 (Ussing).

3. *Accusative*: *-m*, whence Gk. *-ν*, Lat. *-m*, presenting no difficulty: ἵππο-ν, *equō-m*, in old Latin written without *m*, OINO.

4. *Ablative* (1).—The termination of this ablative was a *d* preceded by a vowel the nature of which cannot easily be determined, probably **-ēd*. But the vowel matters little here, since from the pro-ethnic period it was contracted with the final vowel of the stem. The latter vowel being an *ō*, the contraction necessarily produced **ἵππωδ*, *equōd*. In Latin this ablative has remained, regularly losing its final *d*, which is no longer found except in old inscriptions.¹ In Greek it has disappeared from declension, but it reappears in the shape of an adverb in οὔτω, ἄνω, κάτω, ἀνωρέω, etc., and especially, with a final *ς* of somewhat obscure origin,² in the numerous adverbs derived from adjectives in *-ς*, οὔτως (doublet of οὔτω), σοφῶς, καλῶς, κούφως, etc. It is adverbial also in Latin in *certō*, *citō*.³

It is also possible that this termination **-ēd* might be preceded by the thematic vowel *ē*; in this case, the contraction of the group would have given long *ē*, which is found only in Latin, but immensely extended, since it there corresponds in the formation of adverbs to the final *ως* of Greek: *certē* = **certēd*, *facilumēd*,⁴ *probē*, *doctē*, *benē*, *malē*, etc.

5. *Ablative* (2).—The Sanskrit ablative *ācīvāt*, which corresponds to *equōd*, may always be replaced by an ablative *ācivatas*, the termination of which reappears in a purer form in Greek and Latin *-tos*. But Latin alone adds it to some stems in *-o*, *funditus* = **funde-tos* (from the bottom, from top to bottom), *penitus* (from the bottom, thoroughly, cf. *penu-s*, nomin., the meaning of which must have been modified). In Greek it is no longer found except in a few adverbs, ἐν-τός = *in-tus*, ἐκ-τός, which were so little understood to be ablatives.

¹ *Supra* 65.

² Cf. however *supra* 65 note.

³ *Supra* 77 c.

⁴ *Senatusconsultum de Bacchanalibus*.—The Oscan *amprufid* = *improbē*, the termination of which recalls that of the ablatives of the 3rd declension, *marid*, *airid* = *aere*, has led some to suppose an intrusion of the forms of the 3rd declension into the domain of the 1st. But the conjecture stated in the text seems more probable.

that a new ablative termination was attached to them, whence the form *ἐν-τοσ-θεν* (also *ἐκ-το-θεν*, Od. ix. 239).

6. *Ablative* (3).—The last mentioned ablative termination (Sk *-dhas*) appears in Latin and Greek under the double form *-de* and *-θεν*, of which the form *-θα* = **θη* seems to be a reduced doublet (cf. the adverbs *ἐν-θα* and *ἐν-θεν*, Lat. *in-de* = **ἐν-θε*). Latin has not kept this affix in its declension and has only the two adverbial forms *inde* and *unde*. In Greek, on the contrary, and especially in the language of Homer, the ablatives in *-θεν* are remarkably numerous and frequent: common nouns, *ἀγρό-θεν*, *οἰκο-θεν*, *θεό-θεν*, *οὐρανό-θεν*; proper nouns, *Ἰλιό-θεν*, *Κορινθό-θεν*; pronouns, *πό-θεν*, *ὅ-θεν*, *ἄλλο-θεν*, *αὐτό-θεν*. The last mentioned formations have survived in classical Greek.

7. *Instrumental* (1).—The termination of this case was certainly an *-a*, whether long or short does not matter here, for the contraction of this vowel with the final vowel of the stem must have given rise to an Indo-European *-ā*, which reappears in the Doric forms *πᾶ* (= **qe-a* or **qo-a*, which way?), *αὐτᾶ* (this way), *ἄλλᾶ* (elsewhere), etc., Ion. *κῆ*, Att. *πῆ*, *ἄλλη*, *πεζῆ* (on foot, instrum. of *πεζός*, pedestrian), *διχῆ* (doubly), *πανταχῆ* (everywhere), *ἡσυχῆ* (quietly), etc. It is true that these forms, which are exceedingly common, are ordinarily written *πῆ*, *ἄλλη*, etc., and regarded as datives;¹ but, in the first place, the *ι* adscript is not constant, and in the second place, it was only natural that the Greeks, having become incapable of recognising in these forms an instrumental masculine, should have taken them for the dative feminine, on account of a merely external resemblance.² The fact is that the *ι* adscript here is a mere graphic embellishment, and the instrumental use harmonizes perfectly with the meaning of all these adverbs of manner and the phrases answering to the

¹ Indeed Herodian strictly enjoins this spelling.

² An attempt has been made to justify the view that *πῆ* is a feminine, by understanding *ὁδῶ*; but what must be understood with *πεζῆ* or *διχῆ*? Moreover *πάντ-η*, Dor. *παντ-ῆ*, though of analogical formation (*infra* 204, 9), seems to show that the Greeks, at the time when they created this word, were still conscious of the masculine character of the termination; for otherwise they would have created **πασᾶ* **πᾶση*.—I ought however to point out that the view stated in the text is rejected by most grammarians, the most authoritative of whom (cf. G. Meyer, § 388) unanimously hold that the type *πᾶ* is an *instrumental feminine*.

question *quā*. Hence it also seems preferable to see instrumentals masculine and neuter in the four Latin pronominal forms *quā* = *piā*, *hāc*, *illac*, *istac* rather than to have recourse to a problematic ellipse of *viā*, to justify the feminine.

8. *Instrumental* (2).—It is not certain that this case, the sign of which in Greek is *-φι-φιν*,¹ and which is not found in Latin, existed in the singular in Indo-European; at any rate in Sanskrit it appears only in the plural, under the form *-bhis*.² However that may be, this form, which classical Greek has entirely lost, is still fairly common in Homer: ³ *δεξιό-φιν* (on the right), *ἀριστερό-φιν* (on the left), *χαλκό-φιν* (with bronze), *στρατό-φιν*, *Ἰλιό-φιν*, *ἐκ πασσαλόφι* (from a peg, *Od. viii. 67*), etc.

9. *Dative*.—The primitive termination was **-ay*, or perhaps **-ey*, but it makes no difference here which it was, since the initial vowel can have had no other effect than that of lengthening by contraction the final *o-* of the stem, *ἱππω*, *equō* = **ékwo-ay* or **ékwo-ey*.⁴ This declension, together with that of the *ā*-stems, is the only one in which Greek has preserved a true dative.

10. *Locative*.—On the other hand it has almost entirely lost the locative, the sign of which was a simple *-ι*; the only traces of it are to be found in the forms *ποῖ* (whither?) = **qó-i*, *οἷ* (whither, relative),⁵ *οἴκοι* (at home), *Æol. τυῖδε* (here), *ἄλλυ* (elsewhere). It will be seen that the final vowel of the stem has the form *o*, but the form *e* would perhaps be more regular; at any rate it is certain that the form *οἴκει* exists and that Doric has adverbs like *τεῖδε τουτέι αὐτέι*, to which may be added the Panhellenic *ἐκεῖ*. The Latin locative, *humī* (on the ground), *domī* (at home), leaves the question undecided, since *ī* may represent either *ei* or *oi*; the archaic form however is *humoi* = **humō-ι*. This very important form has only retained its loca-

¹ On the *ν ἐφελευστικόν*, cf. *supra* 79, 1.

² This form is not entirely unknown in Greek. cf. the doublets *ἀμφι* and *ἀμφίς* (around) and the advb. *λακρίφίς* (sideways).

³ Where it is not restricted to the instrumental function, but may also be used indifferently as an ablative or locative.

⁴ Cf. *supra* 24 A and 26, 2.—Hence we must beware of identifying in Latin the dative *equō* = **equōi* with the abl. *equō* = **equōd*.

⁵ It must be observed that these locatives have taken an illative sense.

tive function in the above examples and in proper names of towns and places, *Lugdunī* (at Lyons); in all other cases, and even in these nouns themselves, it has taken the meaning of a genitive, and everywhere replaced the primitive genitive, of which Latin shows no trace: *equī, servī, dominī*, etc.

11. *Genitive*.—The pro-ethnic termination was *-syo*, cf. Sk. *ācva-sya*, and the oldest Greek form *ἱπποιο* goes back quite regularly to **ἱππο-σyo*.¹ From the latter to the classical type *ἵππου* the stage of transition can only have been **ἱπποο* through loss of intervocalic *ι*, and this consideration alone would be enough to prove the existence of this **ἱπποο*, though it is nowhere read. But there are more direct proofs of its existence. For (1) several verses of Homer where the form in *ου* is read will not scan, and the scansion becomes correct if we restore the form in *οο*; thus the amphimacres *Ἰλίου, Αἰώλου* evidently cannot occur in a dactylic verse.² (2) The genitive *δου* of the relative pronoun *δς*, which is read in Homer, is evidently a barbarism invented at a later period to restore the metre which the reading *οῦ* had violated; it is only necessary to substitute *δο* for it.³ (3) This restoration is again forced upon us almost as strongly, wherever the final *ου* is supposed to be shortened before a following vowel, e.g. *Ἰλίου αἰπεινῆς* (Il. ix. 686), *οὐρανοῦ ἀστερόεντος* (Il. vi. 108), etc., where we should read *Ἰλίο, οὐρανό*, etc., with elision of the second *ο*. (4) The same restoration is possible, though not necessary, wherever the *ου* of the genitive forms the second part of a foot, e.g. at the end of a verse *Μενελάου κῦδαλίμοιο*, where it is certainly an improvement to read *Μενελάοο*. (5) Hence the reading *ου* (or *ω* in the original Homeric Æolic) is only entirely justified when the termination of the genitive begins a foot, a case which is comparatively rare.⁴ (6) We shall see later on that the genitive of the 1st

¹ *Supra* 39 C.—This termination is not met with outside the *ο*-declension and seems to have been borrowed from the pronominal declension, *infra* 217, 9.

² Hence we shall read *Ἰλίοο προπάρουθε* (Il. xv. 66, xxii. 6), *Αἰώλοο κλυτὰ δώματα* (Od. x. 60), and so also Il. vi. 61, xv. 554, ii. 518, xxii. 313, etc.

³ Il. ii. 325, Od. i. 70; the last *ο* of course being long by position.

⁴ The presence in Homer of three forms of the genitive which evidently cannot have been coexistent is one of the many facts which show the artificial character of the Homeric language.

decl. masc. *πολίτᾱο* is undoubtedly borrowed from the 2nd; but, if it had been imitated from *ἱπποιο*, its form would be **πολίταιο*; hence it must have been formed in a dialect in which the pronunciation at the time was **ἱπποο*. (7) There is nothing inconceivable in the loss of the form **ἱπποο*, if the Homeric poems have been translated into a language which no longer possessed this genitive (the language of the Ionian rhapsodists); it is rather the preservation of the type in *οιο* which might surprise us, did not the metre absolutely require it, together with many other archaisms.

The forms *θεοῖο*, *ἱπποιο*, survived, through imitation of Homer, in the language of poets of all periods. Prose retained only the contracted forms of **θεόο*, **ἱπποο*, namely, Lesb. Bæot. Dor. *θεῶ*, *ἱππῶ*, Ion.-Att. *θεοῦ*, *ἱππον*.

By a process the reverse of that in Latin, which has superseded this genitive by the locative, Greek employs the genitive of certain pronouns in a locative sense: *ποῦ* (where?), *οὔ* (where), *αὐτοῦ* (here), etc.¹

(188) II. *Dual*.—1. *Direct Case* (nom.-voc.-acc.): the final vowel (probably -e, if we may judge from *πόδ-ε*, etc., of the 3rd declension) having been contracted, in the Indo-European period, with the thematic vowel o-, the result was an *ō*, which forms the Greek termination, *ἱππῶ* = **έκνωδ* = **έκνωδ-ε*. Latin has lost this form, except in the two words *duō*² and *ambō*; and even here it only serves for the nominative masculine and neuter and the accusative neuter; the accusative masculine has the plural form, *duōs*, *ambōs*. Besides *δύω* Greek also has *δύο*, a much commoner form, the shortening of which is still unexplained.

2. *Oblique Case* (1) (exclusively Greek).—Neither Latin nor any other Indo-European language shows anything analogous

¹ For the sake of completeness may be mentioned also: (1) the locative in -*θι* (*πόθι*, *Ἰλίοθι*), produced by the combination of the *ι* of the locative with the ablative termination -*θεν*; (2) the illative *οἰκόνδε*, obtained by the addition to the ordinary accusative of a demonstrative and enclitic particle which intensifies its meaning; (3) the more obscure illative *οἰκαδε* (imitation of *εἰλαδε*? cf. also *φύγαδε*); (4) the rare illative in -*σε*, which is quite obscure, *πόσε*, *ἀλλοσε*.

² But commonly *duō*, *supra* 77.

to the case-ending used in Greek for the genitive, locative, instrumental, dative, and ablative dual. This termination is *-υν* (the first *ι* is a *υ*) in the language of Homer, *ἱππο-υν ὀφθαλμοῖν*, afterwards contracted with the stem and so producing the forms *ἱπποιν* (dissyllable), *ὀφθαλμοῖν*, etc. Did this termination belong to the Indo-European period? or is it entirely the creation of Greek? It seems very hard to give any reply to this question, except that we do not see whence Greek could have derived it. The most probable view is that there is a very close relation between the oblique case of the dual and the locative plural; for *ἱπποιν* is the same as *ἱπποισιν* with the regular loss of the intervocalic *σ*.¹

3. *Oblique Case* (2) (Latin).—The forms *duō-bus*, *ambō-bus* are not plurals, since there is no case in *-bus* in the Latin 2nd declension. Now Sanskrit has in the dual an instrum.-dat.-abl. termination *-bhyām*, *dvābhyām* = *duōbus*; hence it is probable that the Latin *-bus* here is a relic of an old dual termination, corrupted through the analogy of the termination of the dative-ablative plural of other declensions.²

(189) III. *Plural*.—1. *Nominative-Vocative*: *ἵπποι*, *equi*³ = **equoi* (the old form *poploe* = *populī* and others are cited by Festus). It will be seen that Greek and Latin agree in adding a *-y* to the stem; but in this respect they diverge from the Indo-European type, which in this declension as in all the others had the termination *-ēs*, e.g. **ekwōs* = **ekwō-ēs*, Sk. *āçvās*.⁴ Hence we should expect **ἵππως* **equōs*; but, on the other hand, the termination *oy* was regular in the pronominal declension, e.g. Sk. *tē* = **toy* (they); hence it is easily conceivable that phrases like *τοὶ *ἵππως*, *ἱστῖ* equōs* would become *τοὶ ἵπποι*, *ἱστῖ equi*. This is not the only case in which the *o*-stems have borrowed from the pronouns, and in this particular case

¹ Cf. *infra* 189, 5.—In the solitary form *δυν* the thematic vowel seems to be *e*.; but *δυν* likewise exists.

² The other cases of *duō* and *ambō* are borrowed from the plural system, as is likewise the case in Greek with *δυ-σι*, the locative of *δύο*.

³ Written also *ei* (*equi*) and *e* = *ē* (PLOIRVME, Ep. Scip.)

⁴ It is noticeable that all the Italic languages, with the exception of Latin, kept this primitive form: Osc. NVVLANVS = *Nōlanōs* (inhabitants of Nola), Umbr. IKVVINVS = *Iguvinōs*, in Latin *Nōlānt*, *Iguvīnt*.

the borrowing was aided by the analogy of the termination *-ay* of the 1st declension, *ταὶ κεφαλαί*, which was comparatively regular.¹ Latin also had a nom. pl. in *-ēs, -īs, -eis*, *magistr-ēs*, etc., attested by a good many inscriptions of the 6th century of Rome; this was evidently borrowed from the 3rd declension (cf. *patrēs* from *pater*, and *magister*), and did not pass into the classical language.

2. *Accusative*.—The termination of the acc. pl. is always **-ns*,² hence **ἵππο-ns*, **equō-ns*. We still find *τόνς*, *ἐλευθέρωνς*, etc., in Cretan and Argive inscriptions. Everywhere else the phonetic changes already explained³ took place: Lesb. *ἵπποις*, Dor. Bæot. *ἵππωνς*, Ion.-Att. *ἵππους*, Lat. *equōs*. The type with a short vowel, *τὸς θεός*, etc., which is common in inscriptions and in the Doric of Theocritus, comes from syntactical positions in which the *ν* was dropped without any compensatory lengthening, e.g. *τὸς θεὸς σέβονται*, but *σέβονται τὸς θεούς*, and has thence been extended by analogy to other positions.

3. *Instrumental*.⁴—The case in *-φι -φιν* is in Homer instrumental plural as well as singular: *θεό-φιν* (with the gods), *ὀστέό-φιν* (by the bones), etc.

4. *Dative-Ablative*.⁵—The original form of this case is revealed to us by that which in Sanskrit serves as instrumental, *acvāis*, hence **ἵπποις* **equōis*, in other words, it is the form of the dative singular with the addition of the *s* of the plural; then, by a regular process of shortening,⁶ *ἵπποις*, *equīs* = **equois*. The type *equeis*, which is very common, is only another spelling of the same form.

5. *Locative*.—The pro-ethnic termination of this case was **-su* in all declensions. In this particular declension it was added to the stem, not directly, but by means of a semi-vocalic epenthesis, viz. *y*, the precise origin of which is unknown; hence, instead of **ékwo-su*, the Indo-European form would be **ékwoy-*

¹ Cf. *infra* 195, 1.

² Or perhaps at a very remote period **-ms*, formed by the addition of the *s* of the plural to the form of the acc. sing.

³ *Supra* 47 C.

⁴ The ablative plural is everywhere like the dative, *infra* 4.

⁵ And instrumental in classical Greek as well as in Latin.

⁶ By what is called Osthoff's law, *supra* 76 and 77.

su, which is reflected in Sk. *ḍgve-ṣu*, etc. If then the locative were **ἵπποι-συ*, whence **ἵπποιν*, it would be easily explainable; but we nowhere find the slightest trace of such a termination,¹ and again the Greek form *ἵπποισι ἵπποισιν* has nothing corresponding to it in any cognate language. There is however something corresponding to it in Greek itself in the oblique case of the dual *ἵπποιν*; hence there seems some probability that Indo-European had a loc. pl. **ékwoysu* and a loc. dual **ékwoysi(m)*, that these two forms were preserved in Greek as regards their function, but confused in respect of their form, and that lastly the intervocalic *σ*, regularly dropped in *ἵπποιν*, reappeared in *ἵπποισιν* through the analogy of the very numerous forms of the 3rd declension (*ποσσίν*, *τείχεσσιν*, etc.), in which it was not intervocalic and therefore necessarily remained. But this is evidently merely a rudimentary attempt at explanation. One point in it however must almost certainly be maintained, namely, that the final *ν* of this form is not paragogic, but forms an integral part of the termination;² *ἵπποισιν* must be original, whereas *ἵπποισι* has been curtailed on the analogy of other forms in which the *ν* was really paragogic, e.g. perhaps **ἵπποφι* and **ἵπποφιν*.

This locative has scarcely survived except in the language of poetry and in the prose of Herodotus, and moreover has been entirely confused with the dative; not only is the one case used for the other, but they are made to agree together, just as if they were one and the same case. We know how common are such phrases as *πολλοῖσιν ἀνθρώποις* and *πολλοῖς ἀνθρώποισι*. In classical prose, as in Latin, the lost locative plural is replaced by the dative-ablative.

6. *Genitive* (1).—The original termination of the gen. pl., which must have been *-*ōm*, was kept only in this declension, where, by contraction with the thematic *ο*-, it produced *ō*, e.g. **ékwōm* = **ékwō-ōm*, Gk. *ἵππων*, Lat. *deum*³ = **deōm*. In Greek this genitive is the only one in use. In Latin it is archaic;

¹ Except perhaps in the adverb *μεταξύ*, which would thus be locative plural of a stem **μετακ-* of the 3rd declension.

² This is proved by the fact that this *ν* never appears except in the plural: *ποσσί* and *ποσσίν*, but *ποδι* and not **ποδιν*.

³ The exact correspondence between the endings of *θεῶν* and *deum*, and

but, while it was generally superseded by the genitive in *-ōrum*, it yet held its own permanently: (1) in the language of poets; (2) in formulæ, especially legal and liturgical formulæ, going back to remote antiquity, e.g. *Deum Cōnsentum*; ¹ (3) in official language and terms relating to money, *decem mīlia sēs-tertium*, not *sēstertiōrum*, and so also *nummum* not *nummōrum*, *praefectus fabrum* (title of a public official), etc.

7. *Genitive* (2) (Latin).—The gen. pl. of pronouns ended regularly in *-ōrum*=I.-E. **o-sōm*, e.g. *istōrum*, and we have seen that the pronominal declension had a great influence on the one which we are now dealing with. Again, the gen. pl. of the 1st declension in *-ārum* likewise goes back to Indo-European. Lastly, from the time when final syllables in *m* tended to become short, the Latin gen. pl. was no longer distinguished from the acc. sing. All these causes combined to bring about the creation and extension of an analogical genitive in *-ōrum*, *equōrum*, *servōrum*, which almost entirely superseded the former one.

§ 2. Neuters.

(190) The declension of neuters differs only in two points from that of the masculines and feminines.

1. *Nominative-Vocative-Accusative singular*.—The nominative neuter is always like the accusative, which has the ordinary termination *-m*: *ζυγό-v jugu-m*. The vocative neuter has everywhere been assimilated to the nominative.

2. *Nominative-Vocative-Accusative plural*.—The ending of this case is *ā* in Vedic Sanskrit, *yugā*, but *ᾱ* in Greek and Latin, *ζυγᾱ juga*. How is this difference to be explained? Let us suppose that the termination was originally *ā*; then we ought to have, in Greek and Latin, not only **ζυγᾱ *jugā = *yugé-ā* contracted, but also, in the 3rd declension for example, **τριᾱ *triā*. This supposition lacks probability, for we do not

also the known laws of Latin sounds, entirely forbid the hypothesis that *deum* is a syncopated form of *deōrum*.

¹ Gen. of *Dī cōn-sent-ēs* "the gods who are or sit together" (the twelve great gods).

see how all these long terminations could have been shortened. Let us suppose, on the other hand, that the termination was *ā*; we can then explain very easily the long vowel of the Sk. *yugā* = **yugé-ā* contracted, and the short vowel of the Gk. *τρία*, and we can also easily see how in a combination like *τρία* **ζυγᾶ*, the short ending of the first word might influence the long ending of the second and shorten it. It is to be observed that the reverse process likewise took place, at any rate sporadically, if we may judge from the form *τριάκοντα*, Ion. *τριήκοντα*, which it is generally agreed to explain through the combination **τριά κοντά* (three tens).¹

But this explanation will not hold good for Latin; for, supposing we admit the existence in old Latin of a combination **bonā opesā*, then, if **bonā* had become *bonā* through the analogy of **opesā*, the final short *ā* would have been changed to *ē* (*supra* 36 A a), and so the phrase would have become in classical Latin **bonē operē*. For the *a* to have been kept, it must have been long; in other words, in the combination **bonā opesā*, just as in *τριάκοντα*, **opesā* must have become **opesā* through the analogy of **bonā*. Moreover we have indubitable traces of this long quantity in the imparisyllabic neuters (*infra* 206, 2). Later the final vowel was shortened through an unknown cause, possibly through the analogy of the shortening of the same termination in the nominative singular of feminine nouns (*infra* 193).

§ 3. Accidental Modifications.

(191) Among the modifications, all very slight and strictly phonetic, which certain types of this class have undergone, may be mentioned in Greek: (1) the contracted type, *πλόος πλοῦς*, *ὀστέον ὀστοῦν*, *χρύσεος χρυσοῦς*, where however the ordinary laws of contraction are interfered with by the action of analogy;² (2) the type with metathesis of quantity,³ called the Attic declension, *λεώς* = *ληός*, *λαγώς* = *λαγωός*, etc., namely: Sing.

¹ [The plural *yugā* is held to have been originally the nom. sing. of a feminine collective noun by J. Schmidt, *Die Pluralbildungen der Indogermanischen Neutra* (Weimar, 1889), reviewed by the author in *Revue Critique*, 1889, xxviii. 113.]

² Cf. *supra* 72

³ *Supra* 76 C.

nom. $\lambda\epsilon\acute{o}\text{-}\varsigma$ = Ion. $\lambda\eta\acute{o}\text{-}\varsigma$ = $\lambda\acute{\alpha}\acute{o}\text{-}\varsigma$, acc. $\lambda\epsilon\acute{o}\text{-}\nu$ = $\lambda\eta\acute{o}\text{-}\nu$, dat. $\lambda\epsilon\acute{\omega}$ = $\lambda\eta\acute{\omega}$, gen. $\lambda\epsilon\acute{\omega}$ = $^*\lambda\epsilon\acute{\omega}\text{-}\omicron$ = $^*\lambda\eta\acute{o}\text{-}\omicron$; Pl. nom. $\lambda\epsilon\acute{\omega}$ = $\lambda\eta\omicron\text{-}\acute{\iota}$, $\acute{\alpha}\nu\acute{\omega}\gamma\epsilon\omega$ = $^*\acute{\alpha}\nu\omega\gamma\epsilon\omega\text{-}\alpha$ = $^*\acute{\alpha}\nu\omega\gamma\eta\omicron\text{-}\alpha$, acc. $\lambda\epsilon\acute{\omega}\varsigma$ = $^*\lambda\epsilon\acute{\omega}\text{-}\nu\varsigma$ = $^*\lambda\eta\acute{o}\text{-}\nu\varsigma$, dat. $\lambda\epsilon\acute{\omega}\varsigma$ = $\lambda\eta\omicron\acute{\iota}\varsigma$, gen. $\lambda\epsilon\acute{\omega}\nu$ = $\lambda\eta\acute{\omega}\nu$,¹ etc. $^*\epsilon\omega\varsigma$ (dawn) which is equivalent to the imparisyllabic $\eta\acute{\omega}\varsigma$ (gen. $\eta\acute{o}\omicron\varsigma$), has passed by analogy into this mode of inflexion.²

In Latin must be mentioned: (1) the type showing apocope in the nom. sing.; *ager, puer, dexter*, etc.;³ (2) the contracted type in *io-s, filiu-s, Valeriu-s*, voc. *filī, Valerī*, gen. sing. *Valerī*.⁴ If the Latin grammarians are to be believed, the last two forms differed in accentuation, gen. *Valérī*, voc. *Vdlerī*.⁵

SECTION II.

STEMS IN \bar{a} -.

(192) This class includes a large majority of the feminines, a few masculines (chiefly in Greek), but no neuters. It corresponds to the 1st declension in Latin and to the nouns in \bar{a} (η and \bar{a} pure in Attic) of the 1st declension in Greek.

In this system of inflexion, the stem is even less variable than in the preceding one. We can find at the most only a few traces of alternation between \bar{a} and \check{a} before the terminations.⁶ The Indo-European type however is difficult to restore, since the Sanskrit declension here shows peculiarities which do not occur in Greek and Latin.

§ 1. *Feminines.*

(193) I. *Singular*.—1. *Nominative*: with no termination, Dor. $\nu\epsilon\phi\acute{\epsilon}\lambda\bar{a}$, Ion.-Att. $\nu\epsilon\phi\acute{\epsilon}\lambda\eta$, Dor. and Att. $\sigma\phi\acute{\iota}\bar{a}$, $\eta\acute{\mu}\epsilon\rho\bar{a}$ ($\acute{\alpha}\mu\acute{\epsilon}\rho\bar{a}$),

Most of the grammarians teach that these nouns keep in all cases the accent of the nominative; this can only be the result of a somewhat curious action of analogy.

¹ We also find the acc. $\eta\rho\omega\nu$ for $\eta\rho\omega\alpha$ (Herodotus).

² *Supra* 79, 2 and 70.

³ *Supra* 73, 3.

⁴ This accentuation would take us back to a very primitive period, when the vocative (as is still the case in Sanskrit) threw the accent as far back as possible, without any regard for the law of three syllables, e.g. $^*\acute{V}\acute{a}\acute{\epsilon}\rho\acute{\epsilon}$.

⁵ There is also a very remarkable shifting of accent in the inflexion of $\acute{\iota}\text{-}\alpha$ (one, root $\acute{\iota}$, cf. $\acute{o}\acute{\iota}\text{-}\omicron\text{-}\varsigma$): nom. $\acute{\iota}\text{-}\bar{a}$ (Hom. $\acute{\iota}\text{-}\bar{a}$), acc. $\acute{\iota}\bar{\alpha}\nu$, gen. $\acute{\iota}\bar{\alpha}\varsigma$, dat. $\acute{\iota}\bar{\alpha}$.

χώρᾱ, Ion. σοφίῃ, ἡμέρῃ, χώρῃ,¹ Lat. *terrā*, etc. As far as we can go back into the Indo-European period, these nominatives appear without any visible termination, which however need not surprise us, for this is not an isolated case; many similar instances will be found in the imparisyllabic declension. But a more serious difficulty is the regular contrast between the long vowel in Greek and the short in Latin. The identity of the two vowels is indisputable; for ante-classical Latin had the long vowel, as is proved by many scansiones in Saturnian verses and even in Ennius;² but how can this final vowel, originally long, have become first common, and then short? Various explanations have been offered, but all insufficient. (1) A purely phonetic shortening: but this hypothesis is in contradiction to all we know of Latin phonology. (2) Confusion with the vocative, which must have had the short vowel: but, if the prehistoric vocative had been **terrā*, it would probably have become Lat. **terrĕ*.³ (3) A phonetic shortening, originating in iambic words, *fūgā* = φονγή, *bōnā*,⁴ and thence extended to the termination of other words: this hypothesis is the least untenable, though it assigns a quite disproportionate influence to the law of iambic words. Perhaps it would be better to start from the acc. sing. **terrām*, which would be changed to *terrām* in accordance with the law regulating final syllables in *m*, and from this the short vowel might very easily have crept into the nominative.

2. *Vocative*: the simple stem without any termination, and hence like the nominative in Greek and Latin. Homeric Greek however shows traces of an old vocative in *ā*, whether primitive or not we cannot say, *νύμφᾱ*, *κοῦρᾱ*.⁵

3. *Accusative*: *-m*, presenting no difficulty, Gk. *νεφέλη-ν* = *νεφέλᾱ-ν*, *ἡμέρα-ν* = *ἡμέρη-ν*, Lat. *terrā-m* = **terrā-m*.

4. *Ablative* (1).—It is probable that this case did not exist

¹ Cf. *supra* 37.

² *Quoius formā virtūtei parisumā fuit* (Ep. Scip.).—*Nam divīnā Monē:ās filiū docuit* (Saturnian verse of Liv. Andr.).—*Et dēnsis aquilā pinnīs obnīxā volābat* (Enn.).—*Fāmilia tōta* (Plaut. *Trinum.* 251).

³ *Supra* 36 A a.

⁴ *Supra* 77 C.

⁵ Il. iii. 130, Od. iv. 743; Callim. iii. 72.—Only Slavonic is in agreement with Greek on this point; the Sanskrit vocative is *ācṛvē* (mare).

in the original *ā*-declension; neither Sanskrit nor Greek shows any trace of it, and the Latin ablative, *terrā*=*terrād*, *praedād* (Col. Rostr.),¹ *noctū Troiād exhibant capitibūs opertīs* (Saturnian verse of Naevius), used also as a locative (*in terrā* like *in hortō*=**hortōi* or *hortōd* in 2nd declension), may have been formed by analogy from the ablative of the *o*-stems.

5. *Ablative* (2): no trace in this class of stems.

6. *Ablative* (3): recognisable in a few Greek forms like Ἀθήνη-θεν, πρῶρα-θεν (*ā prōrā*), etc.

7. *Instrumental* (1).—We have seen that the adverbs in *-ā* are instrumentals of the masculine-neuter gender.² But it is quite possible that they include some feminine instrumentals; as the vowel resulting from contraction would necessarily be *ā* in either case, we have no means of distinguishing them.

8. *Instrumental* (2).—Homeric Greek: κεφαλῇ-φι (with the head), ἡ-φι βίη-φι (by his might), κρατερῇ-φι βίη-φι (with greater might); agreeing with the locative in ἄμ' ἡοὶ φαεινομένη-φι, etc.; from ἐσχάρη ἐσχάρā (hearth), ἐσχαρό-φι (Od. γ. 59, vii. 169) with analogical intrusion of the thematic vowel of the 2nd declension.

9. *Dative*.—The dative termination *-ay* (or *-ey*) must have been contracted in Greek with the final *ā*- of the stem, whence a termination *āy*, νεφέλη=νεφέλαι, χώρα=χώραι. In Latin apparently this contraction did not take place,³ so that the form was **terrā-ai* or **terrā-ei*, which regularly became *terrāi*. This is the actual archaic form of the dative. Later we find the dissyllable *terrae*; can *āi* have become contracted to *ac*? In the absence of any other evidence this point cannot be decided; but it is more probable that *terrae* is the locative which will next be discussed, confused with the dative.

10. *Locative*.—The termination of the locative being *-ī*, the word χαμαί is generally explained as the locative of a lost stem **χαμā-* (earth). But χαμαί would presuppose **χαμā-ī* and,

¹ This form is a pseudo-archaism; at the time of the erection of the column only PRAIDAD could have been written.

² *Supra* 187, 7.

³ Perhaps because it was prevented in Indo-European by the presence of an intermediate sound *-y-* which is retained in the Sanskrit declension, e.g. ācva-y-ai (to the mare).

besides the fact that the accent of *χαμαί* violates the accentual laws of the 1st declension, that **χαμᾶ-* does not exist,¹ and that the thematic vowel *ā* is rather remarkable, it must be observed that the corresponding Latin form is *Rōmae*, which presupposes **Romā-ī*, for **Romā-ī* would have become **Rōmī*. Hence it is probable that *χαμαί* must belong to another class of stems,² and that in Greek the locative **χώρᾶ-ī* was entirely confused with the dative. In Latin the two forms remained distinct; but, by reason of their partial likeness, the cases were equally confused; the locative being *Rōmae* and the dative *Rōmāī*, the Latins said indifferently for either case *Rōmāī* or *Rōmae*; moreover, as in the 2nd declension, the locative assumed the functions of the genitive. Then the loc.-gen.-dat. *terrāī*, *Romāī*, gradually gave way before the loc.-gen.-dat. *terrae*, *Rōmae*; the former inflexion, which is still very common in Lucretius, has become by the Augustan age a mere poetic archaism.

11. *Genitive*.—The usual termination of this case was **-ēs* or **-ōs*;³ it is probably **-ēs*, which, by contraction with the *ā* of the stem, has given the termination *ās*: Gk. *νεφέλης* = *νεφέλās*, *χώρᾶς* and *χώρης*,⁴ Lat. *filius Lātōnās*, *divīna Monētās filia*, *escās* (of food), cited from Livius Andronicus. This genitive retained its place in Latin only in the phrase *pater-familiās*; it was superseded by the locative, as in the 2nd declension.

(194) II. *Dual*.—1. *Direct Case*: I.-E. **ékway* (Sk. *dvē*, two mares), seems to be represented with a fair degree of accuracy by the two Latin forms *duae* and *ambae*. In Greek the dual of the 1st declension is rare and late (it is not found in Homer⁵), and is certainly a new formation; for, if *χώρᾶ* (two lands) were primitive, we should have in Ionic **χώρη*, not *χώρᾶ*. Hence the long vowel of *χώρᾶ* is simply imitated from that of *ἱππῶ*.

¹ The form *χαμᾶτε* is certainly analogical, *infra* 195, 2.

² *Infra* 204, 11.

³ *Infra* 204, 14.

⁴ The mere contrast between the accentuation of *κεφαλῇ* and *κεφαλῆς* shows that the latter form is due to a contraction.

⁵ Except in the case of a few masculines: *Ἀρπείδα* (the two Atridae).

2. *Oblique Case* (1) (Greek): wanting in Homer, later the rare type *χώραι*, which is evidently modelled on *ἵπποι*.

3. *Oblique Case* (2) (Latin), *duā-bus*, *ambā-bus*.¹

(195) III. *Plural*.—1. *Nominative-Vocative*.—The ordinary termination **-ēs*, by contraction with the thematic vowel *ā*, produced a termination *-ās*, attested by Sk. *ἄρνās* (mares) as well as by Oscan and Umbrian. But Greek and Latin seem to have lost this case and to have replaced it by the nominative dual: *νεφέλαι*, *χώραι* like Sk. *ἄρνῃ*; Lat. *equae*, *terrae*, like *duae*, *ambae*.

2. *Accusative*: **-ns*.—Gk. **χώρᾱ-νς* (we read in Cretan *τὰν τῆμᾱνς*, etc.), whence Lesb. *χώραις*, Dor.-Ion.-Att. *χώρᾱς*, sometimes simply the short vowel, *τὰς θύρᾱς* (Theocr.);² Lat. *terrās* = **terrā-ns*. The demonstrative *-δε* added to a few accusatives of this class formed an illative in *-ᾶζε*, e.g. *θύρᾶζε* = **θύρᾱ-νσ-δε* (towards the doors, cf. Lat. *forās*), *Ἀθήνᾶζε*, etc., and this termination *-ᾶζε* was afterwards extended, with the same function, to nouns whose very meaning excludes the possibility of their use in the plural, e.g. *χαμάζε* and *χαμᾶζε* (to the ground).

3. *Instrumental*: Homer. *θύρη-φιν*, *κλισίη-φιν*, etc.

4. *Dative-Ablative* (1).—There is in Sanskrit no type corresponding to the dative-ablatives in *-ais* and *-īs*, *χώραις*, *terrīs*, and this type is wanting even in Homeric Greek. These facts lead one to think that Greek and Latin each developed it separately on the analogy of *ἵπποις* **equois* (*terrīs* = *terrais*).³

5. *Dative-Ablative* (2).—There is nothing to justify the opinion that the Latin forms *deā-bus*, *filiā-bus*, *libertā-bus*, *manibus dextrā-bus* (Liv. Andr.) are new formations. Sanskrit has an instr. pl. *ἄρνᾱ-bhis*, a dat.-abl. pl. *ἄρνᾱ-bhyas* and an instr.-dat.-abl. dual *ἄρνᾱ-bhyām*, all three of which approximately correspond to the Latin form.⁴ Still, if this form is of Indo-European origin, it was only kept in the case of a

¹ *Supra* 188, 3 and *infra* 195, 5.

² E.g. *Syracus*. 65, like *τὸς θεός*, *supra* 189, 2.

³ The dative in *-ης*, which is very common in Homer, (*κόλῃς νηυσί*, II. i. 89) shows in its termination the influence of the locative in *-ησι* (*infra*), with which it is used interchangeably.

⁴ Cf. *infra* 206, 5.

few words where it was needed, in order to distinguish the feminine from the masculine *deïs*, *fuliis*, etc., and was afterwards extended to similar instances.¹

6. *Locative*.—In Latin the locative was superseded by the dat.-abl. In Greek it ought to be **χώρᾱ-σιν*; but we have already seen the regular substitution of *-σιν* for *-σιν*,² whence the type *δραχμῇ-σι*, *χώρᾱ-σιν*, which serves at once as a locative, dative, ablative and instrumental in Homer and Herodotus, and which has been preserved in classical Greek only in the type *Ἀθῆνῃσι*, *Πλαταιᾶσιν*, with a strictly locative function. The analogy of the termination *-οισι* of the 2nd declension caused the addition of an *ι* subscript, *κεφαλῇσιν*, a spelling which is almost invariable in manuscripts, but not in inscriptions. Another termination *-αῖσι* (Old Attic), more directly modelled on *-οῖσι*, seems to have only spread very slightly.

7. *Genitive*.—This case has borrowed its termination **-sōm* from the pronominal declension: Sk. *tā-sām* = **tā-sōm*, Gk. *τῶν* = **tā-ων*; whence Gk. *χωρᾱ-ων* = **χωρᾱ-σων*, Osc. *egma-zum* (rerum), Lat. *terrā-rum* = **terrā-sum*. The well known form *χωράων* is Æolic and Homeric; it is contracted in Doric, *χωρᾶν*; in Ionic it of course becomes **χωρήων*, whence *χωρέων*; it is contracted in Attic, *χωρῶν*. The perispomenon is the rule, except in adjectives like *φίλο-s*, where the gen. pl. fem. has yielded to the analogy of the masc.-neut., whence *φίλων* instead of **φιλῶν*,³ probably because oxytones like *καλό-s* necessarily had the same accentuation in all three genders, *καλῶν*. In Latin, the syncope *agricolum*, *indigenum*, which occurs only in poetry and in masculine compounds, is an artificial imitation of that which was wrongly supposed to occur in the gen. pl. of the 2nd declension *deum* = *deōrum*.⁴

§ 2. *Masculine.*

(196) In Latin the inflexion of the masculines presents no peculiarity: *scriba*, *agricola*, *parricida*, are declined like

¹ Low Latin *equābus*, *animābus*, etc.

² *Supra* 189, 5.

³ This assimilation was not universal: the κοινή accented *χίλιων δραχμῶν*, but pure Attic *χιλίων δραχμῶν*.

⁴ *Supra* 163, 7.

terra. In Greek they differ from the feminine only in three cases of the singular, in which, from the mere fact of their gender, these masculines tended to become distinguished from the feminines of the 1st declension, and to approach in their form the masculines of the 2nd.

1. *Nominative*.—The regular type without any termination still exists in the Æolic of Homer: *μητίετᾱ Ζεύς, νεφεληγερέτᾱ Ζεύς*, etc.¹ In the same language we find nominatives with final *ᾱ*, which are merely vocatives fulfilling the function of nominatives: *ἱππότᾱ* (horseman), *ἡπύτᾱ* (herald), *ἡχέτᾱ* (singer).² Lastly, at all periods, we find the nominative with the termination *-s*, the only one admissible in the classical language: *πολίτη-s* = *πολίτᾱ-s*, *ταμιά-s*, etc. Is this formation original? It has been contended that it is so, on the strength of the two Latin forms *paricidas* and *hosticapas* (hostium captor) cited by Festus; but it seems difficult to base a theory on two forms so doubtful and so isolated. It is probable that the Greek *-s* in this case is due to the analogy of the other declensions,³ especially the 2nd, and that the two Latin nominatives, if they ever existed, have the same origin.

2. *Vocative*.—The vocative has remained purer than that of the feminines, *πολίτᾱ, ταμιά*. In certain words, however, especially patronymics in *-ίδη*, *-άδη*, it has taken the long vowel of the nominative, but without the *-s*, *Κρονίδη*, *Ἑρμείᾱ*, *Τειρεσίῃ* (Od. xi. 139).

3. *Genitive*.—The genitive of the stem *πολίτᾱ-* would naturally be **πολίτᾱs*; but, when once the nominative had taken the *-s*, the genitive was no longer distinguished from it, and this fact favoured the creation of a new form. As the Greeks had **ἵπποο* by the side of *ἵππος*, so by the side of nom. *πολίτᾱs* they formed the gen. *πολίτᾱο*. This remarkably simple ex-

¹ Unless they are, as in the following case, merely vocatives in which the short final vowel has been lengthened by an accident of prosody. The use of the vocative is justified by the frequency of invocations such as *εὐρύοπα Ζεῦ* (O Zeus with the thundering voice!) which came to be treated as set formulæ and of which only the second term was any longer declined.

² The expansion of the vocative has been so great in this class of stems that it may agree with an accusative (*εὐρύοπα Ζῆν*), with a genitive (*ἱππότα φηρός* Arat.), with a dative (*κύανοχαίτα Ποσειδάωνι*, Antimachus), etc.

³ See also *supra* 132 note.

planation has nothing against it except the single form *Τλασίαφο*, which is found on a Corcyraean inscription (the *φ* is almost inexplicable).¹ Whatever may be the case in regard to this, the Æolic form *πολίτᾱο* has regularly corresponding to it, in Doric *πολίτᾱ*, and in Ionic **πολίτηο*, whence *πολίτεω*. The genitives of the *κουνή* in *-ᾱ*, *ὀρνίθοθήρᾱ*, *βορρά* are Dorisms, of which the late Greek and modern Greek genitives in *-η*, *Ἑρμῇ*, are imitations. In ancient Attic they appear to have been unknown.

What then must be thought of the Attic and common Greek genitive *πολίτου*, *ταμίου*? It has recently been attributed to the contraction of **πολίτεο* = **πολίτηο*. But it would be very strange, to say the least of it, that Attic, in which, as we know, metathesis of quantity was so prevalent,² should have had **πολίτεο* where even Ionic has *πολίτεω*, especially when it has *βασιλέως* as contrasted with Ionic *βασιλέος*. It is better then to abide by the old view that *πολίτου* is simply due to the analogy of the ending *-ου* of the 2nd declension, which is itself contracted from the *-οο* which produced *πολίτᾱο*. Thus analogy again travelled along the same road which it had already taken four centuries earlier, so much logic, we might almost say necessity, is there in its apparent caprices.³

Lastly we must mention the influence which has been exercised on these stems, especially in the Ionic of Herodotus, by forms like *Σωκράτης* of the 3rd declension, on account of the identity of their termination *ς* in the nominative; we find the vocative *Πρήξασπες*, accus. *δεσπότεα*, etc. On the other hand the acc. *Σωκράτην*, *τριήρην*, gen. *Σωσθένου*, etc., belong to the best period of Attic.

SECTION III.

STEMS IN *i-* (GK. *-yā*, LAT. *-iē-*).

(197) We have seen above how an Indo-European accusative of feminine stems, **woqī-* (voice), **spekī-* (look), became in

¹ This may be simply a wrong spelling, or an arbitrary sign for *γ* (*Τλασίαο*? on the analogy of *ἵππιοο*). In any case, it is exaggerating the importance of this isolated form to base on it the hypothesis of a primitive genitive of the 2nd declension in *-ο-φο*.

² *Supra* 76 B and C.

³ *Supra* 112 and 151.

Greek $\delta\sigma\alpha\tilde{\nu}$, in Latin *speciēm*, from which forms each language derived a different system of inflexion. The process in Greek is of the simplest character; on $\delta\sigma\alpha\tilde{\nu}$ was based a nominative $\delta\sigma\alpha\tilde{\nu}$, cf. $\chi\acute{\omega}\rho\tilde{\alpha}$ $\chi\acute{\omega}\rho\tilde{\alpha}\nu$, and so also in the case of all nouns in $\tilde{\alpha}$ of the 1st declension, $\mu\omicron\upsilon\sigma\alpha$ (Lesb. $\mu\omicron\iota\sigma\alpha$, Lacon. $\mu\acute{\omega}\acute{\alpha}$) = * $\mu\omicron\nu\tau\gamma\alpha$, $\delta\acute{\omicron}\xi\alpha$ = * $\delta\omicron\kappa\tau\gamma\tilde{\alpha}$, $\acute{\rho}\acute{\iota}\zeta\alpha$ = * $\acute{\rho}\acute{\iota}\delta\gamma\tilde{\alpha}$, $\tilde{\alpha}\mu\iota\lambda\lambda\alpha$ = * $\tilde{\alpha}\mu\iota\lambda\gamma\tilde{\alpha}$, $\gamma\lambda\acute{\omega}\sigma\sigma\alpha$ = * $\gamma\lambda\acute{\omega}\chi\gamma\tilde{\alpha}$, $\sigma\phi\alpha\acute{\iota}\rho\alpha$ = * $\sigma\phi\acute{\alpha}\rho\gamma\tilde{\alpha}$, etc. If $\gamma\lambda\acute{\omega}\sigma\sigma\alpha$ had then been declined strictly on the analogy of $\chi\acute{\omega}\rho\tilde{\alpha}$, the gen. sing. ought to have been * $\gamma\lambda\acute{\omega}\sigma\sigma\tilde{\alpha}\varsigma$, and so on with the other cases; but it is easily conceivable that the long vowel of * $\chi\acute{\omega}\rho\tilde{\alpha}\varsigma$ would lead to a similar lengthening in $\gamma\lambda\acute{\omega}\sigma\sigma\tilde{\alpha}\varsigma$,¹ Ion.-Att. $\gamma\lambda\acute{\omega}\sigma\sigma\eta\varsigma$, so that the two declensions no longer differ except in the nom. and acc. sing., which show the original short vowel.

In Latin we have similarly:—Sing. acc. *speciēm*; abl. *speciē*: *speciēm* = *terrā*: *terram*; gen.-dat. *speciētī*, like *terrātī*; Plur. nom. *speciēs*, which perhaps recalls the lost nom. pl. **terrās*²; acc. *speciēs*, cf. *terrās*; abl.-dat. *speciēbus*, cf. *deabus*; gen. *speciērum*, cf. *terrārum*. There remains only the nom. sing. *speciēs*, which cannot be compared either with *terrā* or **terrā*, and requires a different explanation.

The fact is that the Latin 5th declension is far from being uniform and primitive. Various types of very dissimilar origin have found their way into it under the influence of analogy although its main basis consists of feminines like *speciēs*, *pauperiēs*, *avaritiēs*, etc. Thus *diēs* = **diēws* is equivalent to *Zeús* = **Zhús*, and properly belongs to the 3rd declension;³ but, its acc. *diēm* = **diēm* = *Zēn* being like that of *speciēm*, etc., it follows their mode of inflexion.⁴ *Rēs* was also of the 3rd declension, but its acc. *rem* = **rēm* has made it follow in the same direction. Lastly, *spēs* was a stem in *-es*, as is abundantly proved by the verb *spēr-āre* and the adverb *prosperē* = **prō spēřē* (according to one's hope), whence was afterwards derived

¹ Thus $\gamma\lambda\acute{\omega}\sigma\sigma\tilde{\alpha}\iota$ (dat. sing.): $\gamma\lambda\acute{\omega}\sigma\sigma\tilde{\alpha}\iota\varsigma$ (dat. pl.) = $\chi\acute{\omega}\rho\tilde{\alpha}\iota$: $\chi\acute{\omega}\rho\tilde{\alpha}\iota\varsigma$.

² Unless it is merely an accusative with the function of a nominative, or a form due to the analogy of the 3rd declension.—Cf. *supra* 195, 1

³ Cf. *infra* 213. Hence *Diēspiter* = *Zeús patrēr* is simply the nominative of the compound of which *Jupiter* = *Zeú patrēr* is the vocative.

⁴ It has even taken their gender; though originally masculine, we know that in actual usage it belongs to both genders.

an adjective *prosper*; hence the acc. was **spēr-em*, but the analogy of *diem*, *rem*, *nūbem* produced *spem*, and then the rest of the declension followed in the same direction. It would have been equally possible to decline *nūbēs* **nūbēi* **nūbē*, and if this did not happen, there is no lack of attempts in this direction; for *famēs* (gen. *famīs*) has in the abl. *famē* instead of *famē*; *tabēs* (consumption) has an old abl. *tabī* or rather *tabē*, and *labēs* (stain) an old abl. *labī* (Lucr.) which is doubtless only another mode of writing **labē*.

Hence we see what has taken place; when once *dīēs*, *rēs*, *spēs*, etc., had passed into the 5th declension, the nominative of the *speciem*, etc., whatever its original form, had to conform to their likeness.

CHAPTER II.

IMPARISYLLABIC DECLENSION.

(198) To avoid any confusion, it will be best in this declension to carefully distinguish and study separately, first the terminations themselves, and next the various forms which the stem may take in consequence of the addition of these terminations. This distinction is possible, and even easy, in every case except the nominative singular of the masculines and feminines, in which the modification of the stem is often the only sign of the case. Hence this fundamental case must be considered first.

SECTION I.

NOMINATIVE SINGULAR.

(199) We have seen that the nom. sing. is sometimes characterized by the termination *-s*, while sometimes it has no affix at all.¹ This variation is reproduced here on a very large scale, and nominatives may be distinguished as sigmatic, *e.g.* φλέψ, θρίξ, and non-sigmatic, namely, those in which the only apparent case-sign is a lengthening of the final syllable of the stem, *e.g.* φέρων, πατήρ. Formerly this lengthening was explained as being simply the result of an older *-s*, which had been lost with compensatory lengthening. But this hypothesis cannot be maintained, since it violates phonetic laws; for it is clear that, if well attested sigmatic nominatives like *διδόντ-s, χέρ-s (historically proved), have become διδούς, χείρ, etc., then the supposed forms *φέροντ-s, *πατέρ-s could only have become *φέρους, *πατείρ, not φέρων, πατήρ. Moreover, none of the Indo-European languages show any *-s* in words of this type, cf. especially Sk. *bhādran*, *pitā*, Lat. *pater*; and, if the correspond-

¹ *Supra* 187, 1, and 193, 1.

ing Latin word *ferēn-s* has an *s*, we know that this very fact shows that it is not original.¹ Hence we are forced to conclude that, if these nominatives ever were sigmatic, their final *s* had already disappeared in the Indo-European period, and this is sufficient to justify the distinction we have made. On further examining this distinction, we find that a few nominatives (very rare) combine the sign *-s* with the lengthening, and, lastly, that none of these signs occurs in the nominative of neuter nouns, to which a special place must be assigned.

§ 1. *Sigmatic Nominative.*

(200) We may classify as follows the stems in which the parent-speech admitted final *s*, which is reproduced with more or less fidelity in Greek and Latin.

1. *Vocalic stems*: Gk. πόλι-*s*, ἰδρι-*s*, στάσι-*s*; πολύ-*s*, νέκυ-*s*, νέκυ-*s*, δρύ-*s*, νύ-*s* (Lacon.);² Lat. *avi-s*, *ācri-s* (whence *ācer*³), *gens*=**genti-s*,⁴ *suāvi-s*; *manu-s*, *fructu-s*, *sū-s*, *grū-s*, etc.

2. *Diphthongal stems*: Ζεύ-*s*=**Δυγής*, Lat. *diē-s*,⁵ βοῦ-*s* Dor. βῶ-*s*, Lat. *bō-s*, ναῦ-*s*, ἱππεύ-*s*=**ιππηύ-*s**; with the exception however of derivatives in *-ow-* and *-oy-*,⁶ although Greek, the only language which retains them, has introduced the sigmatic nominative into some stems of the former class, e.g. ἦρω-*s*=**ἦρων-*s**, cf. gen. ἦρω-*os*=**ἦρωf-*os**.

3. *Guttural or labial stems*: Gk. ἄρπαξ=**ἄρπαγ-*s**, θῶρᾱξ, θρίξ=**θρίχ-*s**; φλέψ=**φλέβ-*s**, εὖωψ, etc.; Lat. *audāx ferōx, felīx; plēb-*s*, Aethiop-*s**.

4. *Stems ending in a pure dental*: the dental is assimilated to the *s*, and then the group *ss* is reduced to a single *s*, παῖ-*s*=**παῖos*=**παῖf-*s**, *mīlēs*=**mīlēss*⁷=**mīlīt-*s**. Similarly *λαμπάς*,

¹ *Supra* 47 C.

² From this stem *νύ-* come the forms *νέος*, etc., which are so common in Homer. The stem *νύ-* of the 2nd declension is likewise Homeric.

³ *Supra* 70.

⁴ *Supra* 118 (syncope in imitation of *dēns* and similar cases).

⁵ Cf. *supra* 197.

⁶ Cf. *supra* 131 and *infra* 213, III.

⁷ We must restore these forms, not **παῖs*, **mīlēs*, wherever the last vowels have to be scanned as long, e.g. Il. xxii. 499; for if these vowels had been long by nature, they would certainly have remained so, cf. *δρῆs*, *παρῆs*. *δρῆs* however is read in Il. xxiv. 219; here the shortening must be due to the analogy of *πόλῆs*, *ἐλπίs*.

ἐλπίς, κοῦφότης = *κοῦφότᾱτ-s, ὄρνις = *ὄρνιθ-s (gen. ὄρνιθ-ος); Lat. *lapīs, pietās, virtūs, pecūs* (?) (*ūd-is*), etc.

5. *Stems ending in a dental preceded by a nasal (-nt-)*: the nominative is always sigmatic, Gk. δούς = *δόντ-s, τιθείς = *τιθέντ-s, δεικνύς = *δεικνύντ-s, τυπείς τυφθείς = *τυπέντ-s *τυφθέντ-s, λύσᾱς (Lesb. λύσαις) = *λύσᾱντ-s, πᾱς = *πάντ-s, χαρίεις = *χαρίεντ-s, etc., Lat. *dāns, stāns, *sēns* = *sēt-s, *iēns* = *iγῆντ-s, *dēns* = *dēt-s;¹ with the single exception in Greek of the participles of thematic forms; Latin, through analogy, inserts the *s* even in these forms, *ferēns, amāns, nocēns, audiēns*, etc.

6. *Nasal stems*.—Here lengthening largely prevails; still a few sigmatic forms are found, κτείς (comb) = *κτέν-s, εἰς = *σέμ-s, and doublets like δελφίς δελφῖν, *sanguis* (arch.) *sanguis sanguēn*, where we cannot say which form is the original one. But in *hiem-s* at any rate the final -s is shown to be irregular by the corresponding Greek word χιών (snow) = *χιώμ.² The adjectives in -αν- always have -s, μέλᾱς = *μέλαν-s, τάλᾱς, cf. μέγᾱς.

7. *Liquid stems*.—Lengthening is usual, except after *l*, Gk. ᾱλ-s, Lat. *sāl*,³ and in χέρ-s, later χεῖρ, Dor. χήρ. This compensatory lengthening crept into the oblique cases, so that the regular Homeric χερ-ός became χειρός, and so also χεῖρί, χεῖρε, etc.; χερσί and χεροῖν, however, survived. We may add also μάκαρ-s (blessed, also μακάρ), and μάρτυς (witness, also μάρτυρ), the stem of which is not at all clear.

§ 2. Nominative formed by Lengthening.

(201) 1. *Diphthongal stems*: Gk. ἡχώ = *ἡχῶί, cf. gen. ἡχόος = *ἡχόγ-ος, and so also πειθῶ, Ληγῶ, etc.

2. *-nt-stems*: simple lengthening (only in Greek) when the group -ντ- is preceded by the thematic vowel ο-, φέρων φέροντ-ος, ἰδών ἰδόντ-ος, λύσων, etc.

3. *Nasal stems*.—The nominative formed by lengthening is far commoner than the sigmatic nominative. In particular, it is universal in the numerous stems in -en-, -on-, -men-, -mon-,

¹ *Supra* 123.

² Cf. *supra* 48 A, and *infra* 208.

³ Is the loss of the *s* here phonetic? Cf. *pul-s* (pottage).

e.g. Gk. φρήν (φρεν-ός) τέρην, ἄφρων, κύων (voc. κύον), ποιμήν, ἄκμων (ἄκμον-ος), etc., Lat. *liēn* (gen. *liēn-is*). Latin, in its -en-stems, which however are very rare, has generally lost the lengthening, e.g. *pectēn* instead of **pectēn*, through the analogy, either of the oblique cases (gen. **pectēn-is*, later *pectin-is*) or of the nominative termination of the neuters (*nōmēn* = **gnō-mnē*). In the -on-stems it not only reproduces the lengthening, but also drops the final *n* of the stem, e.g. *homō* (*homēn-is*), *orīgō*, *hirundō*, *cōnsuētūdō*, etc.; this seems to represent a still more primitive form of the Indo-European nominative.¹ In many cases the lengthening does not seem to be confined exclusively to the nominative; but in these cases, either the stem already had a long vowel, which did not admit of a fresh lengthening (e.g. perhaps *aīōn-* etc.²), or the long vowel of the nominative was improperly extended to the oblique cases, as will be seen later on:³ Gk. λειχήν λειχῆν-ος, Ἑλλήν Ἑλλήν-ος, χειμών χειμών-ος; Lat. *liēn liēn-is*, *sermō sermōn-is*, *edō edōn-is*, *latrō latrōn-is*, etc.

Notice also the lengthening in two *m*-stems, *χθών* = **χθώμ*, *χίων* = **χιώμ* (but Lat. *hiēm-s*, and Gk. εἰς = **σέμ-s*), and in the comparatives, the stem of which ends in a nasal only in Greek, not in Latin, *μείζων* *μείζον-ος*.

4. *Liquid stems*.—Lengthening is almost invariable; but it disappears in Latin, owing to the shortening of every final syllable ending in *r*: πατήρ (acc. πατέρα), *pater* = **patēr*; δοτήρ, with long vowel extended to the oblique cases (δοτήρ-ος); so also in φώρ and *fūr*; δώτωρ (gen. δώτορ-ος); *victōr* = **victōr*, *soror* = **sorōr*, where the original long vowel is shown by its having passed into the oblique cases.

5. *-s-stems*.—All stems of this class show the long vowel in the nominative, namely:—(a) the masculines and feminines in -os-, -es-, Gk. αἰδώς (αἰδόος = *αἰδόος-ος), ἀναιδής, εἰγενής, etc., Lat. *honōs* and *honōr* = **honōr*, *arbōs* and *arbōr* = **arbōr* (gen. *arbōr-is*, *honōr-is*), *caedēs* (cf. the infin. *caedēre*,⁴ *dēgenēr* =

¹ The true nominative in Greek would therefore be **ἄκμω*, **ποιμή*, and so also **πατή* **πατῆ*, **δοτή* **δῶτω* **datō*, etc., (cf. Sk. *pitā*, *dātā*). The *n* and *r* must have been restored to the termination through the analogy of the oblique cases.

² Cf. *supra* 154.

³ *Infra* 210.

⁴ *Supra* 125.

**dēgenēr* = **dēgenēs*, etc.;¹ (β) the comparatives in -*γος*-, Gk. *μείζων* complicated by nasalization, Lat. *mājōr* = **mājōr* = **mājōs*, cf. neut. *mājūs* = **mājōs*; (γ) the perfect participles in -*ωός*- (Gk. -*φόσ*- and -*φότ*-), *λελοιπώς* (neut. *λελοιπός*, gen. *λελοιπότ-ος*).

§ 3. Nominative with double case-sign.

(202) The combination of both signs of the nominative is a quite exceptional corruption, e.g. *ἀλώπηκ-ς* (gen. *ἀλώπεκ-ος*), but is common to Greek and Latin and probably very ancient in (Dor.) *πώς* and *pēs*, which, as we have seen [*supra* 200, 4], cannot go back to **πόδ-ς* and **pēd-ς*, where the vowel would only have been long by position; hence we must restore **πώδ-ς* and *pēd-ς*, cf. acc. *πόδ-α* and *pēd-ēm*.² The Attic *πούς* *πούς* is another corruption, still unexplained.

§ 4. Nominative-Accusative of neuter nouns.

(203) In neuter nouns and adjectives, the essential characteristic of the nominative and accusative singular, which are always identical, is the absence of any case-sign, as may be seen at a glance by comparing them with the corresponding masculines.

1. *Vocalic stems*: Gk. *ἴδρι*, *σίναπι*,—*ἄστυ*, *γόνυ*, *γλυκύ*; Lat. *ācre* = **acrī*, *forte*, *mare*, *animal* = **animālī*,—(arch.) *pecū*, *genū*, *cornū* (?).

2. *Explosive stems*: Gk. *γάλα* = **γάλᾱκτ*, *μέλι* = **μέλιτ*, *ἐπηλυ* (foreign) = **ἐπηλυδ*, masc.-fem. *ἐπηλυσ*; Lat. *lāc* = **lāct*; but adjectives like *audāx*, *ferōx*, *fēlīx* have assimilated the neuter to the masculine-feminine.

3. *-nt-stems*: Gk. *τιθέν* = **τιθέντ*, *δευκνύν*, *τυφθέν*, *πᾶν*,³ *χαρίεν*,—*φέρον* = **φέροντ*, *ἰδόν*, etc.; in Latin, assimilation to the masc.-fem., *ferēns*, *prūdēns*.

¹ In *cintis*, *pulvis*, the short vowel seems to come from the oblique cases, unless these words are neuters which have passed into the masculine declension.

² The same double case-sign probably in *vāx* (*φόψ*), *lēx* (*τέgere*), *rēx* (*ρέgere*). *κλέψω* (*κλέπτω*), with an extension of the long vowel to the oblique cases.

³ The circumflex must be due to the analogy of *πᾶς*; moreover, *πρόπαν* is found in Il. i. 601 and *ἄπαν* in Il. xx. 156.

4. *Nasal stems*: Gk. ἔν = *σεμ, μέλᾱν, —τέρεν, εὐδαιμον, —ὄνομα = *ὄνομῆ; Lat. *nōmēn*, *fulmēn*.

5. *Liquid stems*: Gk. ἦπαρ = *ἦπττ, ἦμαρ,¹ etc.; Lat. *jecūr*, *femūr*, *marmūr*, *cicēr*.

6. *-s-stems*: (α) Gk. γένος, εὐγενές, ἀναιδές, κέρᾱς, Lat. *genūs*, *rōbūr*; (β) Gk. μεῖζον, θάσσον, Lat. *mājūs* = **mājōs*; (γ) Gk. λελοιπός, λελυκός.

SECTION II.

CASE-ENDINGS.

(204) I. *Singular*.—1. *Nominative* masc.-fem.: *supra* 200–202.

2. *Nominative* of neuters: *supra* 203.

3. *Vocative*.—The Indo-European vocative consisted of the simple stem without the addition of any affix; moreover, it threw back the accent as far as possible. The latter characteristic is naturally no longer apparent except in Greek; and even there it survives only in a few cases, e.g. πατήρ πάτερ. The former characteristic, on the other hand, can still be recognised very clearly in Greek, and it may be said that the essential distinction between the vocative and nominative is the absence in the vocative both of final *-s* and of lengthening.² Nevertheless, the analogy of the dual and plural and the neuters, in which these two cases were alike from the beginning, has had a great influence on the voc. sing. in two respects: on the one hand, in certain forms, especially oxytones, it has become entirely assimilated to the nominative; and on the other hand, even where a separate vocative exists, its use is almost optional, and the nominative often takes its place.³

Examples: πόλι, γλυκύ;—Ζεῦ, ἱππεῦ, Λητοῖ;—ἄνα = **Φάνακτ*, γύναι = **γύναικ*, παῖ = **παῖδ*, but generally the nominative, ἄρπαξ, and even ἄναξ in ordinary speech;—χαρίεν, μέλαν, Αἴαν, φέρον;—κύν, Ἀπολλόν;—πάτερ, σῶτερ, δῶτορ;—διογενές.

¹ The long vowel in *ἔδωρ* and *πῦρ* is still unexplained.

² Hence the vocative neuter is always identical with the nominative.

³ *Æd. R.* 629, ὦ πόλις πόλις; *ibid.* 14, ἀλλ', ὦ κρατύνων Οἰδίπου χωρᾶς ἐμῆς (κρατύνων Οἰδίπου would scan); *Prometh.* 88. ὦ δῖος αἰθήρ, etc.

Latin has carried the corruption much farther; in this declension the only vocative it retains is *Jū-piter*, which also fulfils the function of a nominative. Everywhere else it is the nominative which fulfils the function of a vocative: *avi-s*, *manu-s*, *fēlix*, *lapis*, *prūdēns*, *homō*, *pater*, *victor*, *nābes*, etc. ✓

4. *Accusative* of masculines and feminines.—The termination is *-m*, which appears very plainly after a vowel; πόλι-ν, στάσι-ν, —ιχθύ-ν, γλυκύ-ν; Lat. *puppi-m*, *turri-m*—*manu-m*, *fructu-m*. But in Latin a confusion took place between the ending of the *i*-stems and that of the far more numerous consonantal stems, so that *avem*, *collem* were formed like *patrem*;¹ the regular termination *i-m* was kept only in a few stems, and in certain words which had become adverbs and so were no longer thought of in connexion with declension: *parti-m* (acc. of *pars* = **parti-s*), *stati-m* = στάσι-ν; whence the not uncommon adverbial suffix *-tim* *-sim*, *sēnsim*, *cōnfestim*, *pedetentim*, etc.

When the stem ends in a consonant, the final *m* naturally becomes *ṃ*, and produces in Greek *-a*, in Latin *-em*: πόδ-α = *πόδ-ṃ and *ped-em*, ποιμέν-α *homin-em*, φέροντ-α *ferent-em*, πατέρ-α *patr-em*, etc.; after a semi-vowel, ἱππῆα = ἱππῆα = *ἱππῆῃ-α, Λητόα (Λητώ) = *Λητόγ-α or *Λητόῃ-α,² but also Dor. Λᾶτῶν, Ion. Λητοῦν.

Greek has not remained free from confusions between these two classes of stems. On account of the similarity of the nominatives, the stems ἔριδ-, χάριτ-, ὄρνιθ- and others have borrowed their accusatives from πόλι- and similar stems, and hence we find ἔριν, χάριν, ὄρνιν³ (also ἔριδα, ὄρνιθα), etc.; on the other hand, while the common accusative was εἰρύν, we find in the poets the form εἰρέα corresponding to the gen. εἰρέος. The form θυγατέραν (on the model of δότειραν) belongs only to very late Greek.

¹ The analogy started from the identity of the datives, *avem* : *avi* = *patrem* : *patrē*.

² So also in Latin after a long vowel; thus the stem *sū-* makes *suem* = **sūc-ṃ* by breaking up the *ū*, *supra* 71 and 112.

³ *Ἐριν : ἔρις = πόλις : πόλις. So κόριν (Il. xiii. 181) and κόρυθα (Il. xi. 375), Σωκράτην (*supra* 196 in *fine*), ἥρωα, Att. ἥρω, but Ion. ἥρων, etc. The same phenomenon must have taken place in Latin, if we may judge from the comparison of *clāvis* (gen. *clāvīs*) with κλεις = κληίς = *κλᾶFιδ-ς (gen. κλειδ-ός).

5. *Accusative neuter* : always like the nominative.

6. *Ablative* (1).—Admitting that there originally existed in this declension an ablative in *d* preceded by a vowel,¹ of which there is no trace in Greek or Sanskrit, Latin, in any case, can only have kept it in *i*- and *u*-stems, e.g. *puppī* = **puppīd* = **puppī-əd* (?), and *manū* = **manūd* = **manū-əd* (?). But it is also possible that **puppīd* and **manūd* were formed simply on the analogy of the relation between *servōs* and **servōd* in the 2nd declension. However this may be, it is quite certain that *puppī*, *manū* are the only true ablatives of this declension, in other words that *patr-ē*, for example, cannot go back to **patrēd*, since final *d* is only lost after a long vowel. The ablative in *-ē* is therefore very likely a locative;² it certainly fulfils the function of the locative (after *in*, *sub*, etc.), and has been confused with it in a manner which will be explained subsequently.

The ablative has remained pure in the *u*-stems (4th decl.): *magistratūd* (*S. C. de Bacch.*), *manū*, *genū*, and the supines in *-tū*,³ with the exception of the very rare barbarism *fructō*.

The ablative of the *i*-stems, in which the final *d* is still found on old inscriptions, *marīd*, *clāsīd*, *turrī*, *ācrī*, *animālī*, has not only been kept in certain words, but has even spread beyond its proper limits. We find *airīd*, *cōventiōnīd*, although the stems are consonantal, *ais-* (brass), *cōventiōn-*, etc., and, in old Latin, *corporē* and *corporī*, *mājōrē* and *mājōrī*, *prudentē* and *prudentī* are used indifferently, probably through the influence of the regular dative *prudent-ī* and the identity of the two cases in the 2nd declension (*servō*). In classical Latin this alternation is scarcely retained except by the poets, and then only in stems ending in *-nt-* or an explosive (abl. *fēlicī*); but in inscriptions it is much more common. Of course this final *ī* could also be written *ei* or *ē*: whence the scansion *Gnaivōd patrē prōgnātus* (Ep. Scip.); and also probably the word *DICTATORE* (*Col. Rostr.*) which, if not a pseudo-archaic barbarism, must be read with the *ē* = *ī*, like *NAVALED* = *nāvālīd* in the same inscription.

¹ Presumably **ed*, *supra* 187, 4. ² *Infra* 13, or an instrumental, *infra* 10.

³ *Supra* 119. But *sue*, *grue*, like acc. *suem*.

But the opposite phenomenon also took place, and that too over a much wider area; that is, the termination *-ē* of the ablative (locative) of consonantal stems was extended to the *i*-stems, and on the model of *pede*, *patre* were formed *ave*, *ove*, *igne*, *colle*, *turre*,¹ etc. The regular termination scarcely ever remained unchanged except in the neuters (*mare*, *animal*), where it prevented the confusion of the ablative with the nominative,² and for the same reason in the declension of adjectives in *-i*-, *-ri*- and *-li*-.

In Greek the ablative of the 3rd decl. is entirely wanting. But the termination of the adverbial ablatives of the 2nd (σφῶς) was wrongly extended to the 3rd, and from βραδύς, σαφής, διαφέρων were formed the adverbs βραδέως (slowly), σαφέως σαφῶς (clearly), διαφερόντως (differently), Hom. τεχνηέντως (Od. v. 270), just as if the stems were *βραδέο-, *σαφέο-, *σαφό-, *διαφέροντο-, etc.³

7. *Ablative* (2).—It is possible that the form ὀνόματος, which is usually regarded as a genitive, ought to be divided ὀνόμα-τος and explained as an ablative in *-tos* from the stem ὀνόμα-: from this form and from the nom. pl. ὀνόματα would come the interpolated τ of the Greek declension, which is wanting in the Latin *nōmin-is*.⁴ We find the same ablative in Latin *rādīc-i-tus*, with the insertion of an *i* on the analogy of *fund-i-tus*.

8. *Ablative* (3).—Some examples of this are found in Homer, ἡῷ-θεν (from the dawn), usually with the insertion of a connecting-vowel *o* on the analogy of the *-o*-stems and the genitive πατρός,⁵ e.g. πατρ-ό-θεν, Δι-ό-θεν, ἄλ-ό-θεν.

9. *Instrumental* (1).—If, as there is a tendency to admit, the sign of this case was **-ā*, we may recognise it in ἄμ-α (together), perhaps in παρ-ά (cf. gen. πάρ-ος, dat. παρ-αί, loc. περ-ί, which are used as prepositions) and in πεδά, which was used by the

¹ Thus *avē* : *avī* (dat.) = *patre* : *patri*.

² Hence the analogy in question must have taken place after the change of final *i* to *e* (*mare* = **marī*), but before the loss of the final vowel of *animal* = *animāle*.

³ It will be seen that the confusion between two systems of inflexion has been the chief cause of the deviations in declension in both languages; but in Greek it is the 2nd decl. which has had a preponderating influence, in Latin the declension of *-i*-stems. We shall find many examples of this.

⁴ Cf. *supra* 115, 4, and *infra* 210.

⁵ Cf. *supra* 179.

Æolians for μετά (with) and would correspond to Lat. *ped-ē*. In πάντ-η, Dor. παντ-ᾶ, the long vowel at the end is due to the analogy of the parasyllabic declension.¹

10. *Instrumental* (2).—Only a few examples in Homer: ἱφι = *Fī-φι, cf. Lat. *vī-s*, ἐρέβεισ-φιν, ὄχεσ-φιν. In Latin only *i-bī* and *u-bī* (from a demonstrative stem *u-, cf. *u-ter*), with a final lengthening of obscure origin.²

11. *Dative*.—The Indo-European termination was probably *-ay, which reappears in Greek in the two types of infinitive represented by δόμεν-αι and ἰέν-αι,³ most probably also in χαμ-αί, dative of χθών. Possibly a faint reminiscence of it is to be traced in Homeric locatives ending in a long vowel, such as πατέρι, κόρυθι, νῆι, which would thus combine the -ι of the locative with the long quantity of the dative. Everywhere else in Greek the dative has disappeared, being entirely superseded by the locative. In Latin, on the contrary, it is the dative which has prevailed and which is found in all stems of the 3rd and 4th declensions, *manuī* (often replaced by the abl. *manū*, especially in Caesar),⁴ *ped-ī*, *patr-ī*, *victōr-ī*, *nōmin-ī*, etc. The spellings *ped-ei* and *ped-ē* are also found. In *i*-stems, the final -ī was naturally contracted with that of the stem (*ovī* = *ovi-ī or *ovey-ī), and, starting from the purely external resemblance between *ovī* and *pedī*, analogy assimilated to one another many of the terminations of *i*-stems and consonantal stems, *avē* like *pedē*, *pedēs* like *ovēs*, etc.

12. *Locative* (1) (no termination).—This case appears, not only in infinitives like δόμεν and λύειν = *λύεειν,⁵ but in αἰές (Dor.), locative of a stem of which αἰεί (Hom.), αἰί (Att.) = *aifεσ-ι is the locative in -ι, as well as in αἰέν (Ion.) from a stem *aifέν-, cf. αἰών.⁶

13. *Locative* (2).—The termination is -ι: Gk. πόλε-ι, ἄστυ-ι, ἰχθύ-ι, ποδ-ί, ποιμέν-ι, ὀνόματ-ι, πατρ-ί, δοτῆρ-ι, δώτορ-ι, αἰδοῖ = *αιδόσ-ι, γένει = *γένεισ-ι, etc. In Latin, though it does not seem so at first sight, this case has been preserved almost equally

¹ *Sup* a 187, 7.

² *Cf. infra* 225, 6.

³ *Supra* 115, 5, and 130.

⁴ *Cf. the supines dictū and dictū, supra* 119.

⁵ *Supra* 115, 5, and 130.

⁶ *Cf. also the locative with no termination χθές (yesterday) = Sk. hyás, he dat. her-ī (yesterday), and the locative with termination here = *hes-ī.*

well. It is not difficult to recognise it in *rūre* = **rūr-ī*, *Babylōn-ē*, and all similar words, which are still used in a locative sense without a preposition, although the dative *rūrī* has also come to be wrongly used with the same function.¹ Hence the conclusion is irresistible, that the so-called ablative in *-ē*, which may be used either as a locative (*in pede*), instrumental (*pede*, by foot), or ablative (*ā pede*), was originally really a locative, *ped-ē* = **ped-ī*, *homin-ē*, *nōmin-ē*, *patr-ē*, *datōr-ē*, *acr-ē*, *gener-ē*, etc. Consequently the locative has only been entirely lost in the 4th declension, and even there *manū* may go back to **manūē* quite as well as to **manūd*.

14. *Genitive*.—It is highly probable that Indo-European had two terminations for the imparisyllabic gen. sing., or, to speak more accurately, two forms, one normal, the other deflected, of the same termination, **-ēs* and **-ōs*.² However this may be, Greek recognises only the deflected form: ἡδέ-ος, ἰχθύ-ος, ἱππῆ-ος, ποδ-ός, ἄκμων-ος, φέροντ-ος, πατρ-ός, αἰδοῦς = **aidōōs-ος*, γένους = **gēneōs-ος*, etc. In Latin, on the other hand, the only traces of this termination are a few archaic genitives, *senātu-ος*, *patr-us*, *Castor-us*, *Caesar-us*, *aer-us*. It is, however, represented in the gen. sing. of the 4th decl., *manūs*; for it is much easier to understand the contraction of *ūō* or *ūū* to *ū* than of *ūē*, still less *ūī*.³ But, with these exceptions, the termination *-ēs* is universal, either under the archaic form *-es* (*Salūt-es*, *Cerer-es*, *Apolōn-es*), or under the classical and more familiar form *-is*, *su-is*, *ped-is*, *homin-is*, *nōmin-is*, *patr-is*, *mājōr-is*, etc.

The ending of the gen. sing. of *i*-stems is the only peculiarity. It would seem that the proper form ought to have been **ovīs* = **ovī-ēs* or **ovey-ēs*. The short vowel in *ovīs* is no doubt due to the analogy of the consonantal stems.⁴

(205) II. *Dual*.—Entirely lost in Latin.

1. *Direct Case*.—This case, with its ending *-ē*, seems to have been preserved in a purer form in Greek than in any other

¹ Cf. the triplet *mānē mānē mānī* (in the morning).

² Possibly they were syntactical doublets. Similarly we find *-mēs* and *-mōs* as the termination of the 1st pl. of verbs, *infra* 247, 1.

³ The incorrect genitive *senātī* is due to the analogy of the 2nd declension.

⁴ Thus *ovīs* : *pedīs* = *ovī* : *pedī*, and so in all other cases.

language, even Sanskrit: πόδ-ε, χεῖρ-ε, ἀνέρ-ε, etc. But its existence is only established in the case of a few stems, and in several it is only apparent; thus τείχη, ἄσση (Att.) cannot be contracted from *τείχῃε, *ἄσσηε, as it is taught by the ordinary grammars, but are plurals used as duals.

2. *Oblique Case*.—Whatever may have been the original termination of this case, it is evident that, if a stem ἵππο- gave ἵππο-ων, a stem πόδ- could scarcely give anything but *ποδ-γιν; hence we must recognise in Hom. ποδ-οῖν and Att. ποδ-οῖν an analogical extension of the endings οὖν οὖν of the 2nd declension.

(206) III. *Plural*.—1. *Nominative-Vocative* masculine and feminine: termination *-ēs, retained in Greek, πόλεις=πόλε-ες, ἰχθύ-ες, ἡδεῖς=ἡδέ-ες, πόδ-ες, ποιμέν-ες, πατέρ-ες, etc. Hence we should expect in Latin *ped-īs=*ped-ēs, which would be confused with the gen. sing. Analogy guarded against this confusion: the *i*-stems regularly formed ovēs (also written oveis and ovīs)=*ovēy-ēs, cf. πόλεις=*πόλε-ες, and this ending -ēs became the regular termination of the 3rd decl., ped-ēs, homin-eis, ferent-ēs, patr-ēs,¹ etc.

But what, then, is to be thought of manūs? In any case it cannot go back to *manu-ēs, cf. su-ēs. Can it go back to *manu-ēs? This is hardly possible, since sūēm has remained, and *sūēs has become suis. It is much more likely that manūs is an accusative plural used as nominative. It was easy for such a confusion to take place in Latin, where the nom. and acc. pl. of the 3rd decl. were to all outward appearance identical.²

2. *Nominative-Vocative-Accusative* neuter: termination *-ā, Gk. τείχη=τείχε-α and κέρα=*κέρασ-α, ἄσση=*ἄσσηε, Lat. gener-α, mari-α, nōmīn-α,³ etc. Here also the influence of the *i*-stems

¹ Thus pedēs: pedi=ovēs: ovī. It will be seen that the identification of these two classes of stems, starting from a single point, was extended to all with logical strictness. The short quantity is believed to appear in turbinēs and forēs (Plaut. Trinum. 835, Stich. 311).

² Thus manūs (nom.): manūs (acc.)=pedēs (nom.): pedēs (acc.).

³ In those cases where the Latin termination *a* appears as long, e.g. the Saturnian line mors perfectit tua ut essent omniā brevīa (Ep. Scip.), we must suppose that the lengthening is due to the analogy of the originally long final vowel of the 2nd decl., jugā, cf. supra 190, 2. It was this lengthening, which certainly existed sporadically, that in this particular instance kept

made itself felt, but it was restricted to the participles and adjectives in *-nt-* and *c-*: thus the regular **ferent-a*, **prudent-a*, etc., became *ferent-ia*, *prudent-ia*, *audāc-ia*, *fēlic-ia*, *victric-ia*, etc. *Silent-a* was still used in an old tragedy.¹

3. *Accusative* masculine and feminine.—The sign **-ns* after a vowel, **-ns* after a consonant, pervades the whole declension: Gk. πόλις (Herod.) = **πόλι-ns*, ἰχθύς = **ἰχθύ-ns*, σῦς, δρύς, etc., πόδ-ās = **πόδ-ns* (cf. πόδ-ā = **πόδ-ns*), ποιμέν-ās, φέροντ-ās, πατέρ-ās, etc., Lat. *avīs* (also written *aveis* and *avēs*) = **avi-ns*, *manūs* = **manu-ns*, *pedēs* = **ped-ēs* = **ped-ns* (cf. *quotiēns* and *quotiēs*), *homin-ēs*, *ferent-ēs*, *patr-ēs*, etc. The partial likeness between the nom. *avēs* and acc. *avīs*, which the fluctuating spelling tended to increase, and that between the acc. *avīs* *avēs* and the acc. *ferentēs* *ferentīs*, caused them to become entirely confused, so that in the 3rd decl. the nom. and acc. became identical. In Greek, ἰχθύ-ας (Hom.), πόλι-ās (Hom.) and πόλε-ās are due to the intrusion of the termination *-ās* borrowed from the consonantal stems. The same is the case with *πελέκεας*, *ἡδέας* (we should expect **πελέκ-ns*, **ἡδ-ns*, cf. acc. sing. *πέλεκυ-ν*, *ἡδύ-ν*), which are formed on the analogy of the genitives *πελέκε-ος*, *ἡδέ-ος*, etc. The Attic forms πόλεις, πελέκεις, ἡδεῖς = **ἡδέf-ēs*, *εὐγενεῖς* = **εὐγενέ-ēs*, are nominatives used as accusatives, just as we have seen above that *manūs* is an accusative used as nominative. Similarly the stems in *-γύ-* have *ἱππέας* = **ἱππῆās* = **ἱππῆf-ās* and *ἱππεῖς* = *ἱππέ-ēs*. The form ὄρνις or ὄρνεις (*Ed. R.* 966) for ὄρνιθας is due to the analogy of πόλις or πόλεις (cf. *supra* 204, 4).

4. *Instrumental*.—A few examples in Homer: νόσ-φι (behind, cf. Lat. *nati-bus*), ὄρεσ-φι, στήθεσ-φι; with insertion of the *-o-* of the 2nd decl., κοτυληδον-ό-φιν (*Od.* v. 433). In Latin it was confused with the dative-ablative.

5. *Dative-Ablative-Instrumental* (Latin).—Indo-European had a termination **-bhīs* (Sk. *-bhis*) for the instr. pl. and **-bhios* (Sk. *-bhiyas*) for the dat.-abl. pl. The former would have become in Latin **-bīs*, the latter **-biōs*, *-biūs*. These two terminations

the final vowel *ā* from being regularly changed to *ē*, cf. *supra* 35 A a, and my *Esq. morphol.* IV. (Douai 1887).

¹ Gell. xix. 7. The analogy started chiefly from the dat. pl., *infra* 5 *prudentia* : *prudentibus* = *ācria* : *ācribus*).

seem to have coalesced in *-būs*,¹ which is used in all three functions: *avi-bus*, *arcu-bus*, *bō-bus*, *sū-bus*, *nūbi-bus* = **nūbēs-bus*.² Except in this last case and others like it (*mōlibus*), the termination *-bus* is never added directly to stems ending in a consonant, but requires the insertion of a connecting-vowel *-i-* borrowed from the declension of the *i*-stems: the regular **homen-bus*, **ped-bus*, etc., have been superseded by *ped-i-bus*,³ *hominibus*, *ferentibus*, *patribus*, *honōribus*, *generibus*, etc. This analogy has extended even to vocalic stems, since *sui-bus* likewise exists, and it has changed **manu-bus*, **frūctu-bus* to *manibus*, *frūctibus*,⁴ leaving scarcely any forms unchanged except *portubus*, *tribubus*, *partubus*, *arcubus*, *artubus*, the last three perhaps because otherwise they would have been confused with the dat. pl. of *pars*, *arx* and *ars*.

6. *Locative* (Greek).—The primitive termination *-*σν* was superseded by *-σι* or *-σιν*;⁵ where the *σ* was intervocalic and so was necessarily dropped, it was restored on the analogy of those cases where, not being intervocalic, it regularly remained: *πόλε-σι*, *ἰχθῦ-σιν*, *ἡδέ-σι*, *ἦρω-σι*, *ἰππεῦ-σι*, *φλεψί*, *θριξί*, Hom. *ποσσί* = **ποδ-σι*, with reduction *ποσί*, *φέρουσι* = **φέρονσι* (Lesb. *φέροισι*) = **φέρονσσι* = *φέροντ-σι*, *πατράσ-ι* = **πατρ-σι* (Sk. *pitṛ-ṣu*), Hom. *τείχεσ-σι* and with reduction *τείχεσι*. This ending *-εσσι* has a very curious history; the whole ending being taken for a termination of the loc. pl. was introduced as such into stems of all classes, Hom. *πολί-εσσι*, *σύ-εσσι*, *ἡρώ-εσσι*, *πόδ-εσσι*, *κύν-εσσι*, *Μυρμιδόν-εσσι*, *ἀκούντ-εσσι*, *χείρ-εσσι*, *ἄνδρ-εσσι*, *κερά-εσσι*, etc., etc., and at last it actually contaminated the forms which had served as its starting-point, e.g. *ἐπέεσσι* = **ἑπ-έσ-εσ-σιν*, *νεφέεσσι*, etc. Cases of contamination by means of *-εσι* are very much rarer, *χείρ-εσι* (Il. xx. 468), *ἀνάκτ-εσι* (Od. xv. 557). The alter-

¹ The archaic quantity *-būs* is very rare and due to mere accidents of prosody. Cf. the archaic form *nāve-bōs* = *nāvibus*.

² This correspondence, which was not given in the part dealing with phonology because it has not yet been reduced to a law, must nevertheless be provisionally admitted, as being the only way of explaining the deviation in the declension of words like *nūbēs*, *infra* 212, II.

³ Thus *pedibus* : *pedī* (dat. sing.) = *ovibus* : *ovī*.

⁴ Here, however, phonetic influences may have had something to do with the change, cf. *optumus* and *optimus*, and *supra* 30.

⁵ *Supra* 189, 5.

nation of *-εσι* and *-εσσι* led to the doubling of the *σ* in *πόλεσσι*, *νέκυσσι*, etc.

A barbarism which is very rare in literature, but very common in inscriptions, consists in the transference to this declension of the terminations *-οισι* *-οις* belonging to the loc. and dat. of the 2nd decl.¹: *πάντ-οις*, *ἀνδρ-οις*, *ἀγών-οις*, etc., *ὄσσοισι* (in the eyes) and *ὄσσοις* (cf. nom. dual *ὄσσε*) in Hesiod and Sappho, etc.

7. *Genitive*.—The primitive termination was **-ōm*, and there is nothing to hinder us from believing that Latin accurately reproduces it in its ending *-ūm*: *bo-um*, *avi-um*, *manu-um* (contracted *currum*²), *ped-um*, *ferent-um*, *homin-um*, *patr-um*, *gener-um*, etc. On the other hand the long vowel in Greek shows, here as in the oblique case of the dual, the introduction of the ending of the 2nd decl., *πόλε-ων*, *ἡδέ-ων*, *ιχθύ-ων*, *ποδ-ων*, *φερόντ-ων*, *κυν-ων*, *πατέρ-ων*, *τειχέων*, etc.

In Latin, the analogy of the *i*-stems had a great influence on this case, and led to the substitution for *-um* of a termination *-ium*, in a few nouns, *urb-ium*,³ *arc-ium*, but especially in those adjectives which take *-ia* in the nom. pl. neut., *vorāc-ium*, *felīc-ium*, *victīc-ium*, *ferent-ium*, *prudent-ium*, etc. In the last class of words the genitive in *-um* survived, chiefly in the poets, and the constant co-existence side by side of the two forms *sapientium* and *sapientum* even led to the suppression of the *i* in some genitives which ought to have contained it, *canum*, *apum* (of bees), *juvenum*, etc.*

SECTION III.

VARIATIONS OF THE STEM IN DECLENSION.

(207) The variations of the stem in declension depend on a vowel-gradation, which is sometimes very clear, sometimes hardly perceptible or even entirely lost; this gradation usually

¹ Thus *πάντοις* : *πάντων* = *ἑπτοῖς* : *ἑπτών*.

² *Æn.* vi. 653.—The curious ablative *alitum* for *ālītum* can only be explained through the analogy of the 4th declension.

³ Thus *urbium* : *urbius* = *ovium* : *ovidus*.

⁴ More simply *canum* : *canibus* = *pedum* : *pedibus*. *Juvenum* might be the gen. of a stem **juven-*, cf. Sk. *yuvān-* (young) and the derivative *juven-tās*.

affects only the last syllable of the stem, called the predestinational syllable. It makes no difference, so far as the gradation is concerned, whether this syllable belongs to the root or to a suffix.

The gradation may include only one degree, when all the cases are assimilated to one another, $\delta\omicron\tau\acute{\eta}\rho\ \delta\omicron\tau\acute{\eta}\rho\alpha\ \delta\omicron\tau\acute{\eta}\rho\omicron\varsigma$, *sermō sermōnem sermōnis*; or two, which is the most frequent case, $\delta\acute{\omega}\tau\omega\rho\ \delta\acute{\omega}\tau\omicron\rho\alpha\ \delta\acute{\omega}\tau\omicron\rho\omicron\varsigma$, *homō homōnem homōnis*; or three, that is, a strong form, $\pi\alpha\tau\acute{\eta}\rho$, a middle form with the last syllable of the stem short, $\pi\alpha\tau\acute{\epsilon}\rho\alpha$, and a weak form with the last syllable of the stem reduced, $\pi\alpha\tau\rho\acute{\omicron}\varsigma$.

But the possible variations do not end here; we often find a much larger number of grades, especially in stems whose last syllable is capable of taking the deflected form. Thus in the single stem **ped-* we can distinguish: a strong and deflected form ($\pi\acute{\omega}\varsigma$), a strong and normal form (*pēs*), both due to the lengthening of the nominative,¹ a middle and deflected form ($\pi\acute{\omicron}\delta\alpha$), a middle and normal form (*pedem*), lastly a weak form with reduction and complete loss of the vowel² in the compound $\epsilon\pi\iota\text{-}\beta\delta\text{-}\alpha\iota$ (day after a feast), which reveals to us the theoretical possibility of a gen. sing. * $\beta\delta\text{-}\acute{\omicron}\varsigma$ = * $\pi\delta\text{-}\acute{\omicron}\varsigma$. In both languages, but especially Latin, analogy naturally levelled many of these original distinctions.

So great indeed has been its levelling influence that it is impossible to determine (at least merely from the survey of Greek and Latin, with which alone we are now concerned) what cases corresponded respectively to the strong, middle, and weak forms of the last syllable of the stem. All that we can say is, that in all probability the nominative singular was a strong case, the accusative strong or middle, the vocative and locative middle, the other cases weak;³ but Greek, which has confused the locative with the dative, treats it as a weak case when it makes any difference at all.

The origin of the vowel-gradation, which is mainly due to the fact that in certain cases the last syllable of the stem

¹ Cf. *supra* 202.

² Cf. *supra* 41, 1.

³ In the plural even the accusative seems to have been a weak case, but this point is still very obscure. Greek treats it as a middle case.

was reduced through its accent being transferred to the termination, is shown most clearly by Sanskrit. But Greek still shows it by the striking contrast in accentuation between *πατήρ πατέρα* and *πατρός πατρί*. Further, the accentuation, which was the primary cause of the gradation, has remained unchanged in many stems from which the gradation has disappeared, namely in all monosyllables, *εἰς ἕνα ἐνός ἐνί, πῶς πόδα ποδός ποδί*,¹ and so also in the plural, *πόδες πόδας ποδῶν ποσί*, and in the dual, *πόδε ποδοῖν*, but here probably through the analogy of the singular, for the law of gradation in the plural seems to have been different.

(208) Gradation is so general and so constant a factor in the whole system of inflexion that we are enabled to assert with almost absolute certainty that it dominated even those stems in which it is least apparent. Where it has been lost in declension, it often reappears in derivation, which is subject to the same laws. Thus, in spite of *tempus temporis*, the regular declension *tempus *temperis* (cf. *genus generis*) is revealed to us by the derivatives *temper-āre*, *tempe-tās* (cf. *gener-āre*), and we see at the same time that the *o* of **tempōs*, **corpōs* has been wrongly extended to the oblique cases. So also the primitive declension *honōs *honēsis* is shown by the derivatives *hones-tu-s*, *hones-tās*, by the genitive *oner-is*, which belongs to an identical stem,² and, as the formation of *honōs* is undoubtedly identical with that of the Greek *αἰδώς*,³ we shall hence infer the existence of a declension *αἰδώς *αἰδέσος*, more ancient than the declension *αἰδώς *αἰδόσος*. So, lastly, the reduced form *-is-* of the comparative suffix *-ios-*, though no longer found in the declension of the comparative, appears before the secondary superlative suffix, *μέγ-ισ-το-s*, *par-is-simu-s*.⁴

This is not all. The declension of such stems, when viewed in each language separately, seems uniformity itself. But it is only necessary to pass from one language to the other to perceive the primitive variety, which has been changed to uni-

¹ With the single exception of the participles, *θεῖς θέντος, δούς δόντος*, and of *πᾶς* in the plural only, *παντός παντί πάντων πᾶσι*.

² *Supra* 78, 2. The exact opposite took place in *onus*, which kept the *e* in declension and introduced the *o* in derivation, *onus-tu-s*.

³ *Supra* 124, 1.

⁴ *Supra* 126.

formity by each language after its own fashion. Let us consider, for example, part of the possible declension of the two Indo-European stems, **pod-* (foot), **ghiom-* (snow, winter), and see what Greek and Latin respectively have made of it:

N.	* <i>pôd-s</i>	πὺς, πούς (= *πῶδ-ς)	<i>pēs</i> = <i>pēd-s</i>
A.	* <i>pôd-m̃</i> or <i>pôd-m̃</i>	πόδ-α	<i>ped-em</i>
L.	* <i>péd-i</i>	ποδ-ί	<i>ped-e</i>
D.	* <i>pđ-dy</i>	"	<i>ped-i</i>
G.	* <i>pđ-ós</i> , * <i>pđ-és</i>	ποδ-ός	<i>ped-is</i>
N.	* <i>ghiom</i>	χιών = *χῶμ	<i>hiem-s</i> ²
A.	* <i>ghiom-m̃</i>	χιόν-α ¹	<i>hiem-em</i>
L.	* <i>ghiēm-i</i>	χιόν-ι	<i>hiem-e</i>
D.	* <i>ghim-dy</i>	"	<i>hiem-i</i>
G.	* <i>ghim-ós</i> , * <i>ghim-és</i>	χιόν-ος	<i>hiem-is</i>

We see what has happened, apart from the other corruptions already studied. The long vowel of the nominative has remained; but Greek has generalized the deflected form of the root or suffix, whereas Latin has generalized the normal form. The result is that the weakest form has entirely disappeared and is no longer to be found except in derivatives, Gk. ἐπι-βδ-αι (*supra*), δύσ-χιμ-ος (icy), Lat. *bim-us* (of two years) = **dvī-hīm-u-s*.

§ 1. Stems ending in an explosive.

(209) Apart from what has been mentioned in connexion with πούς *pēs*,³ the stems of this class no longer show any vowel-gradation, not even a lengthening in the nominative, since in these stems the nominative is sigmatic. The quantity and character of the vowel in the last syllable of the stem remain the same throughout the whole declension. Nevertheless, in Greek alone, the stems in -οντ- (φέρων) show lengthening in the nominative, and the character of the vowel,

¹ The *ν*, which is regular at the end of χιών (*supra* 48) has passed by analogy into the other cases.

² Cf. *supra* 200, 6.

³ And a few similar cases, *supra* 202.

which is different in each language, but remains constant throughout in each, leads one to think of a declension with vowel-gradation, such as *φέρωντ-α*, **φερέντ-ι*, **φερητ-ός*. We even find in the Doric of Heraclea (Magna Graecia) such a loc. pl. as *πῶσσόντασσι*, which is usually explained as a corruption of **πῶσσασσι* = **πῶσσητ-σι*, cf. Sk. *bhārat-su*.

§ 2. Nasal Stems.

(210) I. *Stems in -en-, -men-*.—There is a curious relic of a complete system of vowel-gradation in the declension (much mutilated, it is true) of **φρήν* (sheep), cf. Hom. *πολύ-ρρην* : nom., not used; acc. **φρήν-α*, proved by the gloss of Hesychius *ῥᾶνα ἄρνα*, but changed to *ἄρνα* through the analogy of the other cases; loc. *ἄρν-ι*; gen. *ἄρν-ός* = **φαρν-ός* = **φῆν-ός* with complete reduction of the stem. The corresponding loc. pl. would be **φρα-σί* = **φρη-σί*, and there are still traces of the sonant nasal in the second *α* of *ἄρνασι*, which has however been corrupted through the influence of *ἄρνι*.

While **φρήν* has generalized the weak form, exactly the opposite process has taken place in *φρήν* (diaphragm, heart, mind) in which the middle grade has prevailed throughout; acc. *φρέν-α*, loc. *φρεν-ί*, gen. *φρεν-ός* for **φαρν-ός*, nom. pl. *φρέν-ες*, etc. Nevertheless *φρασί* (= **φρη-σί*) is still found in Pindar. In ordinary Greek this *φρασί* became *φρεσί* through the influence of the loc. sing. *φρενί*.

Most of the stems in *-en-, -men-* are declined like *φρήν*; *ἄρρην ἄρρεν-ος*, *ποιμήν ποιμέν-ος*, etc., and loc. pl. *ποιμέσι*¹ instead of **ποιμασί* = **ποιμνη-σί*, because of *ποιμήνι*. Lastly, a still further degree of corruption consists in the generalization of the long vowel of the nominative: *λειχήν* (eruption) *λειχῆν-ος*, *πευθῆν* (spy) *πευθῆν-ος*, loc. pl. *λειχῆσι*, *πευθῆσι*.

It is this last stage which is reached by Latin, with this limitation, that, if Latin has the long vowel in the nominative, it keeps it in all cases (*liēn liēn-is*), and, if the weak cases

¹ *φρεσί*, *ποιμέσι* cannot of course go back to **φρεν-σί*, **ποιμέν-σι*, which would have become **φρεσι*, **ποιμεισι*.

have kept the short vowel, it passes also into the nominative (*pecten pectin-is*).¹

II. *Stems in -on-, mon-*.—In the declension of the stem *κύων*, as of **φρήν*, the weak form prevails: nom. sing. *κύων*; acc. *κύν-α* for **κύον-α*, through the analogy of the weak cases; loc. *κύν-ι*; gen. *κύν-ός*; nom. pl. *κύν-ες* for **κύον-ες*; acc. *κύν-ας*; gen. *κύνων*; loc. *κύν-σί* like *φρεσί*, etc.²

Latin has an exact counterpart to *κύων* in *car-ō*, stem. *car-on-*; nom. sing. *car-ō*; acc. *carn-em* instead of **caron-em* or **caren-em* on account of the weak cases, dat. *carn-ī*, gen. *carn-is*; nom. pl. *carn-es*, etc. The reduction is not carried so far, but is still quite plain in: nom. sing. *hom-ō*; acc. *homōn-em* or rather *hemōn-em* (arch.),³ either regular or corrupted from the regular **hemōn-em* through intrusion of the long vowel of the nominative, afterwards superseded by *homin-em* on the analogy of the following forms; dat. *homin-ī* = **homen-ī* or **homyn-ī*; gen. *homin-is*; nom. pl. *homin-es*, etc. There perhaps existed a form with complete reduction, **honnēs*, which, being pronounced and written *omnēs*, and meaning successively "men, all men, all," led to the creation by analogy of the nom. sing. *omnis* (Bréal).

This type of gradation was lost in Greek. Latin kept and even extended it, applying it to a large number of stems in *-on-*, chiefly feminines, *imāgō*, *origō*, *ferrūgō*, *cōnsuetūdō*, and even to words borrowed from Greek,⁴ *Apollō*, arch. gen. *Apolōn-es*, whereas the ordinary and classical declension is *Apollin-em Apollin-is*.

Except in the case of *κύων*, Greek extended to the whole declension the form *-ον-, -μον-*: *ἡγεμών*, *ἡγεμόν-ος*, etc.; loc. pl. *ἡγεμό-σι* for **ἡγεμά-σι* = **ἀγεμῆ-σί*. Latin has nothing parallel to this. But, like Greek, it has a large number of stems still further corrupted, which have generalized the long vowel of

¹ *Pectinis* however perhaps has the reduced grade, since it may go back to **pectnnis* just as well as to **pectenis*. We have already seen the possibility of the declension **felen* **feln-is* (gall), *supra* 113.

² Thus *κυσι* = *φρεσι*: *φρεσι*; but not **κυσί*, which would have become **κυσί*.

³ *Vultur in silvis miserum mandēbat homōnem* (Enn.).

⁴ This shows the remarkable vitality of this form of declension.

the nominative: αἰὼν αἰῶν-ος,¹ λειμῶν λειμῶν-ος λειμῶ-σι, *legiō legiōn-is, nātiō nātiōnis, edō edōn-is*, etc.

III. *Neuters in *-mn-*, Gk. -μα, Lat. -men.—No gradation: *nōmen*=**nōmē* and *nōmin-is*=**nōmēn-is* (cf. Sk. *nāmnas*); in Greek, insertion of τ, *ὀνόματ-ι*,² except in loc. pl. *ὀνόμασι*=**ὀνό-μη-σι*.

IV. *Stems in -m-*.—1. εἰς=**σέμ-ς*; the regular declension would be, nom. εἰς ἔν, acc. **ἐμ-α ἔν*, loc. **ἐμ-ι* or *σμ-ί*, gen. **σμ-ός* (cf. fem. *μία*=**σμ-ία*). We find *εἷνα ἐνός ἐνί* through generalization of the ν of ἔν and of the strong form.

2. For *χίων* and *hiem-s*, see *supra* 208.

3. *χθών*=**χθώμ*, cf. the adj. *χθαμ-αλό-ς χθαμ-ηλό-ς* and Lat. *hum-u-s*; nom. *χθών*, acc. *χθόν-α* for **χθόμ-α*; probable dat. *χαμ-αί*=**χ(θ)μη-αί*; the other cases *χθον-ί χθον-ός* on the analogy of *χθόν-α*.

§ 3. Liquid Stems.

(211) I. *Stems in -er-, -ter-*.—In this class, several stems, especially nouns of relationship, have kept the primitive gradation with more or less fidelity: nom. sing. *πατήρ*, acc. *πατέρ-α*, loc. *πατρ-ί*, gen. *πατρ-ός*; nom. pl. *πατέρ-ες*, acc. *πατέρ-ας*, loc. *πατράσι*=**πατρ-σι* (cf. Sk. *pitṛ-ṣu*), gen. *πατέρ-ων*. Such is the classical paradigm; but, although the declension of *πατήρ* is the best preserved of all in this class, it contains at least one form that has been corrupted; the acc. pl. ought perhaps to be reduced, **πατρας*; the gen. pl. certainly ought to be, just as much as the gen. sing., and moreover *πατρῶν* is found in Homer (Od. iv. 687, viii. 245); hence *πατέρων* must be due to the analogy of *πατέρες*.

This analogy spread over a wide area in course of time; in the Homeric age it created *πατέρος, μητέρος* by the side of *πατρός, μητρός*; *μητέρι*, likewise Homeric, is probably the primitive form, cf. Sk. *mātāri*. So also *θυγατέρος* was formed on the model of *θυγατέρα*, and on the other hand *θύγατρα* (Il. i. 13), *θύγατραι, θύγατρας* (Il. xxii. 62) on that of *θύγατρος*. The word that has received the worst treatment in classical Greek is

¹ Cf. however, *supra* 154 and 201, 3.

² Cf. *supra* 204, 7.

ἀνήρ, the regular declension of which would probably be: sing. nom. ἀνήρ, voc. ἄνερ, acc. ἀνέρα, loc. *ἀνέρι or ἀνδρί, gen. ἀνδρός;¹ pl. nom. ἀνέρες, acc. ἀνέρας or ἀνδρας, loc. ἀνδράσι, gen. ἀνδρῶν. In Homer we often find the regular forms ἀνέρα and ἀνέρες, but the ordinary language generalized throughout the whole declension the weak stem ἄνδρα ἄνδρες ἄνδρας.

The same is the case in Latin. Except in the nom.-voc., the strong or middle form of these stems was lost, and *patrem* was said instead of **pater-em* = πατέρ-α, on the model of *patri* and *patris*.

In Greek the middle form was generalized in ἀήρ, αἰθήρ, ἀστήρ (gen. ἀστέρ-ος, but loc. pl. ἀστρά-σι), and other words, and the long vowel of the nominative in all the nouns in -τήρ denoting the agent: δοτήρ, δοτήρ-α, δοτήρ-ος, δοτήρ-σι.

II. *Stems in -or-, -tor-*.—There remains no trace in Greek of a declension δώτωρ, *δωτέρ-α (or δώτορα), *δωτρ-ός, if such a declension ever existed. These forms show no gradation, with the exception of the lengthening of the nominative: δώτωρ, δώτορ-α, δώτορ-ος, δώτορ-σι.

In Latin, the long vowel of the nominative passed even into the oblique cases: **datōr datōr-em datōr-is*, etc.: then, the final syllables in *r* having been shortened, the result has been that the nominative, which was the only case entitled to a long vowel, is the only one that has a short vowel.

§ 4. Sigmatic Stems.

(212) I. *Masculines and feminines in -os-*.—In Greek, simply lengthening of the nominative: αἰδώς *αἰδός-α (αἰδία αἰδῶ) *αἰδός-ος (αἰδός αἰδοῦς). Latin shows more variety: vocalic change without lengthening, *venus vener-em* = **venes-em*; lengthening without vocalic change, *arbōs arbōr-em* = **arbōs-em*. But, in the immense majority of cases, we find a series of corruptions, some phonetic, some analogical, the history of which is as follows; originally *honōs* **honōs-is*; extension of the long vowel of the nominative, **honōs-is*; rhotacism, *honōr-is*; analogical extension of the *r* to the nominative, **honōr*; shortening of the last syllable, *honōr*.

¹ For ἀνδρός = *ἀνρ-ός, cf. *supra* 47 B.

II. *Masculines and feminines in -es-*.—In Greek, lengthening of the nominative: *ψευδής* **ψευδέο-α* (*ψευδέα ψευδῆ*), etc. So also in Latin, *Cerēs Cerēr-is*, but with rhotacism extended to the nominative and consequent shortening, *celer, dēgener*.¹ Originally this class included in Latin a larger number of stems than have been preserved: by comparing, for example, *nūbēs* with Gk. *νέφος* and Sk. *nābhas* (gen. *nābhas-as*), *sēdēs* with *ἔδος*, *mōlēs* with *mōles-tus* (cf. *hones-tu-s*), etc.,² it is easy to see that the regular declension was *nūbēs* **nūbes-is*. The dat.-abl. pl. **nūbes-bus* became *nūbi-bus*, whence through analogy a dat. sing. *nūbi*³ and all the rest of the declension, as though based on a stem **nūbi-*. The result is that, except in the nom. sing., the declension of *nūbēs* no longer differs from that of *ovis*.

III. *Neuters in -os- (-es-)*.—The gradation in these stems is well known: the *o* appears only in the nom.-acc. sing., *τείχος* **τείχεο-ος* (*τείχεος τείχους*), *fūnus* **fūnes-is* (*fūneris*), etc. In Latin, however, several stems have generalized the *o*; **tempōs* **tempōs-is*, **corpōs* **corpōs-is*, which became phonetically *tempus temporis*, etc.

IV. *Neuters in -ās-*.—This declension, which is confined to Greek, shows no gradation, but is based on two stems, one in -*ās-*, the other in -*ār-*: *κέρας κέρατ-ος*, and also **κέρασ-ος* (*κέρας κέρως*), **κέρασ-α* (**κέραα κέρᾱ*), etc.⁴

V. *Greek perfect participles*.—The sigmatic form of the suffix (*-*φοσ-*) appears only in the nom. sing. (*λελυκώς λελυκός*) and in the formation of the feminine (*λελυκυῖα* = **λελυκύσ-ια*). All the rest of the declension is based on a dental stem, with

¹ Perhaps also shortening without rhotacism in the form *cinis* = **cinēs* (for *cinēs* ?), on the model of the oblique cases (**cinēs-is* changed to *cineris*).

² In spite of the difference of quantity in the radical vowel, which may, in all these cases, depend on a very ancient modification of the root. Cf. *supra* 124, 2.

³ Thus *nūbi*: *nūbibus* = *ovī*: *ovibus*. On the other hand it was probably the regular gen. **nūberum* which gave rise to the archaic gen. *boverum* cited by Varro.

⁴ *Supra* 129.—The dative (locative) sing. *κέρᾱ* still remains to be accounted for; *ι* being subscript only after a long vowel, we ought to have *κέραι*. The form *κέρᾱ* must be regarded as a mere variation of spelling, unless (which is highly improbable) it is a true dative (**κέρᾱι* = **κέρᾱ-αι*).—The Hom. nom. pl. *γέρᾱ* (Il. ii. 237), *κρέᾱ* (Il. viii. 231), go back to *γέρᾱ*, *κρέᾱ*, the final *α* being shortened in imitation of the other neuter plurals.

no gradation: ¹ λελυκότ-α λελυκότ-ος, etc. The long vowel of the nominative has spread to the other cases in a few Homeric forms, γεγαῶτ-ος, μεμαῶτ-α; the Attic ἐστῶτα is a contracted form of Ion. ἐστεῶτ-α = *ἐστήτοτ-α.

VI. *Comparatives*.—Greek has two stems: one ending in a nasal, which has passed from the nom. sing. to all the other cases, μείζων μείζον μείζον-ος; the other sigmatic, no longer appearing except in acc. sing. and nom.-acc. pl., but in these cases preferred in classical Greek to the nasal stem: acc. sing. (masc.-fem.) μείζω = *μείζωα = *μείζωσ-α; ² nom. pl. (masc.-fem.) μείζους = *μείζωες = *μείζωσ-ες, used also as acc. pl.; ³ nom.-acc. pl. neut. μείζω = *μείζωα = *μείζωσ-α.

Latin has only the sigmatic stem: originally *mājōs *mājōsis, then mājōris and mājōr, as above in the case of *honor*. The nom. sing. neut. mājus remained uncontaminated, but the rest of the declension has a long vowel on the analogy of the masc.-fem., e.g., neut. pl. mājōra instead of *mājōr-α, cf. *μείζωσ-α.

§ 5. *Diphthongal Stems.*

(213) I. *Monosyllables*.—1. Stem *dyēw- (sky, day); from pre-historic times the *w* was liable to disappear under certain ill-defined conditions, cf. Lat. *dies*, the declension of which is analogical.⁴ The gradation is still very plain in the Greek declension: nom. Ζεύς = *Ζηῆς = *Δυηνῆς, and Ζή-ς (dialectal) = *diē-s*; voc. Ζεῦ, Lat. *Jū(piter)*; acc. Ζῆ-ν (Dor. Δᾱ-ν in Theocritus) = *diē-m*; loc. Δί = Δι-ί; gen. Διός = Δι-ός = **diw-ós* with reduction of the stem-syllable *-ew-*. This primitive declension was liable, in the various dialects, to all kinds of corruptions, the two most important of which are also classical: on the one hand, Διός Δί gave rise to an acc. Δία, the ordinary form in use; on the other, the acc. Ζῆν, being in its turn declined as if

¹ Cf. *supra* 128.

² It is scarcely necessary to observe that μείζω cannot come from μείζωα; there is no similar case of loss of medial *v*.

³ The acc. μείζους cannot be contracted from *μείζωας. The assimilation here is due to the neuter, where the two cases are, quite regularly, identical.

⁴ Called the 5th declension, cf. *supra* 197.

it were a stem ending in *-en-*, gave rise to the Homeric declension Ζῆν-α Ζῆν-ί Ζῆν-ός.¹

2. Stem *gōw- (ox, cow, Sk. *gāu-s*): nom. βοῦ-ς = *βωῦ-ς, Dor. βῶ-ς, Lat. bō-s; acc. βοῦ-ν βῶ-ν, and βόα (rare) = *βόf-a = *gōw-m, Lat. *bov-em*; loc. βοf-ί *bov-e*; dat. bov-ι; gen. βοf-ός *bov-is*, etc.; gen. pl. *boum* = *bōv-ōm.²

3. Stem *nāw- (ship).—Sing.: nom. ναῦ-ς = nāv-s,³ Ion. νῆ-ς through analogy of oblique cases; acc. νᾶf-a = *nāw-m; whence Ion. νῆα and New Ion. νέα,⁴ Att. ναῦ-ν; loc. Dor. νᾶf-ί νᾶ-ί, Lesb. νᾶ-ι, Hom. and Att. νῆ-ι; gen. Dor. νᾶ-ός, Hom. νῆός, New Ion. νεός, Att. νεός.⁵—Plur.: nom. νᾶf-ες νᾶες, Hom. and Att. νῆες, Hom. and New Ion. νέες, late Attic ναῖς borrowed from acc.; acc. Dor. νᾶfas, Ion. νῆας, New Ion. νέας, and Att. ναῖς on analogy of acc. sing.; loc. ναυ-σί = *nāv-sí, Ion. νῆυ-σί through analogy of the other cases; gen. Dor. νᾶ-ῶν, Lesb. νᾶων, Ion. νῆων, New Ion. and Att. νεῶν. Thus there is no gradation.—In Latin, the analogy of the regular dative nāv-ι caused this stem to pass into the *-i*-declension.⁶

II. Stems in *-ῆν-*.—The stem *ιππῆν- is declined throughout without gradation. By the side of the ordinary nom. sing. *ιππεύ-ς* = *ιππῆν-ς, is found a dialectical variation with loss of the semi-vowel as in *diē-s*, e.g. γραφή-ς (Arcad.); this variation is proved especially by Doric proper names, e.g., *Ἀχιλλή-ς, *Ὀδυσσής-ς, as is shown by the corresponding Latin form *Achillēs*, *Ulyssēs*, borrowed doubtless from some Doric dialect of Magna Graecia. This ending of the nom. sing. led to a sporadic confusion of these nouns with proper names in *-es-*:⁷ thus the word Ἄρη-ς, which in Lesbian is declined nom. Ἄρεν-ς, gen. Ἄρεν-ος, etc., has in Homer the corresponding flexion Ἄρη-ς Ἄρη-ος = *Ἄρηf-ος, but also the analogical flexion, voc. Ἄρες, gen. Ἄρεος, etc.

¹ The same anomaly occurs in the declension of *τί-ς*, *infra* 220, 6.

² The form *gw- with complete reduction occurs only in the derivative *βῆ = *gw-ā, which forms part of the compound ἐκατόμ-β-ῆ (sacrifice of a hundred oxen).

³ *Supra* 76, 1 A.

⁴ *Supra* 76, 1 B.

⁵ *Supra* 76, 1 C.

⁶ Thus *nāvis* (nom.): *nāvī* = *avis*: *avī*.

⁷ This confusion is naturally complete in words borrowed by Latin, *Achillēs* *Achillis* like *nāvēs* *nāvis*.

With this exception, the declension is of the simplest character.—Sing.: nom. *ἰππεύς*; voc. *ἰππεῦ*; acc. **ἰππη-α*, Lesb. *ἰππηα*, Hom. *ἰππηα*, Dor. and New Ion. *ἰππέα*, Att. *ἰππέᾱ*; loc. *ἰππη-ι*, whence *ἰππέϊ* and *ἰππεῖ*; gen. Hom. *ἰππη-ος*, New Ion. *ἰππέος*, Att. *ἰππέως*.—Plur.: nom. *ἰππη-ες*, New Ion. *ἰππέες*, Att. *ἰππεῖς* and *ἰππηῖς*; acc. *ἰππη-ας*, New Ion. *ἰππέας*, Att. *ἰππέᾱς* by metathesis, sometimes *ἰππέᾱς* with simple shortening, lastly *ἰππεῖς* and *ἰππηῖς*, borrowed from the nominative; loc. *ἰππεῖ-σι* Panhellenic; gen. *ἰππη-ων*, New Ion. and Att. *ἰππέων*.

III. *Stems in -ow- and -oy-*.—Stems which have the sigmatic nominative (e.g. *ἥρω-ς*)¹ have the long vowel in all cases: *ἥρω-α* = **ἥρω-α*, *ἥρω-ος*, etc. The other stems² have it only in the nom. sing., *πειθῶ* *πειθό-α*. Declension: nom. *Ἀητῶ* = **Ἀᾱτῶγ* or *Ἀητῶ* = **Ἀᾱτῶφ*; voc. *Ἀητοῖ*; acc. Ion. *Ἀητοῦν* (cf. *βοῦν*), Dor. *Ἀᾱτῶν* (cf. *βῶν*), but commonly *Ἀητῶ*³ = *Ἀητῶα* = **Ἀᾱτῶγ-α* or *Ἀᾱτῶφ-α*; the other cases present no difficulty. The external resemblance between these stems and those in *-ov-* led to many confusions between the two classes: thus *Πῦθῶ* (Delphi) became *Πῦθῶν*, whence the two parallel declensions *Πῦθῶν* *Πῦθοι* and *Πῦθῶνος* *Πῦθῶνι*; we find the nom. pl. *Γοργόνες*, from *Γοργῶ*, in Hesiod, and, on the other hand, in Sophocles, the genitive *ἀηδοῦς*, from *ἀηδών*.⁴

§ 6. *Vocalic Stems.*

(214) The stems in *-i-* and *-u-* follow two very different modes of declension, which seem to correspond respectively to an original long or short quantity in the termination. An *ī* or *ū* in the stem is not subject to any gradation; it is simply split up into a vowel and semi-vowel (*iy*, *uw*) before terminations beginning with a vowel; then, on the loss of the semi-vowel, there remains only a short vowel, e.g. *ἰχθῦ-ς*, gen. **ἰχθῦφ-ος* *ἰχθῦος*. On the other hand, *ī* and *ū* are subject to a special kind of gradation; they take the normal forms *ey* and *ew* respectively before terminations beginning with a vowel, and remain reduced before a consonant. Greek maintains

¹ *Supra* 200, 2.

² *Supra* 131.

³ We should expect **Ἀητῶ*, **πειθῶ*, etc., but the accentuation has been disturbed through the analogy of the nominative.

⁴ *Ἀσπίς*, 230; *Ajax*, 629.

this distinction perfectly in the *-u*-stems, but in the *-i*-stems the two modes of declension have been confused.

I. *Stems in -u*.—1. Without gradation: *ἰχθῦ-ς ἰχθῦ-ν ἰχθύ-ος*, *δρῦ-ς δρῦ-ός* and even *δρῦ-ός* on analogy of nom.; and also *νέκυ-ς νέκυ-ος* (but the Homeric quantity *νέκῦς* is probably more ancient). The contrast between the declension of *sū-s* and *manu-s* in Latin has already been pointed out.¹

2. This contrast however is the only relic of the primitive gradation in *manu-s*, which seems no longer to have a stem **maneu-* corresponding to the Greek alternation *γλυκῦ- *γλυκέφ-*.—Sing. Nom.: *πέλεκυ-ς, ἄστυ, γλυκῦ-ς γλυκῦ*. Acc.: *πέλεκυ-ι, ἄστυ, γλυκῦ-ν* (*γλυκέα* analogical²) *γλυκῦ*. Loc.: **πελέκεφ-ι*, whence *πελέκεϊ πελέκει, ἄστει ἄστει, γλυκεῖ γλυκεῖ*. Gen.: **πελέκεφ-ος*, whence *πελέκεος, ἄστεος, γλυκέος*; in Att. *πελέκεως, ἄστειως* (but not *γλυκέως*, which belongs to a much later period of Greek) are due to the analogy of forms like *ἱππέως*.³—Plur. Nom.: **πελέκεφ-ες*, whence *πελέκεες πελέκεις, ἄστεα ἄστη, γλυκεῖς γλυκέα* (very rarely contracted). Acc.: regularly **πελέκῦς; *γλυκῦς*; ⁴ but, through analogy of the other cases, Hom. *πελέκεας, γλυκέας*; Att. *πελέκεις, γλυκεῖς*, through extension of the nominative. Loc.: regularly **πελέκυ-σι, *γλυκῦ-σι* (Sk. *svādū-ṣu*); but, through extension of the stem *πελεκε-*, which was supposed to appear in the other cases, *πελέκεσι, ἄστεσι, γλυκέσι*. Gen.: *πελέκεων, ἄστων, γλυκέων*.

II. *Stems in -i*.—According to what we have just seen, a stem **πόλι-* (town, cf. *πολι-της*)⁵ would become in the gen. **πολῖγ-ος*, whence *πόλιος*, whereas a stem *πόλι-* would become **πόλεγ-ος*, whence *πόλεος*; but *πόλι-ς* and similar words generally show both modes of declension, according to the dialect.—Sing. Nom.: *πόλι-ς, φύσι-ς*. Acc.: *πόλι-ν, φύσι-ν*. Loc.: Hom. and New Ion. *πόλι=*πόλι*; Hom. *πόληϊ*, in which the long vowel seems to arise from a very old locative form attested by

¹ *Supra* 204, 4 note, 6 note, etc.

² *Supra* 204, 4.

³ Thus approximately *πελέκεως : πελέκεων = ἱππέως : ἱππέων*. The accent irregularly drawn back in *πελέκεων* clearly shows that *πελέκεων* and *πελέκεως* had a reciprocal influence on one another.

⁴ *Supra* 206, 3.

⁵ We find in Homer *πόλις* (Il. xvi. 69) and *πόλιν* (Il. xvi. 57).

Sanskrit (Vedic *agnā*, from stem *agnī-*, fire); Hom. πόλει= *πόλεϑ-ι, whence Att. πόλει, φύσει. Gen.: Lesb. πόλιος, φύσιος; New Ion. πόλιος and πόλεος (contracted πόλεως); Hom. πόλιος and πόλῃος following πόλῃ; Att. πόλεως=πόλῃος.—Plur. Nom.: πόλεις; πόλῃες; πόλεις, Att. πόλεις. Acc.: regular πόλῖς (Hom.,¹ Herod.)=*πόλι-νς; through analogy of the other cases, πόλιος, πόλῃος and πόλεος; Att. πόλεις, borrowed from nominative. Loc.: regular πόλι-σι (Herod.), but commonly πόλεσι through extension of the ε of the other cases. Gen.: generally πολίων, but Att. πόλεων with accentuation modified through πόλεως.

In Latin, the declension in -i is the only one preserved, and the gradation is retained only in the nom. pl. *ovēs*, contracted from *ovēēs=*ovēy-ēs, cf. πόλεες πόλεις.²

§ 7. *Heteroclites.*

(215) One of the commonest features of both Greek and Latin grammar is the existence of so-called heteroclite nouns, the declension of which is based upon two or three different stems, e.g. γυνή γυναικ-α γυναικ-ός, or, on the other hand, *senex* (= **senec-s*) *sen-em sen-is*; and this well-known peculiarity would scarcely call for anything beyond a reference to the practical grammars, but for the fact that certain heteroclite nouns form an important class, common to both languages, and going back ultimately to the parent speech. These nouns are the neuters in *-i(t),³ Gk. -α, -ω, Lat. -ur, which form their oblique cases from a stem in -n-, to which Greek has further added a τ, which may be compared with that of words like σῶμα-τος, cf. Lat. *nōmīn-is*,⁴ so that, corresponding to Sk. *yākr̥t* (liver) gen. *yākn-ds*, Greek has ἥπαρ ἥπατ-ος, Latin *jec-ur* **jecin-is* (the difference of quantity may be disregarded for our present purpose).

Greek has several examples of this kind of declension: ἥπαρ, ἥπατ-ος=*ἥπητ-ος; στέαρ (fat)=*στηᾶρ, gen. στέατος=*στηᾶτ-ος; ὕδωρ, ὕδατ-ος, cf. Sk. *udān-*, *udn-ds*, and Lat. *und-a* where the

¹ πόλεις and πόλιος must be corrected to πολῖς II. ii. 648, Od. viii. 560.

² Cf. *supra* 206, 1.

³ Cf. *supra* 127.

⁴ Cf. *supra* 115, 4, and 204, 7.

n of the suffix is reflected in the root, etc. But in most neuters in *-ap* and *ωp* analogy has assimilated the oblique cases to the nom.: *θέναp* (palm of the hand) *θέναp-ος*, *ἔναp* (spring) *ἔναp-ος* (*ἦp ἦp-ος*). Several also are indeclinable.

In Latin especially this analogical process was considerably developed. From the primitive declension *femur femin-is*, Latin derived, on the one hand, the gen. *femor-is* and the other oblique cases resembling it, on the other, the nom. sing. *femen*. Similarly the declension *jecur *jecin-is* became *jecur jecor-is*; but the lost form **jecin-is* still survives in the curious genitive *jecinor-is*, in which both suffixes appear. It is, to say the least, very probable that *iter* must have had a genitive **itin-is*; but the nom. *iter* gave rise to a genitive *iter-is* (attested by the grammarians), then the joint influence of these two forms produced the ordinary genitive *itiner-is*, which in turn gave rise to a little used nominative *itiner*. This accumulation of suffixes is not unknown to Greek: thus *ῥναp* (dream) has the genitive *ῥνείπαp-ος*, a form which, apart from the vocalism and the addition of *τ*, is the exact counterpart of *jecinor-is*, *itiner-is*, with the two suffixes arranged in the opposite order. It was inevitable that confusions of all kinds should arise in declensions having so unusual an appearance.¹

¹ We may also mention: (1) the declension of *γόνυ*, *δόρυ*, Hom. loc. *δοῦπ* = **δοpF-l*, nom. pl. *γούνατα* = **γόνF-ar-a*, Att. *δόπατα*, *γόνπατα*, *supra* 40 C a; (2) that of *κάρα* (neut., head), Ion. *κάρη*, nom. pl. *καρή-ar-a* (Il. xi. 309), gen. sing. *καῤῥός* = **καp-ar-ós* (?), etc.

CHAPTER III.

PRONOMINAL DECLENSION.

(216) Among the stems which follow the pronominal declension two classes are to be distinguished, the **demonstratives** and the **personal pronouns**. The essential characteristic of the demonstratives is that they have a system of inflexion which agrees much more nearly with the nominal declension than with that of pronouns proper; they also vary according to the gender of the object designated, whereas the personal pronouns have only a single form for masculine, feminine, and neuter: $\delta\ \acute{\eta}\ \tau\acute{o}$, but $\epsilon\gamma\acute{\omega}$ for all three genders.

SECTION I.

DEMONSTRATIVES.

§ 1. *Terminations.*

(217) I. *Singular.*—1. *Nominative.*—Greek always has the ordinary -s; the feminine forms have no termination, as is also the case with the masculine of the stem δ . Latin has as many as three masculine terminations: (1) -s, *i-s*, *qui-s*, etc.; (2) short *e*, with no further termination (still rather obscure), *iste*, *ille*; ¹ (3) *ī*, which appears to be equivalent to *oi* and which is almost equally obscure; ² *hī-c*, *quī*. The feminine has the ordinary ending *ā*; but the stems which have in the masc. $\bar{\iota} = *oi$, have in the fem. $ae = *\bar{a}i$, *hae-c*, *quae*.

The nom.-acc. neuter has a special form, the same in both languages: its termination is -d, Greek $\tau\acute{o} = *\tau\acute{o}-\delta$, cf. Latin *istu-d* = **isto-d*, *ἄλλο aliu-d*, *τί qui-d*, etc.

¹ They may be old vocatives, cf. *supra* 196, 1, or imitations of the regular *ipse*, *infra* 221, 7.

² Cf. however 219, 1 note.

2. *Accusative*: -*m*, Gk. *ν*, Lat. -*m*: *τό-ν*, *istu-m*, etc.

3. *Ablative* (1): Gk. *οὔτω οὔτως* = **oútōd*; Lat. *istō* = **istōd*, *istā* = **istād*, *quī* (how) = **quīd*, etc.¹

4. *Ablative* (2): Gk. *πό-θεν*, *αὐτό-θεν*,² etc.; Lat. *un-de* (the nasalization is imitated from *inde*, supra 187, 6), so also **cunde* = **quon-de* in *alicunde*, cf. *u-bi*, **cu-bi*.

5. *Instrumental* (1): Gk. *πῇ*, *αὐτῇ*, *ἀλλῇ*, etc.; Lat. *quā*, *hā-c* (this way), *istā-c*, *illā-c*.³

6. *Instrumental* (2): Gr. *αὐτό-φι*; ⁴ Lat. (locative sense) *ib-ī*, **cubī* = **quō-bī* in *alicubī*, *u-bī*, from a stem *u-*, found also in the comparative *u-ter*, *ali-bī* with final lengthening perhaps on the analogy of the dative, cf. *tī-bī*.

7. *Locative*: Dor. *ταῖ-δε*, etc., Gk. (illative sense) *ποῖ*, etc., Lesb. *ἀλλυι*, *πῆλυι* (far off, cf. *τῇ-λε*); ⁵ Lat. *hī-c* = *hei-c* = (here), *istī-c*, *illī-c*. The illative *hū-c* = **hoi-c*, *istūc*, *illūc*, *cūr* (why) = **quoi-r* (the *r* is a particle of the same kind as the Gk. *ῥα ἄρα*), corresponds phonetically to the accented (not enclitic) *ποῖ*.

8. *Dative*.—Greek has the ordinary dative endings in the -*o*- and -*u*-stems: *τῷ*, *τῇ* *τῇ*. But in Latin the termination -*i* of the dative, instead of being added to the final -*o*- or -*u*- of the stem, appears to eliminate and supersede it; instead of a dative **illō*, **illae*, which would seem to be required by the acc. *illu-m*, *illa-m* and the corresponding Greek forms, we have *ill-ī* for all three genders, as in the imparisyllabic declension. It is probable that this ending, at first belonging exclusively to demonstratives of the imparisyllabic declension (*qui-s*, *i-s*), was extended to the others by analogy. This much is certain, that, having spread side by side with the genitive termination -*ius* (infra), it was added to stems which were nominal in their origin and resembled pronouns only in meaning: thus *ūnu-s* (= Gk. *οἰνό-ς*) has dat. *ūn-ī*, *sollu-s* (= *ὄλος*) *sollī*, *alter* (comparative in -*τερο*-) *alter-ī*, though the nom.-acc. neut. *ūnu-m* (not **ūnu-d*), etc., would suffice to prove that their original declension was nominal.

¹ Supra 187, 4. The nasalization of the adverbial ablative *hin-c*, *istin-c*, *illin-c* is probably due to the analogy of *inde*, infra.

² Supra 187, 6.

⁴ Supra 187, 8.

³ Supra 187, 7.

⁵ Supra 187, 10.

9. *Genitive*.—In Greek no peculiarity; -o-stems, τοῖο = *τό-σyo, -u-stems, ρās, ρῆς; imparisyllabic stems, τινός.¹ But in Latin the genitive of the demonstratives shows a special termination -ius, shortened ius, which is not found in any other language and is most perplexing to the grammarian. The following is the most probable explanation of its origin.

Let us take, for example, the form ejus. The demonstrative root *i*, in its normal form and with the addition of the suffix -o-, may have produced a stem *ey-o- *eo-, of which the nom.-sing. masc. would be *eu-s (cf. acc. eu-m) and the locative (used as genitive)² *ei. On the other hand, the same root, when itself acting as stem, has a nom. sing. i-s, of which the genitive would naturally be *i-os *i-us (cf. patr-us).³ Let us suppose now that these two synonymous forms were linked together by a sort of pleonasm which is very common in all languages; this would give the combination *ei ius, the transition of which to ejus (often written eiius) is easy to understand. In the same way, to *illi, *isti, *quoī, the regular genitives of the pronouns ille, iste, qui, etc., was attached the same genitive *ius of the pronoun is; whence the pleonastic forms illius, istius, quōus (Ep. Scip.), in which the accentuation illius and not *illius,⁴ recorded by Martianus Capella, seems to point to an old contraction from *illi ius.

Are there any direct proofs in favour of this ingenious hypothesis? No, but indirect proofs are abundant. In the first place, it is certain that the genitives in -ī- (fem. -ae) existed in the demonstratives; they are found occasionally in the comic poets, e.g. istimodī, aliae rei in Lucretius. As to *ius, F. Meunier has thought himself justified in reading it in a verse of Plautus, where it is supported by the reading of two manuscripts.⁵ Lastly, nothing is more in harmony with the genius of popular language than pronominal pleonasm; we have only to compare, in vulgar French, the phrases, "l'homme qu'il vient, cet homme que tu lui as pris son couteau," and in German

¹ *Supra* 187, 11, and 204, 14.

² *Supra* 187, 10.

³ *Supra* 204, 14.

⁴ Cf. *Mém. Soc. Ling.* iii. p. 187.

⁵ *Set ecclūm parasitum quoi mi ius auxiliōst opus, Persa* 83. We certainly find quōrum eōrum in *Trinum.* 1023. Cf. *Mém. Soc. Ling.* i. p. 45.

declension the double dative *denen*, the double genitive *derer*, etc. [Cf. the pleonastic use of *which* in vulgar English.]

However this may be, this termination *-ius* was wrongly extended to a certain number of stems of nominal origin: *un-ius*, *söl-ius*, *alter-ius*, *utr-ius*, *neutr-ius*, *äll-ius*,¹ *nüll-ius*. This corruption is not very ancient; *nüllī* is still found in the comic poets, and *neutrum* meaning "the neuter gender" always has *neutrī* in the genitive.

(218) II. *Dual*: only in Greek; no peculiarity, except that the fem. is not used, the masc.-neut. taking its place: *τώ* not *τᾱ*, *τοῖν* not *ταῖν*, *τούτω* not *ταύτᾱ*, etc., *τὸ ἡμέρᾱ* (the two days).

(219) III. *Plural*.—1. *Nominative*.—The termination of masc. and fem. parisyllabic stems is **-y*, which we have already seen introduced into the nominal stems:² Gk. (Dor.) *το-ί*, *τα-ί* (*οί*, *αί*); Lat. *istī* = **isto-i*, *istae* = **istā-i*. Imparisyllabic stems have **-ēs*: *τίν-ες*. The termination of the nom.-acc. neut. is the same as that of the nouns: *τά*, *αὐτά*, *τίν-α*.³ So also in Latin *ista*, *illa*, *qui-a* (probably neut. pl. of *qui-s*); but we also find an ending *ae*, *hae-c*, *quae*, *istae-c*, the origin of which is not clear.⁴

2. The accusative, locative, and instrumental-dative-ablative do not differ from those of the corresponding nominal stems.

3. *Genitive*.—In the pro-ethnic period the pronominal gen. pl. had a special termination **-sōm*, proved by the Sanskrit demonstratives (masc.-neut. *tē-śām*, fem. *tā-sām*). This termination can no longer be seen in the masc.-neut. of Greek demonstratives, which have been assimilated to the nominal stems, *τῶν*, *τούτων*, *ἐκείνων*; at the most it would only be possible to recognise it in the Doric accentuation *τουτῶν* = **τουτό-σων*. But in the fem. we have Dor. *τᾱν*, Att. *τῶν* = Lesb. *τάων* = **τᾱ-σων*, and Dor. *ταυτᾱν* = **ταυτᾱ-σων*. So also in Latin: fem. *hā-rum* = **hā-sum*, *istā-rum*, etc.; masc.-neut. *hō-rum*, probably for **hō-rum* = **hō-sōm*, with lengthening of the thematic vowel on the analogy of *hā-rum*.⁵

¹ *ällus* = **oin-los*, diminutive of *anus*.

² *Supra* 189, 1.

³ *Supra* 206, 2.

⁴ Probably it is due to the addition of a demonstrative element *-i* (cf. Gk. *οἷος-ι*), so that *quae* = **quā-i*, and so also in the nom. sing. masc. and fem., *quī*, *quae*, etc.

⁵ Cf. *supra* 189, 7.

§ 2. *Stems.*

(220) I. *Greek*.—1. Stem δ - $\tau\acute{o}$ - (demonstrative in the language of Homer, where the article is unknown, article and relative pronoun in that of Herodotus, article only in ordinary Greek, except in the expression $\delta \mu\acute{\epsilon}\nu \dots \delta \delta\grave{\epsilon} \dots$). In Indo-European, the two stems $*so$ - $*to$ - alternated in declension; the first characterized only the nom. sing. masc. and fem. (both without termination, $*so$, $*s\bar{a}$); the second appeared in all other cases. This is also what happens in Greek, especially in Doric, where the nom. pl. masc. and fem. is $\tau\acute{o}\iota \tau\acute{\alpha}\iota$; but in ordinary Greek the analogy of $\delta \eta$ produced $\omicron\iota \alpha\iota$. The dual $\tau\acute{\omega}$ ($\tau\acute{\alpha}$) everywhere remained unchanged.

By the addition to this stem of the particle $\delta\epsilon$, there was formed a demonstrative of more precise meaning, $\delta\delta\epsilon \eta\delta\epsilon \tau\acute{o}\delta\epsilon$,¹ corresponding in meaning to the French "voici" (here is). The declension is the same as before; the particle is indeclinable, but by analogy the case-endings were sometimes added to it, loc. pl. $\tau\acute{o}\iota\sigma\delta\epsilon\sigma\iota$ and $\tau\acute{o}\iota\sigma\delta\epsilon\sigma\iota\upsilon$ (Od. xxi. 93, ii. 47) in Homer, gen. pl. $\tau\acute{\omega}\nu\delta\epsilon\omega\upsilon$ in a fragment of Alcaeus.

2. Stem $\omicron\iota\tau\omicron$ - (a demonstrative contrasted with the former as meaning "voilà" (there is) and with the following one as meaning "this"). Whatever opinion may be held as to the origin of this pronoun, it is not difficult to recognise in it the stems δ -, $\tau\acute{o}$ -, combined in different ways, whence arises the exact parallel between the two declensions $\delta \eta \tau\acute{o}$, $\tau\acute{o}\nu \tau\acute{\eta}\nu$ etc., and $\omicron\iota\tau\omicron\varsigma \alpha\upsilon\tau\eta \tau\acute{o}\iota\tau\omicron$, $\tau\acute{o}\iota\tau\omicron\nu \tau\acute{\alpha}\upsilon\tau\eta\upsilon$, etc.² Hence the Doric nom. pl. masc. and fem., $\tau\acute{o}\iota\tau\omicron\iota \tau\acute{\alpha}\upsilon\tau\alpha\iota$, is the only regular one; the ordinary forms $\omicron\iota\tau\omicron\iota \alpha\upsilon\tau\alpha\iota$ are imitated from $\omicron\iota\tau\omicron\varsigma \alpha\upsilon\tau\eta$ and $\omicron\iota \alpha\iota$. The influence of analogy did not stop there; the Panhellenic ablative is $\omicron\iota\tau\omega$, not $*\tau\acute{o}\iota\tau\omega$; we find in inscriptions forms like $\omicron\iota\tau\omicron\nu$ and $\omicron\iota\tau\omega\upsilon$; and lastly the stem $\tau\acute{o}\iota\tau\omicron$ - nowhere appears in the declension of compounds like $\tau\acute{o}\iota\omicron\iota\tau\omicron\varsigma \tau\omicron\sigma\sigma\omicron\tau\omicron\varsigma$, gen. $\tau\acute{o}\iota\omicron\iota\tau\omicron\nu$, etc. Moreover, the regular nom. sing. neut. $\tau\acute{o}\iota\omicron\iota\tau\omicron \tau\omicron\sigma\sigma\omicron\tau\omicron$ is

¹ Cf. the illative $\omicron\iota\kappa\acute{\alpha}\nu\delta\epsilon$, *supra* 187, 11, last note.

² Notice however that the common gen. pl. is $\tau\acute{o}\iota\tau\omega\upsilon$ for all three genders, not $*\tau\acute{\alpha}\upsilon\tau\omega\upsilon$ in the fem. (cf. in the adjectives $\phi\acute{\iota}\lambda\omega\upsilon$ in all genders, *supra* 195, 7), but in Doric regularly $\tau\acute{\alpha}\upsilon\tau\omega\upsilon$.

superseded in Attic, and already to some extent even in Homer, by a nominative with a nominal termination, τοιοῦτον τοσοῦτον.

3. Stem κῑνω- (that): Hom. κῑνός and ἐκῑνός, Attic prose ἐκῑνός, Lesbian κῑνός, Dor. κῑνός and τῑνός. Its origin is obscure; it has no special peculiarity.

4. Stem αἰνó- (pronoun denoting identity): the oxytone accentuation seems to separate it etymologically from the preceding stems,¹ but in any case it has been entirely assimilated to them in its declension

5. Stem ὄ-: relative pronoun ὅ-ς ἧ ὃ (= *ὄ-δ), identical with Sk. yá-s yá yá-d, which presupposes a primitive stem *yó-. The epigraphic form (Locr.) φότι, like the adverbial ablative ὡς, seems to belong to a different stem *swó-.²

6. Stems πο- τι- τε- = I.-E. *qo- *qi- *qe-:³ interrogative and indefinite pronouns (enclitics in the last case).

A. *πό-ς πᾶ πό, Ion. *κό-ς κή κό, not used in the nominative, but frequent in the other cases; πῶς πόθεν ποῖ ποῦ πόθι, Ion. κῶς, etc., cf. comparative πότερος and κότερος.

B. τί-ς τί=Lat. qui-s qui-d. As is shown by Latin and Sanskrit, the stem ends in -i-: hence the acc. sing. masc.-fem. should be *τί-ν. To this form *τί-ν was pleonastically added a new accusative suffix, τίν-a, and from τίν-a was formed the false stem τιν-, on which nearly all the declension is based:⁴ sing. τίν-a τιν-ός τιν-ί; pl. τίν-ες τίν-ας τίν-a τιν-ῶν. But the true stem τι- is still traceable:—(α) in the nom.-acc. sing. neut., τί=*τί-δ; (β) in the loc. pl. τί-σί, which cannot be explained through *τιν-σί; (γ) in the word ἄσσα, Att. ἄττα (nom.-acc. pl. neut.), in which the group σσ ττ is simply the representative of the group τγ of the neut. pl. *τί-a=Lat. qui-a, pronounced as a monosyllable *τγ-a.⁵

¹ Cf. *Mem. Soc. Ling.* vi. pp. 96 and 139.

² The word ὡς in Homer often makes a preceding vowel long by position; we must therefore read φῶς, e.g. Il. iv. 471, vi. 443, etc. Cf. however L. Havet, *Mélanges Renier*, p. 371.

³ Cf. *supra* 57, 1.

⁴ Cf. *supra* 213.—Zend however has an accusative cin-em=τιν-a.

⁵ *Supra* 39 C δ. The initial a is simply the final a of the neuter word which necessarily preceded the enclitic *τια; thus in Od. xix. 218, we ought really to read *ἄρροῖά σα instead of 'ἄρροῖ' ἄσσα; cf. in French *m'amie* (my dear) written *ma mie*, whence the word *une mie*. [So in English a *nadder* has become an *adder*, and conversely an *eke-name* (i.e. an additional name) is now a *nick-name*.]

C. *τε*-, not used in the nominative, often replaces *τω*- in the oblique cases (especially in Attic and Herodotus): Hom. *τέο τέων*; New Ion. *τεῦ τέοισι*; Att. *τοῦ τῷ*, etc.

7. The stem *δ*- may be combined with each of the preceding stems in turn, to form various indefinite pronouns. The form of composition is both syntactical and non-syntactical.¹

A. With *πο- κο-*: non-syntactical *δ-πως*, Ion. *δ-κως*, etc.; syntactical, probably nom.-acc. sing. neut. **δδ-ποδ*² **δδ-κοδ*, whence the stems *δππο- δκκο*-, and hence the doublets *δπως δππως*, *δκως δκκως*, etc.

B. With *τι*-, generally syntactical:³ *δσ-τις, ἡ-τις*, **δδ-τι*, whence Homeric *δττι*, gen. *οὔ-τινος*, etc. The form *δτι* arose later, after the loss of the final *δ* of **δδ*, through the simple juxtaposition of *δ* and *τι*. The nom.-acc. pl. neut. is *ἀτινα*, but also (Att.) *ἀττα* = **ἀττα* = **ἀ-τια*.

C. With *τε* -: non-syntactical in the forms *δ-του* (Hom. gen. *δττεο*, Od. i. 124), *δ-τω*, which may be substituted in Attic for *οὔτινος, ᾧτινι*, etc.; syntactical with *τε* indeclinable in the forms *ᾧτε* (Il. i. 279), *ᾧστε* (so that), etc.

8. The stems *πό-*, *τό-* and *-δ-* in secondary derivation form various correlative words, such as *ποτε* (Dor. *ποκα*) *τότε ὅτε*, *ποῖο-ς τοῖο-ς οἷο-ς*, *πόσο-ς τόσο-ς ὅσο-ς* (and *ὄσσο-ς*, an obscure form), and similarly *ὅποτε ὅπποτε*, etc. But these stems have nothing pronominal about them except the root, and their declension is purely nominal, *e.g.* neut. *οἷο-ν*, not **οἷο*.

9. The pronoun *ὁ δέῃνα* (so and so), gen. *τοῦ δέῃνος*, or better indeclinable, has not yet been clearly explained.⁴

(221) II. *Latin*.—1. *Is*: the two stems *i-* and *eo-*, which both come from the root *i* (one, cf. Gk. *ἰο-ς* and *οἷο-ς*, one, alone),⁵ alternate somewhat capriciously in declension:—Sing.: nom. *i-s*, *ea*, *i-d*; acc. *eu-m*, *ea-m* (arch. *i-m*), *i-d*; abl. *eō*, *eā*; dat. *eī*; gen. *ējus* = **eī ius*. Plur.: nom. *eī*, and more commonly *iē*

¹ *Supra* 176.

² Cf. *κάππεσε* = **κάτ πεσε*.

³ Sometimes non-syntactical in Homer, *δτινα* (Od. viii. 204), *δτινας* (Il. xv. 492).

⁴ For the most recent etymology see Baunack, *Stud.* i. p. 46, who writes it as one word, *ὁδεῖνα*.

⁵ Cf. *supra* 108 and 109.

(through intrusion of the vowel of *i-s*),¹ *cae, ea* ; acc. *eōs, eās, ea* ; dat.-abl. (*eīs*) *iīs* ; gen. *eō-rum, eā-rum*.

2. *Hīc*.—To the demonstrative stem *ho-* is added in declension an indeclinable particle *-ce*, syncopated to *-c* ; all the cases do not take it ; but nevertheless it is capable of being added, under one of these forms, to the majority of demonstrative words.²—Sing. : nom. *hīc, haec, hōc* (the *o* is long only by position, the true spelling would be **hōcc=hōd-ce*) ; acc. *hun-c* = **hōm-c, han-c, hō-c* ; abl. *hōc, hā-c* : dat. *huī-c* and gen. *hūjus*, probably influenced by the vocalism of *cuī* and *cūjus* (infra).—Pl. : nom. *hī, hae, hae-c* ; acc. *hōs, hās, huēc* ; dat.-abl. *hīs* ; gen. *hōrum, hā-rum*.

3. *Iste*.—This word is probably a combination of the two stems *i-* and *to-*, and hence ought to be declined : nom. masc. **i-s tu-s*, fem. **ea ta*, acc. **eum tu-m* ; but the element *is* has ceased to be declined.—Sing. : nom. *istus* (arch.) and *iste, ista, istud* ; acc. *istum, istam, istud* ; abl. *istō, istā* ; dat. *istī* ; gen. *istius* = **istī ius*.—Plur. : nom. *istī, istae, ista* (and *istaec* on the analogy of *haec*) ; acc. *istōs*, etc.

4. *Ollus*.—This archaic pronoun, of which numerous forms are found in old Latin and the dative *ollī* even in Vergil, ought probably to be written *ōlus*, if we may judge from the adverbial form *ōlim* (formerly) ; but its etymology is unknown. The spelling with *ll* is due to the analogy of the following word, of which it seemed to be merely a doublet.

5. *Ille*.—The declension is exactly the same as that of *iste*.

6. **Isdem*, whence *īdem*, pronoun denoting identity.—In formation it is to be compared with *ῥ-δε* ; the pronoun is declined and the particle added always remains unchanged. The genitive *ejusdem* for **ejūdem* is due to the analogy of *ejus*, cf. *cūjusdam*, etc.

7. *Iipse*.—This pronoun likewise contains an indeclinable particle *-pse* and ought to be declined **is-pse, ea-pse, *ipse* = **id-pse*, acc. **eum-pse*, etc. Some of these forms exist as archaisms, and the abl. fem. sing. *eā-pse* survived even to the

¹ And to dissimilate it from the dat. sing.

² E.g. *hūjusce* and even *hocce* where the particle occurs twice over, also *istūc, illūc*, etc.

latest period of Latin in the adverbial phrase *reapse* (really) = **rēcāpse*. But, by a strange anomaly, the pronoun as it appeared in the form of the nom. sing. neut. became indeclinable, and the particle was declined,¹ so that the declension of *ipse* became exactly like that of *iste*, with the exception of the neuter *ipsum* instead of **ipsud*.

8. Stems *quo-* = Gk. *πό-* (relative pronoun) and *qui-* = Gk. *τί-* (interrogative and indefinite).—These two stems, closely allied both in form and function, were to some extent confused in their declension, so that each of them owes part of its declension to the other: for a stem *qui-* in the gen. pl. could only become *qui-um*,² not *quō-rum*, and again the dat. pl. of *quo-* was *quīs* (cf. *equīs*), not *qui-bus*.³

A. *Quo-*.—Sing.: nom. *quī, quae, quod*; acc. *quem* (borrowed from *qui-s*, the true accus. *quom* remaining as a conjunction denoting time), *qua-m*,⁴ *quo-d*; abl. *quō, quā*; dat. *cuī = quoi-ei*; gen. *cūjus = quojus = quoi-ius* (?).—Plur.: nom. *quēi quī, quae, quae*; acc. *quōs, quās, quae*; dat.-abl. *quēis quīs* (arch. and poet.), in prose *qui-bus* (borrowed from *qui-s*); gen. *quō-rum, quā-rum*.

B. *Qui-*.—Sing.: nom. masc. *qui-s*, Osc. *pi-s*, fem. arch. *qui-s*,⁵ class. *quae* (borrowed from the preceding stem), neut. *qui-d*; acc. *quem* for **qui-m* (cf. *avem* for *avim*), *quam* (borrowed), *quid*; abl. *quō, quā* (both borrowed); dat. *cuī*; gen. *cūjus*.—Plur.: arch. nom. masc.-fem. *quēs*⁶ (cf. *avēs*), neut. **qui-a* (preserved as a conjunction), in classical usage *quī, quae, quae* (all borrowed); acc. *quōs, quās, quae* (do.); regular dat.-abl. *qui-bus*, but also *quēis* (borrowed); lastly, gen. *quō-rum* and *quā-rum*.

It is hardly necessary to mention the combinations *quī-cumque*, *quī-libet*, *quīdam* = **quīs-dam*, *aliquis*, etc., the

¹ Cf. in French the pl. *quelconques*, which ought to be **quelsconque*.

² This genitive really existed, according to the grammarians.

³ *Quibus* even gave rise to the barbarism *hībus* (i long because of *hīs*?) or *iūs* = **iibus*, which is found in Plaut. *Curcul.* 506.

⁴ Which likewise fulfils the function of a conjunction (comparative); the correlatives are *tum* (*tun-c*) and *tam*, acc. masc. and fem. of the stem *to-*.

⁵ We find in Plautus (*Epid.* 509): *quis illaec est mulier?* etc.

⁶ Which is found several times repeated in the *Senatusconsultum de Pacchanalibus*.

declension of which differs in no respect from that of *qui* and *quis*.

SECTION II.

PERSONAL PRONOUNS.

§ 1. *Stems.*

(222) What makes the declension of the personal pronouns very complicated and often obscure, is not merely the unusual character of several terminations, but also and more especially the multiplicity of the stems which alternate in the declension of each pronoun. Hence it is important to determine at the outset these stems and the various forms which each of them may assume.

I. In the 1st person, three stems: (1) that of the nominative singular, which is an isolated form, (2) **me-* (*m-*) and (3) **no-*.

1. Nom. sing.: Gk. *ἐγώ*, Lat. **egō egō*; the Sk. *aham* suggests that the nasal at the end of the Greek doublet *ἐγών* (Hom.), Bæot. *ῶν*, is not wholly epenthetical.

2. Strong stem **me-*, weak **m-*, in all the other cases of the sing. in Greek and Latin. The stems **eme-* and **em-*, likewise occur, but only in Greek.¹ There is also the stem **m-* with an unexplained, but primitive, addition, **-sme-* **-sm-*,² which appears in the Greek plural, namely, nom. pl. (Lesb.) *ἄμμες* = **ἄσμε(s)* = **ἡσμέ* (cf. Germ. *uns* [Eng. *us*]) = **ἡσ-ε*, as *ὑμμες* = **yu-sm-ε* infra.

3. Stem **no-* (cf. Sk. acc. pl. *nas*), in the Greek dual and Latin plural.

(223) II. In the 2nd person, four stems, **tew-* (*tu-*, *tw-*, etc.), **yu-*, **wo-*, and lastly **σφο-* (exclusively Greek).

1. The stem **tew-* is common to Greek and Latin, where it characterizes the whole of the singular. In the nominative the

¹ Is this due to prothesis? or (which seems very improbable) to the analogy of *ἐγώ*? or, lastly, were they primitive forms, to be compared with the manifold stems of the other pronouns, but lost everywhere except in Greek? The question seems insoluble.

² Cf. Sk. *sma* and Lat. *met* = **smē-d* (ablative?), intensive particles.

w is a vowel, *e.g.* primitively **tũ* and **tū*, which may be seen respectively in the Doric *τῦ* (*τῦ*) and Lat. *tū* (cf. Hom. *τῦν*, Il. xix. 10). In the other cases there is an alternation between the forms **tewe-*, **tew-*, **twe-* and **tw-*. In Doric and Latin the *w* after the *t* is simply dropped. But, in the other Greek dialects, the group *tf* becomes *σ*, *e.g.* acc. *σέ=τφε*; then, the initial *σ* spreading throughout the whole declension, Lesbian, Ionic, Attic and the *κοινή* have in the nom. sing. *σῦ* instead of the regular Doric *τῦ* (Bœot. *τοῦ*=*τῦ*).

2. The stem **yu-*, with the addition **-sm-*, characterizes the plural in Greek as in Sanskrit (abl. *yuśmāt*, like *asmāt* in the 1st pers.): Lesb. *ῥμμες* for **ῥμμες*, Dor. *ῥμές* (long *ῥ*), etc.

3. Stem **wo-* (cf. Sk. acc. pl. *vas*): in the Latin plural.

4. Stem **σφο-* (?): in the Greek dual, with no parallel elsewhere; of unknown origin, like the stem **σφε-* of the 3rd person.

(224) III. In the 3rd person, two stems, **sew-* and **σφέ-* (in Greek alone), but only the former is primitive. It is quite certain, indeed, and Latin alone is a sufficient guarantee of the fact,¹ that the stem **sew-* served both for the singular and plural. Further, the pronoun **sew-* does not, strictly speaking, belong to the 3rd person; it is the reflexive pronoun for all persons and numbers.² From the point of view of Indo-European syntax phrases like *ego se geram* (*I shall behave myself*), *vos sibi placetis* (*you please yourselves*), *amisimus suam matrem* (*we have lost our mother*), *quī sine rivali seque et sua solus amares*, etc., would be quite correct, and we still find corresponding usages at the present day in the Slavonic languages. In Latin, this pronoun remained strictly reflexive, but in its use was restricted to the 3rd person. In Greek the corruption went much farther; the pronoun *ἐ-* was used, either as reflexive, or as a simple pronoun of the 3rd person, and we know that Homeric usage is invariable in this respect. Hence it was felt necessary to create a plural for it, and the stem **σφέ-*, the origin of which is very obscure,³ was called upon to fulfil this function.

¹ Its evidence is likewise confirmed by that of Sanskrit, Teutonic, and Slavonic; cf. Germ. *sie irren sich* (they deceive themselves).

² This accounts for the fact that it has no nominative.

³ Is it an instrumental in *-φι* of the stem *σφ-*, *e.g.* *σφίλν*, which, being taken for a dat. pl. and wrongly divided *σφ-λν*, gave rise to an imaginary

Then, in the classical period, both stems fell into partial disuse; as pronouns of the 3rd person the demonstratives οὗτος, αὐτός, etc., were used, and in the reflexive sense ἐ- barely survived except in the combination ἐαυτόν.

The single stem of this pronoun takes the four forms *sew-, *sew-, *swe- and *sw-. The Latin declension retains only the last two, in which the group sw becomes s. In Greek, initial σ is changed to the rough breathing and medial f disappears, e.g. acc. ἐέ=*σef-έ; on the other hand, initial σf is changed to the rough breathing, e.g. ἔι=*σf-έ. Hence the doublets which characterize the whole of this declension. Hence also, even in Attic, the double form ἐαυτόν=*σef αὐτόν and αὐτόν=*σf αὐτόν, and so also in the 2nd person, σεαυτόν corrupted from *τεαυτόν =*τεf αὐτόν, and the regular σαυτόν =*τf αὐτόν.

§ 2. Terminations.

(225) I. *Singular*.—We may represent the Greek and Latin declension concisely as follows, placing on the same line the forms recognised as being morphologically identical.

1. N. ἐγώ, ego.	τύ, σύ, τί.	
2. A. ἐμέ μέ, mē.	τῆ ² τέ, σέ, τῷ.	έέ, έ (Lesb. fέ), εἰ.
3. Ab. { mē.	τῷ.	εἰ (eéd).
4. { ἐμέ-θεν (μεθέν?)	σέ-θεν.	εἰ-θεν.
5. D. { ἐμοί μοί (mī?) ¹	τοί σοί.	έοι, οί.
6. { mi-hī.	τί-δῃ.	σι-δῃ.
7. L. (?) ἐμ-ιν.	τε-ιν, τιν.	έιν, ἱν (μιν, νιν).
8. { ἐμεῖο ἐμέο ἐμοῦ.	τέο τεῦ, σεῖο σέο σοῦ.	εἶο εἰο εἰδ οἶ.
9. G. { ἐμέος ἐμεῦς ἐμούς.	τέος, τεύς	οῦς (?).
10. { μεῖ, (mīs).	τιῖ, (tīs).	σιῖ, (sīs?)

1. The *nominative* has been explained, *supra* 222 and 223.

2. Divergent forms appear already in the *accusative*; the long vowel of Latin is confirmed by Sk. mā, tvā; the Greek formations represent, either another accusative, equally primi-

stem σφ, to which other terminations were afterwards added? But in this case we should expect a vowel between the σ and φ. The problem still remains to be solved, in spite of many learned attempts to do so.

¹ Much more probably a mere contraction of mihī.

² We find in Hesychius τρέ·σέ. Κρήτες. Cf. *supra* 40 in *sine*.

tive, containing a short vowel, or perhaps the ablative, which we are about to consider, confused with the accusative.

3. The Sanskrit *ablative* *māt*, *tvāt* would require in Greek an ablative **μῑδ*, **τῑδ*, **σῑδ*, whence *μέ*, *σέ*, *ζέ*, which are found in the accusative. In Latin **mēd* became *mēd* through the analogy of the long vowel of the acc. *mē*, then the *d* was dropped after a long vowel: *mē*, *tē*, *sē*. The last word, meaning "by oneself, apart," was afterwards used in the sense of "without" (*sē dolō*, without fraud), and also as a verbal prefix, e.g. *sē-cēdere*, literally "to go by oneself," *sē-cernere*, *sē-clūdere*, etc. But the primitive form with short vowel still survives in the disjunctive *sēd* (but), literally "this point being put on one side, except that. . . ."

4. The *ablative* in *-θεν* needs no explanation.¹

5. The termination of the Greek *dative* is *-οί*: 1st pers. *ἐμ-οί* and enclitic *μ-οί*. The 2nd person was already **toy* in Indo-European (Sk. *tē*), which explains the fact that, even in Ionic-Attic, the non-assibilated form *τοι* occurs as an expletive particle; hence *σοί*, like *σú*, is analogical. In the 3rd person *οί*=**σῑ-οί* (Lesb. *ῑοί*), and *ἐοί*=**σῑῑ-οί* perhaps on the analogy of the strong cases.

6. The Latin *dative* corresponds to the Sanskrit form *mā-hyam*, *tū-bhyam*. But the correspondence is incomplete; it is probable that the Latin termination was assimilated to that of the nominal dative (*patrī*). The law regulating iambic words allowed the scansion *mīhī*, *tībī*, *sībī*, which was sanctioned by the classical language.

7. We have treated as a *locative* the case in *-iv*, which might likewise, however, be regarded as an instrumental, a dative, or even an accusative. It is certain that it is often used as an accusative, probably on account of its final nasal. The forms *ἐμív* and *τίv* are Doric, and are especially common in Theocritus;² we find *τεív*=**τεῑ-ív* in Homer (Il. xi. 201), *ῑív*=**σῑῑ-ív* in Cretan inscriptions; the forms *ív* and *ῑív*=**σῑῑ-ív* rest almost entirely on the evidence of the grammarians. But, as a substitute for *ív* (him), we very often find, with a dative or accusative function,

¹ *Supra* 187, 6.

² This author also very often uses the nom. sing. *τό* as an accusative.

in Homer *μίν*, in the tragic poets *νίν* (even in the plural); the origin of this initial nasal has not yet been clearly explained.¹ The vowel of the termination is generally short; Theocritus, however, always has the scansion *ἐμῖν* and *τῖν*, and we shall see that the corresponding forms of the plural show the same alternation.

8. The forms *ἐμείο*, etc., go back quite naturally to **ἐμέ-σγο*: Hom. *ἐμείο*, *ἐμέο*, New Ion. and New Dor. *ἐμεῦ*, New Dor. and Att. *ἐμοῦ* (enclitic *μεῦ μοῦ*), etc.²

9. The forms *ἐμέος*, *ἐμεῦς*, etc., are Doric, and due to the analogy of the genitives of the imparisyllabic declension.³

10. The Latin genitive *meī*, *tuī*, *suī*, is the genitive of a possessive adjective transferred to the pronominal declension.⁴ The archaic genitives *mīs*, *tīs*, come from the imparisyllabic declension.

(226) II. *Dual*.—The dual forms (1) *νῶϊ νώ*, *νῶϊν νῶν*, (2) *σφῶϊ σφώ*, *σφῶϊν σφῶν*, (3) (very rare) *σφῶέ σφῶϊν*, are isolated, and probably new formations.

(227) III. *Plural*.—The same is the case, though to a less extent, with the plural forms. In fact, it is now established beyond all possible dispute that originally the plural terminations differed in no respect from those of the singular; in other words, the idea of plurality lay, not in the terminations, but in the stem. Sanskrit, for example, has in the abl. pl. *asmāt*, *yušmāt*, just like *māt*, *tvāt* in the abl. sing. But already in Sanskrit, and perhaps even in the Indo-European period, the plural terminations of the nouns and demonstratives were transferred analogically to the personal pronouns. In Greek there still remain some traces of the primitive usage. There are none in Latin.

A. *Greek*.—1. The *nominative*, as far back as it can be traced in Greek, already has the ending *-s*, on the analogy of the nominal plural: **ἀμμές*, *ὑμμές*, whence Hom. and Lesb. *ἀμμες*, *ὑμμες*, Dor. *ἀμές* (long *a*, the rough breathing probably on

¹ We must take into account the probable confusion between *ιν* = **σφ-ιν* and *ι-ν* = Lat. *i-m*, acc. of the pronominal stem *i-*, *supra* 221, 1. On the nasal of *μιν* and *νιν*, cf. Baunack, *Stud.* i. p. 48.

² *Supra* 187, 11.

³ *Supra* 204, 14.

⁴ Cf. *infra* 227 B.

the analogy of ἡμέες, ἡμέες (long υ), Boeot. οὐμέες, etc. The Homeric, Ionic, and Attic forms ἡμέες, ἡμέες (long υ) are due to the analogy of the nom. pl. of the stems in -εσ-,¹ and the stem σφέ-, which is much later than the others, nowhere appears except with this long termination, σφέες.

2. *Accusative*.—The oldest forms are ἄμμε, ὕμμε, σφέ,² found in Homer (Dor. ἄμέ, ὕμέ, σφέ, and Lesb. ἄσφε.). But, as early as the Homeric period, there were formed on the model of ἡμέες, etc., the new accusatives ἡμέας, ὕμέας, σφέας;³ the same forms appear in New Ionic; Att. ἡμᾶς, ὕμᾶς, σφᾶς, and in poetry ἡμᾶς, ὕμᾶς, σφᾶς (Il. v. 567).⁴ The last word even has a nom.-acc. neut. σφέα in Herodotus and the Attic poets.

3. *Locative* (dative).—Originally probably *ἄμμιν *ὕμμιν (like ἐμῖν τῖν in the sing.): Hom. and Lesb. ἄμμι (Il. ix. 427) ἄμμιν, ἵμμι (Il. vi. 77) ὕμμιν, σφῖν ἄσφῖ; Dor. ἄμιν ἄμιν, ὕμιν (Boeot. οὐμῖν) ὕμιν, σφῖν; Att. ἡμῖν ἡμῖν, ὕμιν ὕμιν, σφίσιν. The last form, which is found also in Homer, is evidently due to the analogy of τισίν and other nominal locatives, as is also the case with Lesbian ἄμμεσιν.

4. *Genitive*.—The termination being the same as in the sing., the genitive must have been *ἄμμεῖο *ὕμμεῖο, cf. ἐμείο. These endings were pluralised to *ἄμμεῖων *ὕμμεῖων, and thence: Lesb. ἄμμεων, ὕμμεων, σφέων; Dor. ἄμέων ἄμῶν, ὕμέων σφέων; Hom. Ion. ἡμέων ἡμέων, ὕμέων ὕμέων, σφέων, σφέων;⁵ Att. ἡμῶν, ὕμῶν, σφῶν.

B. *Latin*.—1. *Nom.-Acc.*: *nōs, vōs*, cf. Gk. dual νό.

2. *Dat.-Abl.*: *nō-bīs vō-bīs*. If we may trust the evidence of Sanskrit, it is possible that there existed in Latin a dat.-abl. **nō-bīds* and an instrum. **nō-bīs*.⁶ It was the latter form probably which survived, with both functions, but with its termination lengthened on the analogy of the dat.-abl. of the 2nd nominal declension.

¹ Thus ἡμέες: ἡμέων (gen.) = εὐγενείς: εὐγενέων.

² As in the sing. ἐμέ, τέ, ξ, Sk. abl. *asmát*.

³ Thus ἡμέας: ἡμέες = εὐγενέας: εὐγενείς. In these forms the group *ea* almost invariably forms only one syllable.

⁴ According to the grammarians, the perispomena are orthotone, forms in which the accent is thrown back are enclitic, and so also in the case of the dative.

⁵ Here synizesis is naturally the invariable rule.

Cf. *supra* 206, 5.

3. *Genitive*: *nostrī, vestrī; nostrum, vestrum*. These are respectively (as in the sing. *meī*, etc.) the primitive gen. sing. and gen. pl.¹ of the corresponding possessive adjective.

§ 3. *The personal pronouns in syntactical juxtaposition.*

(228) In Greek and Latin all the forms of the personal pronouns are capable of being strengthened by the addition of a pronoun denoting identity. In Latin the juxtaposition remains syntactical throughout, *ego ipse, tuī ipsius, sēmetipsum*, and each word retains its own declension. The same holds good as a rule in Greek: *ἐγὼ αὐτός, σοὶ αὐτῷ, ἡμῖν αὐτοῖς, ὑμῶν αὐτῶν, σφᾶς αὐτοῦς*, etc.; in certain cases, however, the first word has become indeclinable. The regular acc. *ἐμ' αὐτόν* = *ἐμὲ αὐτόν*, being written as one word *ἐμavτόν*, produced the apparently corresponding forms *ἐμavτῷ ἐμavτροῦ*,² and the same is the case with *σεavτῷ σεavτοῦ, ἐavτοῦ αὐτῷ*; then in the plural, the stem *σf- belonging originally to all three numbers, *ἐavτοῦς αὐτοῦς, ἐavτοῖς αὐτοῖς, ἐavτῶν αὐτῶν*. Polybius even uses *ἐavτῶν* as a reflexive pronoun for all three persons.³

In the Ionic of Herodotus an exactly parallel analogy seems to have started from the gen. sing. *ἐμέο αὐτοῦ* contracted to *ἐμεavτροῦ*, whence *ἐμεavτόν*, and similarly *σεavτοῖς, ἐavτοῖς*, etc.

§ 4. *Possessives.*

(229) The possessive adjectives are derived from the pronominal stems, whether strong or weak, by the addition of the suffix -ό-:—(1) Gk. *ἐμ-ός*, Lat. *me-u-s*; (2) Gk. (Hom., Lesb.) *τεός* = *τεf-ός, Lat. *tuus* = *tovos* = *tevos,⁴ Gk. (Hom., Ion., Att.) *σός* = *σf-ός; (3) Gk. (Hom.) *είός* = *σεf-ός, Lat. *suus* = *sovos* = *sev-o-s, Gk. (Hom., Ion., Att.) *ός* = (Lesb.) *φός* = *σf-ός;⁵ in

¹ Cf. *supra* 225, 10.

² Even a nom. sing. *ἐμavτός* is quoted from the comic poet Pherecrates.

³ Cf. *supra* 224.

⁴ Cf. *supra* 32 A a.

⁵ The adjective *είός* *ός* may in poetry fulfil the function of a plural possessive, "their," and eventually that of a reflexive possessive of the other two persons.

Greek in the plural also, Lesb. ἄμμος, ὕμμος, σφός, Dor. ἀμός, ὕμός, σφός (σφεός).

The only form which seems irregular is the Latin vocative of the possessive pronoun of the 1st person, *mī*. This ought probably to be regarded as the archaic genitive of the corresponding pronoun,¹ which, in the common expression *filī mīs*, assimilated its termination to that of the word which accompanied it.

In the plural, as there was not originally any pronoun of the 3rd person, the other two formed a pair. This explains the other mode of forming derivatives, by means of the suffix **-tero-*, the regular function of which we have already seen :² Gk. (Lesb.) ἀμμέτερο-ς, (Dor.) ἀμέτερο-ς, ὑμέτερο-ς, (Hom., Ion., Att.) ἡμέτερος, ὑμέτερος, Lat. *nos-ter*, *ves-ter*. Analogy afterwards created in Greek a possessive of the 3rd person, σφέτερος, and those of the dual, νωίτερος, σφωίτερος; and the external resemblance between σφέτερος and σφωίτερος sometimes caused the latter to be used for the dual of the 3rd person, and the former for the plural of the 2nd, as in the second verse of the Ἔργα καὶ Ἡμέραι.

¹ *Supra* 225, 10.

² *Supra* 121, 5, and 159.

II.—CONJUGATION.

(230) The comparative study of the Græco-Latin system of conjugation includes:—

(1) That of the indeclinable prefixes (augment and reduplication);

(2) That of the person-endings;

(3) That of the modifications which take place in the verbal stem through the addition of these endings, in other words, the study of the tenses and moods and their inflexions.

CHAPTER I.

AUGMENT AND REDUPLICATION.

(231) The augment and reduplication have many points in common: first their form, for both contain as a general rule the vowel *e*; both are indeclinable elements of conjugation, and at the same time very unstable elements, since they do not form part of the body of the verb, and may be detached from it; lastly, both are essentially signs of the past tenses: the augment, in Greek, and there only in the indicative, characterizes all the past tenses, except the perfect; the reduplication, the perfect in all moods and the pluperfect. By general agreement the augment is now regarded as a shortened demonstrative stem, a kind of index finger pointing the action expressed by the verb back into the past: ¹ thus, $\xi\text{-}\phi\epsilon\rho\epsilon$ = I.-E. * ϵ *bhere-t* "formerly he bears," ² whence "he was bearing, he bore."³ The origin of the reduplication is much more obscure.

SECTION I.

AUGMENT.

§ 1. *Form of the Augment.*

(232) The augment in Greek is called **syllabic** or **temporal**, according as it affects a verbal form beginning with a consonant or a vowel. But this distinction is only apparent: it

¹ Hence in Greek those moods of the aorists which are without the augment do not contain in themselves any notion of past time: $\epsilon\lambda\pi\acute{\epsilon}$ (say), $\phi\upsilon\gamma\epsilon\acute{\iota}\nu$ (to flee), etc.

² Cf. in Latin *legis legīt*, which, apart from the augment, resembles $\epsilon\lambda\epsilon\gamma\epsilon\varsigma$ $\epsilon\lambda\epsilon\gamma\epsilon(\tau)$ much more closely than $\lambda\acute{\epsilon}\gamma\epsilon\iota\varsigma$ $\lambda\acute{\epsilon}\gamma\epsilon\iota$.

³ So in the oldest Greek (Hom.), all the augmented tenses express all shades of past meaning without distinction. The notion of the past is contained in the augment and not in the form of the verb.

is connected with the fact that the *e* of the augment, which remained unchanged before a consonant, was, as early as the Indo-European period,¹ contracted with the initial vowel of the verb, and so lengthened it: **é bhere-t* (he was bearing), but **é age-t*, whence **āget* (he was leading, Gk. ἤγε).

(233) I. *Syllabic augment*.—1. The ordinary form is an *é*-prefixed: *ἔ-φερε*, *ἔ-βούλε-το*, *ἔειπε* (Hom.) = **é-φειπε*.

2. Very rarely *é*- is found: the rough breathing is in this case due to the analogy of the non-augmented form. Thus *ἔρπω* (to creep) = **σέρπω* (Lat. *serpō*) ought regularly to become in the imperfect **ἔ-σερπο-ν*, whence **ἔερπον* **ἔιρπον*; but instead of this we have *εἶρπον*, imitated from *ἔρπω*, *ἔρψω*, etc. So also in *εἶπετο* (he was following), *εἰστήκει* (he was standing), *έώρων* (I was seeing) *έάλων* (I was taken), and various other cases, where the initial rough breathing crept in from *ἔπομαι*, *ἔστηκα* (= **σέ-στᾱ-κ-α*), *όράω*, *άλίσκομαι*, etc. But we find in Homer *άλ-το*, from *ἄλ-λο-μαι* = *sal-iō*.

3. There is also occasionally found an augment with long *ῆ*-, which in all probability is not primitive: *ῆμα* (I went), *ῆ-θελε*, *ῆ-βούλετο*, *ῆ-μελλε* (Hom. *ἐβούλετο*, *ἐμελλε*, which belong also to the classical language), *ῆδύνατο*, Hom. *ῆσκον* (I made like, from *ἴσχω* = **fίκ-σκω*), *ῆείδη* (he knew), also *ἑᾱγη* (it was broken) = **ῆ-άγη* from root *faγ*, *έώρων* = **ῆόρων*, *ἑάλων* = **ῆ-άλων*, etc. In several of these forms the long vowel is regular: thus *ῆι*- is the form with temporal augment of the root *ei* (to go); so also *ῆθελε*, *ῆσκον* go back to the forms with prothesis² *ἐθέλω*, *ἔισκω*, doublets of *θέλω*, *ἴσχω*. Being referred by the speakers to the latter forms, they gave rise to the mistaken idea of the existence of a syllabic augment with long vowel, and this kind of augment became still further extended in Byzantine and modern Greek.

4. The initial nasal or liquid of the verbal stem is sometimes doubled after the augment in poetry, either through spontaneous reduplication,³ or through imitation of the regular reduplication

¹ We must therefore beware of restoring in Greek **εαγον*, **εελθον*, **εοργο*, etc., to explain *ἤγον*, *ἤλθον*, *ῶργο*; moreover, it will be seen that the two last could only have become in Ion.-Att. **ειλθον* and **εῦργο* or **οὔργο*.

² *Supra* 79.

Cf. Havet-Duvau, *Métr.* 50.

of ἔρρεε (it flowed) = *ἔ-σρεφε, ἔννεον (I swam) = *ἔ-σνεφο-ν: e.g. ἔλλαβε, ἔλλαχε, ἔμμαθε, ἔλλιπε.

5. When the syllabic augment is prefixed to a verb beginning with a consonant which, when occurring between two vowels, is lost, it is usually contracted with the vowel thus placed next to it: εἰργάζετο (he was working) = *ἔ-φεργάζε-το, εἶχον = *ἔ-φεχο-ν or *ἔ-σεχο-ν, εἰπόμεν = *ἔ-σεπό-μην (cf. Lat. *sequo-r*),¹ etc. Moreover in certain cases, in which contraction did not take place, the syllabic augment may still easily be recognised: Hom. *ἔειπε* (class. *εἶπε*), *ἔαναςσε* (he ruled), class. *ἔαγῃ*, *ἔάλων* (cf. inf. *ἀλῶναι*), *ἔωνούμην* (I was buying) = *ἔ-φοσνεό-μην, Lat. *vēnum* = *ves-no-m, etc.

6. By a wrong extension of the diphthong *ει* thus resulting from contraction, and especially through the analogy of the reduplication in *ει* of *εἰληφα*,² were created the rare forms, *παρειλήφθησαν*, *διειλέχθη*.

(234) II. The *temporal augment* is much less uniform in character than the syllabic augment, and requires the following observations.

1. An initial long vowel naturally cannot be affected by the augment: *ἡρεμέω* (to be quiet), *ἡρέμησα*. Hence probably arose the analogy which led to its suppression even in verbs beginning with a short vowel.

2. Initial *ᾱ*, *ῆ*, *ῶ*, when augmented, become respectively *ā* (Ion.-Att. *ῆ*), *ῆ*, *ῶ*: *ᾱγω*, Dor. *ᾱγο-ν*, Ion.-Att. *ῆγο-ν*; *ῆα* (I was) = *ῆσ-α = *ῆσ-ῃ, root *ῆσ*; *ῶρ-το* from *ῶρ-νῦ-μι*, etc.

3. Through analogy, initial *ι* and *υ* may become *ī* and *ū* (Hom. *ἱαχον*, they cried, II. ii. 394), but as a rule they remain unchanged.

4. The initial diphthongs *αι*, *οι* and *αυ* in ordinary Greek become *ῆ*, *ῶ* and *ῡ*; *ει* and *ευ* remain unchanged in common Greek, but are augmented in good Attic, *εικάζω* (to conjecture) *ῆκαζον*, *εἰρίσκω* *εἰρέθη*; lastly, initial *ου* is never changed.

¹ Thus the difference between *εἶπε* (cf. *ἔρπειν*) and *ἦλθε* (cf. *ἔλθειν*) is connected with the fact that the former, quite regularly, has the syllabic, the latter the temporal, augment. In Doric, where *ει* is contracted to *η*, we have regularly *ῆχον*, etc. The Lesbian form *εἰδον* (Att. *εἶδον* = *ἔ-φιδο-ν) still shows the *φ* of the root *φιδ*.

² Cf. *infra* 238, 6.

5. Analogy often introduced the temporal augment into verbs beginning with a consonant which was afterwards lost: thus *οικέω* = **φοικέω* (cf. *φοῖκο-ς vīcus*) ought to have impf. **εοίκουν*, instead of which it has *ῥέκουν*; so also in Hom. *ἴκε-το* (initial *ι*), unless the rough breathing is a late development, Att. *ἡργάζετο* (inscr.) by the side of *εἰργάζετο*; and the verb *ἰδῖω* (to sweat) = **σφιδ-ίω* had already in the earliest times lost all trace of the syllabic augment. In certain cases both augments seem to be present: thus the regular **εοινοχόει* (he poured wine, *foīnos*) and the irregular *ῥινοχόει* may have coalesced in *ἑρνοχόει*, which is found for example in Il. iv. 3, though there is nothing to prevent its correction to *εοινοχόει*.

§ 2. Use of the Augment.

(235) We have seen that the augment does not form an integral part of the verbal form. It was originally a separate word. Now the laws of Indo-European accentuation, revealed to us by Vedic Sanskrit, required that the verb should be unaccented in a principal sentence, accented only in a subordinate sentence. Hence in a principal sentence the verb was enclitic, the accent resting on the augment, e.g. **é bheret*; in a subordinate sentence the augment was proclitic, the accent resting on the verb, e.g. **e bhéret*, and then the unaccented augment tended to disappear, **bhéret*, Gk. *φέρε*. So also, from the remotest period, the moods other than the indicative had no augment, inasmuch as they scarcely ever appeared except in subordinate sentences.¹

According to this, it would seem that the Greeks ought to have said *ἔβη* (he went), but *λέγω ὅτι βῆ* (I say that he went). But, in Greek as in Sanskrit, the augmented and unaugmented forms were so confused as to be used one for the other; the latter forms even in a principal sentence, in the language of Homer and the poets, who drop the augment or not, as they please; and the augmented forms even in a subordinate sentence, at all periods of the language.

¹ Bréal however (*Mem. Soc. Ling.* vi. p. 333) prefers to see in the loss of the augment merely a phenomenon of syntactical phonetics.

The usage in this respect is as follows. Homer and his imitators use an unlimited license; almost the same is the case with the elegiac and lyric poets; by the iambic, and especially the tragic poets, the augment is rarely omitted, except by the latter in choruses, lyric pieces, and the narratives of messengers, which always have a certain amount of epic colouring; in the prose of Herodotus, the augment is only absent in iterative verbs;¹ lastly, in classical prose, the augment has definitely gained the day, and, apart from the aforesaid irregularities of the temporal augment, is never absent except occasionally in the pluperfect; moreover it is not certain that even this was allowed in good Attic.

In Latin, on the contrary, it was the opposite analogy which prevailed; as far as we can go back, there is no longer a trace of any augmented form, and even the imperfect *eram* shows a short vowel, as contrasted with the long vowel of *ἦα*.²

§ 3. *Place of the Augment.*

(236) Though originally distinct from it, the augment can only be placed immediately before the verb; hence in simple combinations of a particle and a verb the augment is inserted between these two elements, διαβαίνω διέβαινον, περιγίνομαι περιεγένετο, etc. If however the verb is derived from a compound and so forms an inseparable whole, the augment is put at the beginning: ἀμφισβητέω (to dispute) ἡμφισβήτησα, ἀντιδικέω (to defend a suit against) ἡντιδίκουν.³

But it was inevitable that some confusion should arise between these two classes of words, which in many cases could scarcely be distinguished except by the etymologist. Thus sometimes the particle seemed to form part of the body of the verb and on that account received the augment, especially when the verbal whole thus formed differed greatly from the simple verb in meaning, as in the case of ἐπίσταμαι (I know), which no longer retained in any degree the meaning of ἵστημι; hence the imperfect ἡπιστάμην, and similarly in

¹ *Supra* 142.

² *Supra* 149.

³ Cf. *supra* 178. There is no verb *βητέω or *δικέω.

Attic, ἡμφίεσα (I clothed), ἐκάθευδε (he was sleeping), ἐκαθήμην (I was sitting down).¹ The opposite analogy, which was especially common in late Greek, produced the forms ὑπώπτειον, (I was suspecting), προεφήτευσε (he prophesied),² and even διήτων (I was managing), διηκόνουν (I was serving), for ἐδιαίτων, ἐδιακόνουν, in which verbs there is really no prefix διά. The most curious phenomenon is the addition of both the true and the false augment in the classical forms ἡνεχόμεν (from ἀν-έχομαι), ἡντεδίδκει, ἐδιήτων (Demosth.), ἡμφεσβήτουν (Plato), ἡντεβόλησε (he met), etc.

SECTION II.

REDUPLICATION.

§ 1. *Form of Reduplication.*

(237) Reduplication in Greek may take three forms: syllabic before a consonant, temporal before a vowel, and syllabic before a vowel. Latin seems to know only the first form, and even that has become almost obliterated.

(238) I. *Syllabic reduplication before a consonant* consists essentially in the repetition of the initial consonant of the verb, followed by the vowel *e*: Gk. λέ-λοιπ-α, δέ-δορκ-α, λέ-λυ-κ-α; Lat. *de-d-i*, *pe-pend-i*, *pe-pig-i*, *te-tig-i*, *ce-cid-i*, *ce-cīd-i*; the reduplication is obscured in *sed-i* = **se-zd-i* = **se-sd-i*, root *sed*, Gk. ἴζω = **σί-σδ-ω*,³ and the relation of *sēdeō* to *sed-i* produced *ven-i* from *veniō*, *lēg-i* from *lēgō*, etc. The principle laid down will now be examined in its particular applications.

1. The vowel of reduplication is always *ε* in Greek. In Latin it is often assimilated to the vowel of the verbal root: *i* in *di-dic-i*; *o* in *po-posc-i*, *mo-mor-d-i* (arch. *me-mord-i*), etc.; *u* in *pu-pug-i* (from *pungō*, arch. *pe-pug-i*), *tu-tul-i* (from *tundō*),⁴ etc.

¹ Hom. ἐκαθίζον (Od. xvi 408).

² There is no verb **φητεύω* or **ὀπτεύω*.

³ Cf. *supra* 87, III, and 90, X.

⁴ This corruption took place on a larger scale in Sanskrit.

2. In Greek, an aspirate is changed in reduplication to the corresponding non-aspirated consonant: *πεφίλημαι* = **φε-φίλη-μαι*, cf. Sk. *ba-bhār-a* (he bore) = I.-E. **bhe-bhor-e*; ¹ so also *τέθεικα*, *κέχαιδα*, etc.

3. When a group of consonants occurs at the beginning of a word, the whole group is never reduplicated; but its treatment differs in Sanskrit, Greek and Latin, which seems to show that each of these languages has corrupted after its own fashion the primitive reduplication of the whole group. In Greek the first consonant alone is reduplicated: *βέβληκα*, *κέκτημαι*, *ἔστηκα* = **σέ-στᾱ-κα*, *ἔρρωγα* (I have broken) = **φέ-φρω-α*, etc.² In Sanskrit it is often the second: *ta-sth-ūr* (they stood), root *sthā*. In Latin both are reduplicated, but the first disappears from the radical syllable: *stetī* for **ste-st-ī* (through analogy of *de-d-ī*), *spopondī* (I promised) for **spe-spond-ī*, from *spondeō*.

4. Initial *σ* in reduplication naturally becomes the rough breathing: *ἔσθηκα*; *εἶμαρται* (it has been given as a share) = **σέ-σμαρ-ται*, root (reduced) **smer* (to share, cf. *μέρος* and *μοῖρα* = **σμός-γ-α*),³ etc. Now it might happen that this rough breathing was changed to the soft breathing, either dialectically, through simple psilosis, e.g. Hom. *Æol.* *ἔμμορε* (he shared) = **σέ-σμορ-ε*, or generally, through the proximity of another aspirate, e.g. *ἔσχηκα* = **ἔσχηκα* = **σέ-σχη-κα*.⁴ Again, in reduplication initial *φ* was lost in Ionic-Attic,⁵ whence *ἔοικα* (I resemble) = **φέ-φοικ-α*, *ἔολπα* (I hope) = **φέ-φολπ-α*, *ἔοργα* (I have worked) = **φέ-φοργ-α*, *ἔρρωγα*, *ἔρριφα*, *ἔρρύνηκα*, etc. Hence in the last two cases the reduplication did not differ from the syllabic augment; this led to the substitution of the syllabic augment instead of partial reduplication in an initial group of consonants. The general rule in regard to the use of the two prefixes is as follows: when the second consonant is a liquid or nasal, partial reduplication takes place, *γέγραφα*, *βέβλαφα*, *τέτρίμμαι*, *μέμνημαι*, though dialectical inscriptions show many

¹ Cf. *supra* 61.

² The very rare forms *βερυπωμένα* (Od. vi. 59), *βερῖφθαι* (Pind.) are new formations, based on *βυπῶω*, *βιπτῶω* after the loss of the *φ*, when the *β* was taken for the initial letter.

³ Cf. the Greek expression *ἡ εἰμαρμένη* (sc. *τύχη*, *μοῖρα*) "fate."

⁴ Cf. *supra* 61.

⁵ Cf. *supra* 40 A.

instances of the substitution of the augment, which is general in the Panhellenic *ἔγνωκα*; if, on the other hand, the second consonant is an explosive or sibilant, or if the initial consonant is ζ, the augment almost everywhere prevails: *ἔζευγμα* (cf. the reduplicated form *δίζημαι*),¹ *ἔψευσμαι*, *ἔκτμαι* (in prose however *κέκτμαι*), *ἔπτυκα* (I have spit), *ἔπτυχα* (I have folded), *ἔπτηχα* (I have frightened, but also *πέπτηχα* and Hom. *πεπτηώς*),² *ἔσχισται*, (it has been split), *ἔστικται* (it has been pricked), *ἔσονται* (it has been thrown) from *σεύω* = **σσεύω* = **gyéwō* (Sk. *cyāva-mi*), and so almost always with σ followed by a consonant.

5. When once the reduplication had been confused with the augment, it was liable to the corruptions mentioned above³ as being due to the analogical extension of the long augment: thus the pf. *ἑώρακα* is not uncommon, but mostly we find *ἑωῤακα* on the model of *ἑώρων*; so also *ἑάλωκα* and even *ἑώλπει* (Il. xix. 328), *ἑώργει* in the text of Homer, the latter forms being pluperfects with an internal temporal augment, unless they are merely copyists' errors.

6. In the reduplication of *f*, when the two *f*'s had fallen away, the vowels, being left next to one another, were contracted, when contraction was possible: *εἶργασμαι* = **Fe-férgas-mai*, *εἶρηκα* (I have said) = **Fe-férrh-ka*, etc. The diphthong of *εἶρηκα* was reproduced in the three Attic perfects *εἴληφα*⁴ (Herod. *λελάβηκα*), *εἴλοχα* *εἴλεγμαι* (especially in compounds, but the simple *λέλεγμαι* exists in good Greek), *εἴληχα* (from *λαγχάνω*, in Homer regularly *λέλογχα*), where the radical *η* is certainly due to the analogy of *εἴληφα*.

(239) II. *Temporal reduplication* occurs under the same conditions as the temporal augment and is subject to the same laws:⁵ *ἄγω ἤγμαι*, *αἰρέω ἤρηκα*, *ικνέομαι ἀφίχθαι* inf.; but *εὔρηκα*, *οὔτασμαι* (I am wounded), etc. It has been suggested that this augment occurs in the Latin forms *egē* (from *agō*), **epē* (from **apiō*, *coeptē* = **co-ēpē*), and that in these cases the *ē* was due to the Indo-European contraction of *ēā* (e.g. **e-ag-*, **e-ap-*), and was afterwards extended by analogy to *fēcē* from *faciō*, *cēpē*

¹ *Supra* 94.

² *Supra* 233, 3.

³ *Supra* 234.

⁴ *πίπτω* has *πέπτωκα*, never **επτωκα*.

⁵ Thus, *εἴληφα*: **λήψω* = *εἶρηκα*: *ρήσω*.

from *capiō*, etc. But nothing is more doubtful than the pro-ethnic contraction of *ea* to *ē*; and it is much better to see in *ēgē*, *fēctē*, *cēptē* the normal form of the roots which appear in the reduced form in *agō*, *faciō*, *capiō*; ¹ more especially as the *ē* of the Latin perfect was also supported by the analogy of *sēdī*, *venī*.²

(240) III. *Syllabic reduplication before a vowel*, often wrongly called Attic reduplication, is more common in Homer than the preceding kind, and is found in all dialects. It consists of the reduplication of the entire initial syllable of the verb, but with a short vowel, whereas the verbal syllable has a long vowel: *ῥπ-ωπ-α*, *ῶλ-ωλ-α*, *ῶδ-ωδ-α*, *ἐδ-ηδ-ώς* (having eaten), *ἄρ-ἄρ-α* *ἄρ-ηρ-α* (I have fitted), etc. These few radical formations, which were very simple and probably primitive, served as models for others of a more complicated character, such as *ἐλ-ήλουθ-α* (and Hom. *εἰλήλουθα*, through a corruption), *ἐγρ-ήγορ-α* (from *ἐγείρω*), *ἀκ-ήκο(F)-α*, *ἐν-ήνοχ-α* (root *ἐνεκ*, cf. aor. *ἤνεγκον*), *ὀλ-ώλεκ-α* (I have caused to perish, cf. *ὀλέ-κ-ω*), *ὀμ-ώμοκ-α* (from *ὀμνῦμι*, to swear, fut. *ὀμό-σω*), etc.; and secondarily for actual barbarisms, in which the entire termination was transferred from one of the above forms, e.g. *ἐδῆδοκα* (I have eaten, root *ἐδ*), *ἀγόχα* (from *ἄγω*), evidently modelled on *ἐνήνοχα*. This common mode of formation is confined to Greek.³

§ 2. Use of Reduplication.

(241) There is no doubt that in Indo-European the reduplication was liable to disappear, probably under the same conditions as the augment. There is even an unquestionable instance of a perfect which must have entirely lost all reduplication in the pro-ethnic period, since there is no trace of it in any language; viz. **wóyd-a* (I have seen, I know), Sk. *ved-a* (I know), Gk. *οἶδ-α*, Lat. *vid-ē*, Goth. *vait* (Germ. *ich weiss* [Eng. *I wot*]). But in Greek, the reduplication had already become fixed in the Homeric period, just as was the case with the augment in the classical period, so that, apart from the

¹ *Supra* 41, 2 and 3.

² *Supra* 238.

³ Cf. the same type of reduplication in the aorist *ἀγ-αγ-εῖν* (*supra* 90, IX) and in the oxytone femiines, *ἀγ-ωγ-ή* (*supra* 110).

capricious variations of the temporal reduplication, we can barely glean a few instances here and there of perfects without reduplication. It is Herodotus who supplies the most examples: οἶκα for ἔοικα, ἔργασται, etc.

In Latin the opposite process took place. Latin, like Greek, had inherited from the beginning a few non-reduplicated perfects; in another type, e.g. *sēdī*, the reduplication remained, but was no longer perceptible, and we have seen that this type was extended by analogy; lastly, in the whole of a very important class of so-called perfects the reduplication was regularly absent, namely in the old sigmatic aorists which became entirely confused with the perfect;¹ hence there was abundant reason why this element should tend everywhere to fall into disuse. Accordingly the perfects mentioned above are almost the only reduplicated perfects in Latin. In all the perfects in *-uī*, *-vī*, and the great bulk of radical perfects, there is no reduplication, *nō-v-ī*, *lē-v-ī*, *fēc-ī*, *vīc-ī*, *tul-ī* (for *te-tul-ī*); much more is this the case with all the false perfects in *-sī*, which never had it, *vīxī*, *finxī*, *panxī* (cf. *pepīgī*, both from *pangō*). Further, in Latin as in Greek, the perfects which have reduplication keep it in all moods: *pe-pender-ō*, *pe-pender-i-m*, like *λε-λύκ-ω*, *λε-λύκ-οι-μι*.

§ 3. Position of Reduplication.

(242) The position of the reduplication is essentially the same as that of the augment, *περιγέγονε*, but *δεδυστύχηκα*, and the same irregularities are also noticeable, though much rarer:² false initial reduplication in *ἡμφίεσμαι*; false medial reduplication in *ᾠδοιπεπορήκαμεν*, for *ᾠδοιπορήκαμεν* (we have journeyed); double reduplication in *δεδιήτημαι*, *ᾠδοποιημένη*. In Latin, there remains only a trace of reduplication occurring between the particle and the verb, in the forms *rettulit* = **re-tetulit*, *repperit* = **re-peperit*; as a general rule, even when the simple verb is reduplicated, the compounds lose the reduplication (*im-pend-ī*, *con-tig-ī*).

¹ *Supra* 96.

² *Supra* 236.

CHAPTER II.

PERSON-ENDINGS.

(243) The **person-** or **conjugation-endings** correspond to three categories in the system of verbal inflexion: **person**, **number**, and **voice**. The first two have already been defined.¹ **Voice** denotes the relation of the verbal concept to the subject; it is called **active** or **middle (mediopassive)**, according as the action is thought of as taking place in regard to others or in regard to the subject himself. Indo-European had, in both voices, person-endings corresponding to the three numbers, and to the three persons of each number. Greek has kept both voices; it has also added to them some exclusively **passive** forms, some of which (the futures) are conjugated like the middle, others (the aorists) like the active.² It has likewise kept all three numbers; but the 1st person dual has disappeared, and the other two persons are lost in some dialects, and may in all be replaced by those of the plural without making any difference.³ Latin has lost all trace of the dual, at least as regards its grammatical function. It has two voices; but its mediopassive, which is peculiar to Latin and contains nothing, or next to nothing, of a primitive character, cannot be compared with that of Greek, and will require separate consideration.

Indo-European distinguished, in each voice, four classes of person-endings; those of the tenses called **secondary** (augmented tenses), those of the tenses called **principal** or **primary** ⁴

¹ *Supra* 184 and 222 *seq.*

² *Supra* 98, 102, 103 and 146.

³ Cf. *supra* 184. From the fourth century B.C. the dual forms are no longer found in inscriptions.

⁴ For the sake of brevity these will be called respectively secondary and primary endings, and, without prejudging the question as to which series is the more primitive, the secondary, which are simpler and shorter, will be considered first.

(present, future), those of the perfect, and those of the imperative. We shall find the same classes, more or less confused and corrupted, in Greek and Latin.

SECTION I

ACTIVE VOICE.

§ 1. *Secondary Endings*

(244) The secondary endings in Greek are added to the following verbal forms: (1) non-thematic aorist,¹ ἔ-θη-ν, ἔ-χε(F)-α (I poured); (2) thematic aorist, ἔ-φυγο-ν; (3) non-thematic imperfect, ἔ-τιθη-ν, ἔ-δείκνυ-ν; (4) thematic imperfect, ἔ-λυο-ν; (5) sigmatic aorist, ἔ-λυσ-α; (6) pluperfect, ἔ-λελύκε-α, ἔ-λελύκει-ν; (7) optatives of all tenses, δοίη-ν, λύσει-α; (8) aorists passive, ἐ-τύπη-ν, ἐ-λύθη-ν. In Latin the secondary and primary series have been confused,² and the resulting series is used for all tenses of the verb, except the perfect indicative and the imperative.

(245) I. *Singular*.—1. The secondary ending of the 1st person is *-m after a vowel, and consequently *-m̄ after a consonant: in Greek, -ν and -α respectively;³ in Latin, always -m, because the termination is added only to vocalic stems, except possibly in *eram*, which may be corrupted for *er-em = *ēs-m̄, cf. Gk. ἦα.⁴ The termination after a vowel is everywhere very plain: Gk. ἔ-δω-ν, ἔ-δίδω-ν, ἔ-λεγο-ν, ἔ-λέχθη-ν, λεχθείη-ν, etc.; Lat. *lega-m*, *legēba-m*, *legere-m*, *sic-m* *si-m*, *veli-m*, *vīderi-m*, etc. In Greek however the optatives of thematic tenses, which, like the others, have the secondary endings throughout the rest of their inflexion, have adopted the primary ending -μι in the 1st pers. sing.: λύοι-μι,⁵ λύσοι-μι, and so also λύσαι-μι, λελύκοι-μι. The regular τρέφοι-ν is found

¹ Cf. *supra* 86.

² Except, however, the 1st pers. sing. of the thematic tenses, *infra* 249.

³ Cf. *supra* 48 A and 49, 3.

⁴ Cf. the plpf. *vīderam* = *vīder-em (?), *supra* 149.

⁵ This may be represented by the formula λύοι-μι: λύοις = δεικνύμι: δεικνύς, and cf. *infra* 249, 1 A.

in a fragment of Euripides, and it has even been proposed to restore ἰδούν in a verse of Sophocles.¹

The termination after a consonant was for a long time not recognised. This is not to be wondered at, since the Greeks themselves, long before Homer, had confused it with the stem; in presence of a system of inflexion like ἔχ^εα ἔχ^εας, ἔλ^υσα ἔλ^υσας, etc., it was hard to imagine that the *a* was the sign of the 1st person. Yet, if we just consider that *ἔ-χ^εφ-*a*, ἔ-θ^ηκ-*a*, have exactly the same relation to the roots χ^εφ, θ^ηκ, that ἔ-θ^η-ν has to the root θ^η, that in certain cases the reduced forms of both roots follow parallel lines (e.g. 3rd sing. aor. mid. ἔχ^υ-το like ἔ-θ^ε-το), and, lastly, that, if ἔχ^εα, ἔθ^ηκα, ἔλ^υσα were stems, the 1st pers. sing. in these tenses would have the simple thematic form without any special sign, which implies a contradiction in terms, we shall easily be convinced that the *a* in the one series strictly corresponds to the *ν* in the other. This relation becomes clear from the equally evident correspondence of the same two sounds in the acc. sing. and acc. pl. of nouns, ἵππο-ν πόδ-*a*, ἵππο-ν^ς πόδ-*ας*. Hence the conclusion is forced upon us that in ἔχ^εα=I.-E. *é-*ghew-m*,² ἔ-δωκ-*a*=*ἔ-δωκ-*m*, ἔλ^υσα=*ἔ-λ^υσ-*m*, ἐλελύκεα=*ἔ-λελυκεσ-*m*, etc., the *a* is the sign of the 1st pers. sing. This *a*, which was regular in the 1st pers. sing., and, as will be seen later on, in the 3rd pl.,³ was extended by analogy to the rest of the inflexion.

2. The ending of the 2nd sing. is always *-s* (Gk. ἔ-θ^η-*s*, ἔ-λ^υε-*s*, δοί^η-*s*, λύοι-*s*, Lat. *legā-s*, *legēbā-s*, *siē-s*, *velī-s*), which in Greek, in tenses of which the first sing. ends in *-a*, is added to the false stem in *-a*, ἔ-χ^εα-*s*, ἔ-λ^υσα-*s*, etc.

3. The regular ending of the 3rd sing. is *-t*: Gk. ἔ-θ^η=*ἔ-θ^η-*τ*, ἔ-φ^ερε=Sk. *a-bhara-t*, δοί^η, φέροι=Sk. *bhadrē-t*, etc.; Lat. *lega-t*, *legēba-t*, *sic-t*, *veli-t*. But in Greek those tenses which in 1st sing. end in *-a*, have in 3rd sing. the ending *-ε*, through the

¹ *Æd. R.* 832, the construction *πρόσθεν ἡ . . . ἰδεῖν* being very rare, if not incorrect.

² ἔχ^εα, ἔδωκα, etc., are therefore, properly speaking, what the ordinary grammars call 2nd aorists, not 1st aorists; ἔχ^εα is perhaps a 1st aor. (sigmatic) with regular loss of intervocalic *σ*; in it the analogical influence of *ἐλευσα* (*supra* 69, 1) was balanced by that of *ἔχ^εα*.

³ *Infra* 247, 3.

analogy of the perfect.¹ On the other hand the accidental resemblance between the two types ἔχεε and εἶπε = *εἶπετ produced the type εἶπα, εἶπας, etc., formed like ἔχεα.

(246) II. *Dual*.—The 1st pers. is wanting. The 2nd and 3rd end respectively in -τον and -τᾶν (Dor. -τᾶν, Ion.-Att. -την) = Sk. -tam and -tām, ἔθε-τον ἔθέ-την, ἐλύε-τον ἐλύε-την, ἐλύσα-τον ἐλύσά-την, etc. On account of their great resemblance and the exact similarity of the corresponding primary endings,² these two forms were easily confused; -την is not unfrequently found for the 2nd person,³ and -τον for the 3rd.

(247) III. *Plural*.—1. Greek has two terminations, -μες in Doric, -μεν in the other dialects, ἐλύο-μες, ἐλύο-μεν. The first would correspond to I.-E. *-mes, cf. Sk. -mas; the second to I.-E. *-mem, or more simply perhaps I.-E. *-me (cf. Sk. -ma) with a paragodic ν, which was originally not permanent, but afterwards became so. Now in Sanskrit these terminations correspond respectively to the distinction between the primary and secondary tenses: *bhārā-mas* = φέρο-μες, but *a-bhārā-ma* = ἐ-φέρο-με(ν). Hence it is probable that Doric extended the primary ending to the secondary tenses, whereas the other dialects, on the contrary, generalized the secondary ending, φέρο-μεν, *infra* 251, 1.

Latin has neither *-mes nor -me, but an ending peculiar to itself, -mūs⁴ = *-mōs, which evidently has the same relation to the Doric -μες as the termination of πατρ-ός has to that of *patris* = *patr-ēs.⁵ Hence we may assume for the parent-speech the doublet, probably syntactical, *bhéro-mes *bhéro-mos, of which Doric has generalized the first term, and Latin the second.

2. In Greek, always -τε = I.-E. *-te, cf. Sk. -ta, -tha; in Latin, always -tis = I.-E. *-tes (?). Sanskrit has, as primary ending of 2nd dual, -thas, to which Latin -tis phonetically corresponds;

¹ *Infra* 252. Thus, ἐλύσε : ἐλύσα = λέλυκε : λέλυκα.

² *Infra* 250.

³ Regularly perhaps in Attic, according to the most authoritative grammarians: e.g. εἰχέτην, *Æd. R.* 1511. On the other hand, καθέδρετον (*Od.* viii. 313).

⁴ The very rare instances of the scansion -mūs have no value from a grammatical point of view, cf. *supra* 206, 5.

⁵ *Supra* 204. 14.

hence it is possible that *es-tis* originally meant "you two are," that this termination passed into the impf. *erā-tis*, and that at length the dual was used with the function of the plural.¹ But it is also possible that the endings **-tes* and **-te* stand to one another in the same relation as **-mes* and **-me*, the one being primary, the other secondary. Lastly, it is possible that **-tes* and **-te* formed a syntactical doublet.² However this may be, the termination **-res* is quite unknown to Greek, and in Latin *-te* only occurs in the imperative.

3. The ending of the 3rd pl. was **-nt* after a vowel, **-ñt* after a consonant, whence in Greek *-ν(τ)* and *-αν(τ)* respectively, in Latin always *-nt* (except possibly *erant* for **er-ent = *es-ñt*).³ The ending after a vowel is especially plain in the thematic tenses, *ἔφερον*, *ἔφυγον*; the vocalic ending after a consonant is most easily to be recognised in the sigmatic aorist, *ἔλυσαν* for **ἔλυσαν = *ἔ-λυσ-ñt*;⁴ everywhere else, and even in this case, it has been corrupted or obscured by various accessory circumstances.

A. At first sight, the ending of the sigmatic aorist and the non-thematic aorist (after a consonant) seems to be a simple *ν*, *ἔλυσαν*, *ἔχεαν*; but this is a mere illusion, arising from the fact that the person-sign *α* has been extended throughout the whole inflexion of the aorist.⁵ The origin of this corruption is probably due to the 3rd pers. pl. even more than to the 1st sing.: the relation of *ἔλυνον* to *ἐλύομεν* caused *ἐλύσαμεν* to be produced on the model of *ἔλυσαν*; then the doublet **ἔλυσμεν ἐλύσαμεν* gave rise to a similar doublet **ἔλυστε ἐλύσατε*; at length the second series of forms finally prevailed, and, on the analogy of the relation between *ἐλύετε* and *ἔλυνες*, there were based on *ἐλύσατε* the forms *ἔλυσας*, *ἐλύσατον*, *ἐλυσάτην*. The same process took place in the optative of this aorist: 1st sing. *λύσεια = *λῦσειγ-ñ*, 3rd pl. *λύσειαν = *λῦσειγ-ñt*, whence the inflexion *λύσειας*, *λῦσειάμεν*, etc.

¹ Cf. *supra* 195, 1, the dual of the 1st decl. used as plural.

² M. L. Havet has very ingeniously pointed out that, in those verses of the comic poets which require the scausion *esti' nunc*, etc., there is no reason why we should not read equally well **este nunc*.

³ *Supra* 49, 1.

⁴ Cf. *infra* 284, 2.

⁵ Cf. *supra* 245, 1.

B. According to what we have just seen, the regular type of 3rd pl. in all the other optatives would be *δοῖ-αν = *δοῦγ-ῆτ, *διδοῖ-αν, *λύοι-αν, etc. But the *ā* became *ε* through the influence of the sing. δοίην διδοίην, whence 3rd pl. δοῖεν διδοῖεν, and the same vocalism also passed by analogy into λύοιεν, λύσαιεν, although there was no sing. *λυοίην.

C. In the non-thematic aorists (after a vowel), the termination being -ν(τ), we must regard as regular the Homeric forms ἔσταν (they stood) = *ἐ-σταν-ντ, ἔβαν, ἔφαν, ἔφυν (they were, 1st sing. ἐ-φυν-ν), etc., and the forms found in inscriptions ἔδον (they gave), ἔθεν (they put), δέγνον, etc.; so also in the aor. passive, Hom. δάμεν (they were conquered) = *(ἐ)-δάμην-ντ.¹ But from a very early date the whole ending -σαν of the sigmatic aorist, being taken for the termination of the 3rd plural, was wrongly introduced into all these tenses, and thus there arose the forms ἐ-στη-σαν,² ἐ-θε-σαν, ἐ-δο-σαν, ἐ-δίδο-σαν, ἐ-δάμην-σαν, ἐ-λύθη-σαν, etc., the only forms recognised in classical Greek. This analogy extended still further, since we find such forms as ἐ-λάβο-σαν (they took), ἀπήλθοσαν, etc., in inscriptions, chiefly Boeotian and of comparatively late date (2nd century B.C.).

§ 2. Primary Endings.

(248) As a general rule, it seems that most, if not all, of the primary endings, were originally derived from the secondary endings by the addition of an *ι*. This purely empirical law can be verified in Greek in the case of the 1st, 2nd, and 3rd sing., and 3rd pl., which are respectively -μι, *-σι, -τι, -ντι; it cannot be verified in Latin, because in Latin it was just these four terminations which generalized the secondary form.

(249) 1. *Singular*.—1. The parent-speech had two terminations for the 1st sing., one for the thematic, the other for the non-thematic tenses.

¹ *Supra* 76, 1 A. Cf. δάμεν (Il. xii. 14), μέγην (Od. ix. 91) and from the aor. in -θη, ἐμύχθεν (Il. x. 180), ἐφόβηθεν (Il. v. 498), κατέκταθεν (Il. xiii. 780, Od. iii. 108), πλῆσθεν (Od. iv. 705), etc.

² It is possible that ἔστην and ἔστησα once had the same meaning; if ἔστησαν was then taken to be the 3rd plural of ἔστη, nothing further was needed to cause the extension of the ending -σαν.

A. The thematic termination cannot be determined, when considered solely by itself; it consisted of a single vowel, which had been contracted in the pro-ethnic period with the final *o* of the verbal stem; the analogy of the perfect however¹ is a ground for believing that this vowel was *a*, e.g. Gk. φέρ-ω, Lat. *fer-ō* = **bhér-ō* = **bhér-o-a*, and in the subj. φέρ-ω = **bhér-ō-a* (cf. 1st pl. φέρ-ω-μεν) = **bhér-o-o-a*.² The only thematic tenses in Latin being the present indicative, the future of the 1st and 2nd conjugations, and the future perfect, it is only in these that the ending *-ō* is met with; but in Greek it characterizes all futures and subjunctives. It has however been to some extent contaminated by the influence of the non-thematic termination *-μι*; Æolic in particular conjugates in *-μι* a good many verbs which in the common language are verbs in *-ω*, κάλη-μι,³ φίλη-μι, ἐπαίνη-μι, γέλαι-μι; so also Bœotian, φίλει-μι, ποίει-μι; and to the same corruption must be ascribed the ending *-ωμι* in the 1st sing. of the subjunctive, which is not uncommon in Homer, ἐθέλωμι, ἴδωμι, ἀγάγωμι, etc.⁴

B. The non-thematic termination **-mi* is kept unchanged in Greek: εἰ-μί (Lesb. ἔμ-μι, Dor. ἦ-μί) = *ἔσ-μί, εἶ-μι, τίθη-μι, δαίκνυ-μι, etc. It may have been superseded here and there by the termination *-ω*, in consequence of the transition, already mentioned, of a verbal form from the one conjugation to the other; ⁵ thus σβεννύεις (Pindar⁶) points to a 1st sing. *σβεννύω; but this phenomenon is rare and rather late. In Latin it is general and very ancient; it is only necessary to compare *fer-ō* with *fer-t*, *vol-ō* with *vol-t*, *e-ō* with *i-t*, etc. The non-thematic termination (of course secondary) survives only in the form *su-m*, and even this form is corrupted.⁷

¹ *Infra* 252.

² Cf. *supra* 143.

³ It is very possible that, in some of these verbs (e.g. especially καλε-, *supra* 97) the Æolic inflexion was the more primitive.

⁴ Thus ἴδωμι : ἴδωμεν = ἴδοιμι : ἴδοιμεν, cf. *supra* 245, 1. The same corruption is general and invariable in Sanskrit in the present indicative, e.g. *bhārā-mi* (I bear), for **bhārā-ū* = φέρ-ω.

⁵ Cf. *supra* 88 and *infra* 274.

⁶ *Pyth.* i. 8. Cf. Hom. ζεύγνον (Il. xix. 393), δαίκνυω by the side of δαίκνυμι, and *infra* 274 to 276.

⁷ Cf. *infra* 272.

2. The ending **-si* (Sk. *-si*) underwent more corruptions than any other. Indeed, it can scarcely be recognised at all.

A. Among the non-thematic forms, it is still recognisable: in $\epsilon\dot{\iota} = * \epsilon\sigma\iota = \text{Sk. } d\dot{s}i$ (thou art), the relation of which to I.-E. $\acute{e}si = * \acute{e}s-si$ (cf. Hom. $\acute{\epsilon}\sigma\sigma\acute{\iota}$) can be easily perceived; in $\epsilon\dot{\iota}$ (thou goest) $= * \epsilon\dot{\iota}-\iota = * \epsilon\dot{\iota}-\sigma\iota$, Sk. $\acute{e}-\acute{s}i$; perhaps in $\phi\eta\acute{\iota}$ -s, in which the ι subscript, if not a mere invention of the grammarians, can only be explained by a form $*\phi\eta\acute{\iota} = *\phi\eta\acute{\iota} = *\phi\eta\sigma\acute{\iota}$, with final s added as below. According to this we ought to have $*\tau\acute{\iota}\theta\eta$, $*\delta\acute{\iota}\delta\omega$, $*\delta\acute{\epsilon}\iota\kappa\nu\iota = *\tau\acute{\iota}\theta\eta-\sigma\iota$, $*\delta\acute{\iota}\delta\omega-\sigma\iota$, $*\delta\acute{\epsilon}\iota\kappa\nu\bar{\iota}-\sigma\iota$, etc., cf. Sk. $dad\bar{a}-si$ (thou givest); but we have instead $\tau\acute{\iota}\theta\eta$ -s, $\delta\acute{\iota}\delta\omega$ -s, $\delta\acute{\epsilon}\iota\kappa\nu\bar{\iota}$ -s, with an obvious intrusion of the secondary ending.¹ The same phenomenon naturally took place in Latin: $\acute{e}s = * \acute{e}s-s$, $\bar{\iota}-s$ for $*\bar{\iota}-si = * \bar{\iota}-\sigma\iota$, *fer-s*, *dā-s*, *stā-s* (*vī-s* is still unexplained).

B. In the thematic conjugation, the Sk. *bhāra-si* would correspond to Greek $*\phi\acute{\epsilon}\rho\epsilon-\sigma\iota$, whence $*\phi\acute{\epsilon}\rho\epsilon\iota$. Nothing like this is found in the active; but in the middle we find, in Attic only, a 2nd sing. $\phi\acute{\epsilon}\rho\epsilon\iota$, $\lambda\acute{\upsilon}\epsilon\iota$, as contrasted with $\phi\acute{\epsilon}\rho\eta$, $\lambda\acute{\upsilon}\eta$ ² of the *κοινῇ* and all the other dialects; and as there seems to be no phonetic connexion possible between $\phi\acute{\epsilon}\rho\eta$ and $\phi\acute{\epsilon}\rho\epsilon\iota$, we may infer that the latter is a regular form of the 2nd sing. active, which the Attics had kept, transferring it to the middle voice on account of its external resemblance to $\phi\acute{\epsilon}\rho\eta$. The almost Panhellenic form of 2nd sing. active, $\phi\acute{\epsilon}\rho\epsilon\iota$, $\lambda\acute{\upsilon}\epsilon\iota$, is evidently corrupted; it probably contains the primitive form, $*\phi\acute{\epsilon}\rho\epsilon\iota$, $*\lambda\acute{\upsilon}\epsilon\iota$, to which was added a secondary ending $-s$, because the sign of the 2nd person was no longer perceptible. However strange this process may seem, it appears historically proved in the case of $\phi\eta\acute{\iota}$ s (*supra*), and it certainly is so in $\epsilon\dot{\iota}$ s (thou art, Hom., Herod.) and $\epsilon\dot{\iota}$ s (thou goest), well authenticated doublets of the regular $\epsilon\dot{\iota}$. The subjunctive has $\phi\acute{\epsilon}\rho\eta$ s, similarly derived from the regular $*\phi\acute{\epsilon}\rho\eta = *\phi\acute{\epsilon}\rho\eta-\sigma\iota$, or, more simply, modelled upon $\phi\acute{\epsilon}\rho\epsilon\iota$ s, in accordance with the obvious analogy by which a short syllable in the indicative always corresponded to a long syllable in the subjunctive.

The form $\phi\acute{\epsilon}\rho\epsilon-s$, $\lambda\acute{\epsilon}\gamma\epsilon-s$, which is given as Doric and is found

¹ Thus $\tau\acute{\iota}\theta\eta$ s : $\tau\acute{\iota}\theta\epsilon\tau\epsilon = \acute{\epsilon}\tau\acute{\iota}\theta\eta$ s : $\acute{\epsilon}\tau\acute{\iota}\theta\epsilon\tau\epsilon$.

² Cf. *infra* 264. 2.

in Theocritus (ἀμέλγες, σπρίσδες), is evidently due, so far as it ever had any existence at all,¹ to the analogy of the secondary tenses,² and is parallel to the Latin forms *legis* = **legĕ-s*, *monēs* = **monē-s*, *amās* = **amaĕ-s*, *audīs* = **audiĕ-s*, etc.

3. The sign of the 3rd sing. *-*ti* (Gk. ἐσ-τί = Sk. *ds-ti*) occurs in all the non-thematic forms, but is assibilated after a vowel, φη-σί = **phā-tí*, τίθη-σι, δίδω-σι, δείκνυ-σι; Dor. and Boeot., without assibilation, τίθη-τι, δίδω-τι. Accordingly we should expect, in the thematic tenses, Dor. **φέρει-τι* = Sk. *bhādra-ti*, and Ion. **φέρει-σι*; but the Panhellenic forms are *φέρει*, *λύει*, which cannot go back to **φέρει-τι*, **λύει-τι*, and must come from the analogy of 2nd sing. *φέρεις*, *λύεις*.³ Similarly in subj. *φέρη*, *λύη*. The forms which are so common in poetry, *ἄγῃσι*, *λάβῃσι*, might be regarded as regular (e.g. **φέρη-σι* = **φέρη-τι*), if *φέρητι* were found in Doric, and if moreover the *ι* subscript did not indicate at once a new formation based on *ἄγῃ* with pleonastic addition of the ending -*σι*, as in 1st sing. *ἀγάγωμι* based on *ἀγάγω*.

In Latin, -*t*, secondary ending: *es-t* (he is), *ēs-t* (he eats) = **ed-t*, *fer-t*, *vol-t*, *da-t*, *sta-t*, *i-t*;—*legit* = **legĕ-t*, *amat* = **amāt* = **amaĕ-t*, etc.

(250) II. *Dual*.—No 1st person; in 2nd and 3rd, -*τον* with no distinction: *ἵ-τον*, *τίθε-τον*, *λύε-τον*, etc.

(251) III. *Plural*.—1. The regular ending is Lat. -*mus*, Dor. -*μες*, in all other dialects -*μεν* introduced from the secondary tenses:⁴ *ἵ-μεν*, *τίθε-μεν*,—*φέρο-μεν*, *φέρω-μεν*; Dor. *ἵ-μες*, *δίδω-μες*,—*λύο-μες*, *λύω-μες*; Lat. *eu-mus*, *i-mus*, *da-mus*,—*volu-mus*, *legi-mus*, etc.

2. Gk. -*τε*, Lat. -*tis*:⁵ *ἵ-τε*, *δίδω-τε*,—*λύε-τε*, *λύη-τε*; *es-tis*, *vol-tis*, *fer-tis*,—*legi-tis*, etc.

3. Originally *-*nti* after a vowel, *-*ñti* after a consonant,⁶ whence in Greek -*ντι* and -*αντι*. In the thematic conjugation we find Dor. *ἔχο-ντι*, *ἄγω-ντι*, Boeot. *καλέο-νθι*, *ἔχω-νθι*, everywhere else with assibilation **φέρο-νσι*, **φέρω-νσι*, whence Lesb.

¹ It does not occur in inscriptions.

² Thus λέγες : λέγετε = ἐλέγες : ἐλέγετε.

³ Thus φέρει : φέρεις = ἔφερε : ἔφερες.

⁴ *Supra* 247, 1.

⁵ *Supra* 247, 2

Supra 247, 3, and 248.

ἀπαγγέλλουσι, γράφουσι, Ion.-Att. φέρουσι, φέρωσι. In the non-thematic conjugation, Dor. φᾶ-ντί, τίθε-ντι, δίδο-ντι, δείκνῦ-ντι, Ion.-Att. φᾶ-σί, τιθεῖσι, διδοῦσι, δεικνύσι.¹ The last three forms, though correct, are not strictly Attic; the true Attic type, τιθέ-ασι, δίδό-ασι, δεικνύ-ασι (Herod. ἰστῆ-ασι = *ιστή-ασι), is due to the intrusion of the termination -αντι of the consonantal verbal stems.

The last termination is visible in Ion.-Att. ἵασι (they go) = *iy-ḡti, cf. Sk. yānti, and Ion. ἔασι (they are) = *ἔσ-αντι, of which the regular form with reduced root would be *ἄντι = *σ-άντι. The Boeot. ἐντί, Att. εἰσί, is merely *ἄντι influenced by the vocalism, accentuation, and unaspirated initial vowel of εἰμί, ἐστί.

In Latin we find tremo-nti = Dor. τρέμο-ντι (they tremble), an isolated and doubtful form, inferred from Festus to belong to the Song of the Sali.² The secondary ending is the only one historically authenticated; it is always consonantal, because it is only added to thematic forms, or forms which have been wrongly made thematic by analogy: su-nt, eu-nt, feru-nt = *fero-nt = Gk. (ἐ-)φερο-ν, legu-nt, etc. The forms da-nt and sta-nt, however, seem to contain only the simple root.³

§ 3. Endings of the Perfect.

(252) The Greek and Latin systems of inflexion in the perfect cannot be compared directly with one another; the former is to a large extent primitive, whereas the latter has been greatly corrupted. It will be best to consider each separately.

I. Greek.

Singular.—1st person: -α = Sk. -a = I.-E. *-a: οἶδ-α = foīd-a (I know, Sk. vēd-a), λέλοιπ-α, λέλυκ-α.

2nd: originally -θα = Sk. -tha = I.-E. *-tha: οἶσ-θα = *foīd-θα (Sk. rēt-tha); ἦσ-θα (thou wast), root ἔς with temporal reduplication.

¹ The accentuation has been disturbed; we should expect *τιθεῖσι, etc. But the accentuation of διδοῦσι was probably modelled on that of the contracted form δηλοῖσι (cf. ἐδίδους, ἐτίθει, *infra* 280), and similarly with the other forms.

² Cume tonās, Leucetie. prai tet tremonti. The verse might be scanned perhaps as a Saturnian, but tremunt would violate the metre.

³ On amant for *amao-nt and monent for *moneo-nt, cf. *supra* 73, 1.

These two forms are the only regular forms of the 2nd sing. of the perfect retained in Greek; the *α* of the 1st sing. and 3rd plur. (λέλοιπ-α, λελοίπ-αντι) having become an integral part of the stem, as in the sigmatic aorist,¹ the whole conjugation of the perfect was based on a false stem λέλοιπα-, to which was simply added in the 2nd sing. the secondary and primary termination -s, λέλοιπα-s, λέλυκα-s.² In spite of, or rather from the very fact of, its rarity, the termination -θα spread outside its proper sphere: ἦσ-θα, being no longer understood to be a perfect, was taken for an imperfect, a mere doublet of ἦs; the syllable -θα was then regarded as an expletive suffix which might optionally be added to all forms of the 2nd sing., and this illusion gave rise to such forms as τίθησθα (Od. xxiv. 476), ἔχεισθα, ἔφησθα, ἦισθα (Plato), ἐθέλῃσθα, βάλοισθα, etc., which are found more or less in all dialects, but especially in Homer.

3rd: -ε=Sk. -α=I.-E. *-e: οἶδ-ε=Foιδ-ε (Sk. *ved-a*, Goth. *vait*, Germ. *er weiss*), λέλοιπ-ε, λέλυκ-ε.

In the dual and plural the terminations are the same as in the primary tenses:

Dual 2nd and 3rd: ἴστον=*Fιδ-τον; in the other verbs the termination is added to the false stem in -α-, λελοίπα-τον, λελύκα-τον.

Plural.—1st person: ἴδ-μες ἴδ-μεν³ (Sk. *vid-mā*, Goth. *vit-um*, Germ. *wir wissen*), and the new formations οἶδα-μεν, λελοίπα-μεν, λελύκα-μεν.

2nd: ἴστε=*Fιδ-τε, and οἶδα-τε, λελοίπα-τε, λελύκα-τε.

3rd: ἴσᾱσι (the σ on analogy of ἴστε) for *ἴδᾱσι=*Fιδ-αντι=*wid-ḥti,⁴ λελοίπᾱσι=Dor. λελοίπα-ντι, λελύκᾱσι, etc. In late Greek we find also the termination -αν (πεποιήκαν), evidently borrowed from the sigmatic aorist.⁵

¹ *Supra* 245, 1.

² Late Greek even created the form οἶδας, and perhaps actually the barbarous pleonasm οἶσθας

³ Att. ἴσμεν on analogy of ἴστε and ἴσᾱσι.

⁴ The form ἴσαντι, being taken as a present (cf. φαντί φᾱμί), produced in Doric the verb ἴσᾱμι, I know (ἴσᾱτι in Theocritus), and the Æolians conjugated οἶδα like the present of a verb in -μι (γολῶμι· ἐπίσταμαι, Hesych., cf. *supra* 40 in *fine*).

⁵ [Cf. *Classical Review*, 1888, ii. 66, 117, 162.]

(253) II. *Latin*.

If we transfer to Latin the regular paradigm which has just been studied in the case of Greek, we shall obtain, *mutatis mutandis*, the following forms: sing. 1 **vīde*, 2 **vīts-te*,¹ 3 **vīd-e*; plur. 1 **vid-mus*, 2 **vīts-tis*, 3 **vid-ent*; and, on contrasting these with the real forms, we can see the general features that characterize the substitution of the latter for the former. Just as Greek has generalised a stem λέλοιπα-, so Latin has based its flexion on a false stem *vīdi*-, *līqui*-. Nothing can be more simple; but difficulties abound as soon as we wish to go into details. However, let us make the attempt, so far as it is possible.

Singular.—1st person: *vīd-i*, *līqu-i*. The Greek termination -α is active, the Latin ending -i is middle and corresponds to I.-E **-ay*, Sk. -*e* (cf. Sk. *babhūv-a*, I was, mid. *babhūv-e*=Lat. *fū-i* *fui*). This termination was naturally introduced into the sigmatic aorist which was confused with the perfect: *dīx-i*, *vīx-i*.

2nd. If, instead of the active **vīts-te*, we assume the corresponding middle form, we shall have **vīts-ti*=**vīd-ti*. It is true that this form does not exist; but we find a counterpart to it in such a form as *dīx-ti*, which it is quite unnecessary to explain through a syncope of *dīxistī*; for it represents very exactly a sigmatic aorist stem *dīx*=Gk. (ξ)δεξ-, to which a perfect termination has been added. Hence we can see how, aided by the 1st sing. *vīdī*, etc., the primitive forms **vītstī*, **cecītstī*, *dīxtī*, **vīxtī*, might be superseded by *vīdistī*, *cecīdistī*, *dīxistī*, *vīxistī*, etc., and secondarily **līc-tī* by *līquistī*, **pepic-tī* by *pepigistī*, etc. We must add, finally, the probable influence of the stem **vīdēs*-, **līquēs*-, which appears in the perf. subj. (*vīder-ō*=ειδέω), in the optative (*vīder-im*=ειδείην),² etc., and is certainly not absent from the indicative (cf. *infra* 3rd plural and the formation of the pluperfect, *infra* 298); and we shall then be able to form some idea of the analogical influences which have crossed one another in this complicated formation.

3rd: *vīd-i-t*, by addition of the secondary ending -*t* to the false stem in -*i*.

Plural.—1st person: *vīdī-mus*, which perhaps goes back

¹ *Supra* 64 A.² *Supra* 144.

phonetically to **vīdēs-mus*, as *nūbi-bus* goes back to **nūbēs-bus*,¹ and which probably aided the extension of the false stem *vidi-*; similarly *dixi-mus*.

2nd: *vidistis* for **vits-tis*, like *vidistī*.

3rd: *tulērunt* (Verg.), *vidērunt* and *videre*. The quantity *vidērunt* is archaic and probably primitive: only scanty relics of it survive in the Augustan age. This *vidērunt* seems to go back to **vīdes-ont*, the formation of which is not clear. Still more obscure is *videre* (such is the invariable quantity),² the long vowel of which has passed into *vidērunt*, *tulērunt*. So also with the aorist used as perfect, *dixēre*, *dixērunt*.

§ 4. Endings of the Imperative.

(254) In all probability Indo-European had only three forms in the imperative, those of the 2nd pers. sing. and plur. and that of the 3rd sing. Moreover, the last form cannot be regarded as verbal; its ending **-tōd* (cf. Ved. Sk. *-tāt*), which exactly corresponds to that of the ablative,³ obliges us to see in it a sort of nominal exclamation, the form of which was independent of the number of persons to whom it was addressed.⁴ But, in Greek as in Latin, this termination was unconsciously connected with the primary termination **-ti* of the 3rd plur., a personal sign was seen in it, and the plural forms were then derived from it by analogy.

(255) I. *Singular*.—2. It is important to distinguish most carefully the non-thematic and the thematic forms.

A. In the non-thematic imperatives, Latin has two types of 2nd sing., while Greek has a large variety.

(a) In Latin, the root-stem with no suffix: *ēs*, *fer*, *ī*, *stā*, *dā*; so also in Greek *ἴστη*, *πίμπρη* (burn), *πῶ* (drink). This is the classical formation for verbs in *-vā-* and *-vū-*: *δαμνά* (Sappho), *δείκνυ*, *σβέννυ*, etc.

(β) Gk. *-θι*=Sk. *-dhi*, *-hī*=I.E. **-dhi*: in the present, *ἴσθι*

¹ *Supra* 206, 5.

² It may be observed that Sanskrit likewise shows an *r* in the 3rd plural of the perfect: act. *dadūr*, mid. *dadiré* (they gave), cf. *dederunt* and *dedēre*. Cf. *Mem. Soc. Ling.* vi. p. 373.

³ Cf. *supra* 187, 4.

⁴ Cf. in French [and English] "silence!" Germ "schritt!"

(be)=*σ-θι with prothesis, ἴ-θι (go), φα-θεί, Hom. διδω-θι, etc.; in the non-thematic aorist, Hom. βῆ-θι, οἴῃ-θι, κλύ-θι (hear), etc.; in the perfect, ἴσ-θι (know)=*Fιδ-θι, κέκλυ-θι, τέθνα-θι (II. xxii. 365); in the aorists passive, φάνη-θι, λύθη-τι,¹ forms which are general and classical.

(γ) Gk. -s, a very rare termination, borrowed from the secondary and primary tenses: in the non-thematic aorist, θέ-s, ἔ-s, δό-s.

(δ) Gk. -ον, a termination peculiar to the imperative of the sigmatic aorist and still unexplained: λῖσ-ον.

(ε) Gk. (dialectal) -τως, a syntactical doublet of the -τω of the 3rd sing. (cf. οὐτω οὐτως),² taken for a form of the 2nd sing. on account of its sigmatic ending: πατῶς ἀνάγνωθι (Hesych.). Lat., as in the 3rd pers., *es-tō*, used as a future imperative.

(ζ) Lastly, a sporadic and partial transition to the thematic conjugation³ produced the forms τίθει=*τίθεε (cf. φίλει), δίδου=*δίδοε (cf. δῆλον), δείκνυε (cf. λῦε), etc.

B. (α) In the thematic imperatives, the commonest and indeed the only primitive form consists of the bare stem with the vowel *e* and no suffix: φέρε=Sk. *bhāra*, λείπε, λῦε,—ιδέ, λίπε; Lat. *lege*, *monē*=**moneē*, etc. In late Greek λού=λούε, παῦ=παῦε by contraction.

(β) Gk. -s, on the analogy of the non-thematic forms, in σχές for σχέ (indic. ἔ-σχο-ν) and ἔνισπες (say) for ἔνισπε, indic. *ἴσπω=*σί-σπ-ω from root σπ (Lat. *in-sec-e*).⁴

(γ) In Æolic, through transition to the non-thematic conjugation, forms like φίλη (Theocritus), imperative of φιλήμι.⁵

(δ) ἐλθε-τῶς (Salaminian) like πατῶς above; Lat. *legi-tō*, used as a future imperative, a distinction which is not original.

3. Gk. -τω=*-τωδ, Lat. -tōd (arch.), -tō, always: ἔσ-τω, ἴ-τω, φά-τω,—λεγέ-τω; Lat. *es-tō*, *legi-tō*.

(256) II. *Dual*.—2. -τον, primary and secondary termination, ἔσ-τον, φέρε-τον.⁶—3. -των: ἔσ-των, φερέ-των, formed from 3rd sing. ἔστω, etc., by addition of the final *ν* of ἔστων.

¹ *Supra* 61 in fine.

² *Supra* 65.

³ *Supra* 88 and *infra* 274 seq.

⁴ *Supra* 90 in fine.

⁵ Cf. *ιστη* and *supra* 249, 1A.

⁶ Thus φέρετον: φέρετε (2nd plur.)=ἐφέρετον: ἐφέρετε.

(257) III. *Plural*.—2. Gk. *-τε*, Lat. *-te*: *ἔσ-τε*, *φέρε-τε*; *es-te*, *fer-te*,—*legi-te* = **lege-te*; in Latin only, *es-tōte*, *legi-tōte*, analogical future imperatives.¹

3. As this form did not exist in Indo-European, Greek and Latin can only have derived it from the 3rd sing., by various analogical processes which can easily be restored:

(α) Addition of the *-ν* which we have seen in all the secondary endings of the 3rd plur., Hom. *ἔσ-των*, *ἵ-των* (rare);

(β) Addition of the 3rd plur. termination of the sigmatic aorist, *-σαν*,² a form very much used in the *κοινή*, a little less so in pure Attic, *ἔσ-τωσαν*, *φέρε-τωσαν*;

(γ) A type chiefly Doric (*-ντω*) and Boeotian (*-νθω*), on the analogy of *φέρετω* and the primary 3rd plur. *φέρο-ντι*, namely *δό-ντω*, *φερό-ντω*, also the only form known to Latin, *suntō*,³ *legu-ntō*;

(δ) The same type with the addition of the termination *-ν*, thus showing two signs of the plural, Homeric, New Ionic and Attic of the best period, *δό-ντων*, *φερό-ντων*;

(ε) The same type with addition of the suffix *-σαν* (dialectal and very rare), Delph. *ἑόντωσαν*.

SECTION II.

MIDDLE VOICE IN GREEK.

(258) The middle voice of Greek may be used, according to the tense or verb in question, as active (the reflexive shade of meaning being often imperceptible), or passive, or both alike. Nearly all its terminations go back to Indo-European, but they have been subjected to corruptions which for the most part are still unexplained.

§ 1. *Secondary Endings*.

(259) Theoretically it seems that the secondary terminations of the middle are derived from those of the active by the addition of a vowel which is *a* in Sanskrit, *o* in Greek; but this

¹ Thus *legitōte*: *legitō* (2nd sing.) = *legite*: *lege*.

² Like *ἔδοσαν*, *supra* 247, 3 C.

³ Thus *suntō*: *estō* = *sunt*: *est*.

law only holds good in Greek for three forms (in Sanskrit only for two).

(260) I. *Singular*.—1. The termination is *-μᾶν* (Lesb., Dor.), whence Ion.-Att. *-μην*, and is still unexplained: *ἑ-δό-μην*, *ἐτιθέ-μην*, *δοί-μην*, *φεροί-μην*, *ἐφερό-μην*, *ἐλιπό-μην*, etc.; it is added in the sigmatic aorist to the false stem in *-α*: *ἐλῦσά-μην*.

2. The termination is *-σο* = Zend *-ha* = Lat. *-re*¹: *ἔδου* = **ἔδοο* = **ἔ-δο-σο*, *ἔθου*, *δοῖ-ο*, *φέρει-ο*, *ἐφέρου* = **ἔ-φέρε-σο*, *ἐλύσω* = **ἔ-λῦσα-σο*, etc. In the impf. *ἐδίδοσο*, *ἐτίθεσο*, *ἐδείκνυσο*, etc. (but *ἐδύνω*, thou couldst), the termination *-σο* has been restored on the analogy of the cases in which the *σ* could not be dropped, e.g. plup. *ἐλέλειψο* and cf. *ἐέλυσο*.

3. Gk. *-το*, Sk. *-τα*: *ἔ-θε-το*, *ἔ-δίδο-το*, *διδοῖ-το* (accentuation modified on analogy of *δηλοῖτο*), *φέρει-το*, *ἐ-φέρε-το*, *ἐ-λύσα-το*, *ἐ-έλυ-το*, etc.

(261) II. *Dual*.—1. The ending *-μεθον*, which is in no way primitive, is a mere hybrid form, based on the ending of the 1st plur. *-μεθα* and that of the 2nd dual *-σθον*. It is scarcely met with in texts, and in any case it never belonged to ordinary speech, in which the plural was used for the dual, as in the active voice. Perhaps it is a mere analogical invention of the grammarians. E.g. *περιδύμεθον* (?) Il. xxiii. 485, which, however, is a primary form.

2, 3, respectively *-σθον*, *-σθην*, which are liable to be confused, like *-τον* and *-την* in the active: evidently due to a combination of the dual form of the active with that of the 2nd plur. middle.²

(262) III. *Plural*.—1. Greek has two terminations, *-μεθα* and *-μεσθα*; but the latter, which is rather common in Homer and the poets generally, never appears in prose. Indeed, it seems to belong exclusively to the Homeric dialect, the poets having borrowed it for metrical reasons.³ The form *-μεθα* (cf. Sk. *-mdhi*) is certainly the only primitive form; but the other,

¹ Cf. *supra* 34 A δ, and *infra* 267. The Sanskrit ending is *-thāt*, cf. *supra* 10: note.

² Thus *λύεσθον* : *λύεσθε* = *λύετον* : *λύετε*.

³ *Ἐδόμεθα*, for example, cannot be used in a dactylic verse, and scarcely in an iambic or trochaic metre.

which is very ancient, probably goes back to the distant period in which there still remained a distinction in the 1st plur. active between a secondary ending *-με and a primary ending -μεσ, and it owes its σ to the latter form;¹ in other words, -μεθα is secondary, while -μεσθα is an analogical primary termination; then, the two forms being confused, the Greeks used indifferently ἐφερόμεθα and ἐφερόμεσθα, and also φερόμεσθα and φερόμεθα.

2. Sk. -dhvdm, Gk. -σθε for -θε = *-θfe. Whatever may be thought of this last restoration, it is certain that the Greek σ is epenthetic. To explain it, we must go back to the perfect, in which the same termination -θε is very often preceded by a dental explosive, which is naturally changed to σ: πέπυσθε (ye know) = *πέ-πυθ-θε, πίπεισθε = *πέ-πειθ-θε, λέλησθε = *λέ-ληθ-θε, etc. Now this σ, which appears in the rest of the perfect inflexion, is liable to disappear in the 2nd sing.: by reduction of the group, πέπυσσαι becomes πέπυσαι,² which is exactly like λέλυσαι; nothing more was needed to produce λέ-λυ-σθε,³ and then a general termination -σθε applicable to all the middle forms, ἐτίθε-σθε, ἐλύε-σθε. It is a remarkable fact that the perfect, from which the corruption started, is likewise the only tense which enables us to discover the corruption; for, unlike any of the other tenses, it has sporadically retained the older termination: thus λέλειφθε, εἴληφθε can be explained much better through *λέ-λειπ-θε, εἴ-ληφ-θε than through *λέ-λειπ-σθε, *εἴ-ληφ-σθε, and πέ-φαν-θε (ye have appeared) cannot possibly go back to *πέ-φαν-σθε, which would have become *πέφασθε.⁴

3. In Indo-European probably *-ntā after a vowel, *-ῃτι after a consonant, Gk. -ντο and -ατο: ἔ-δο-ντο, ἐ-τίθε-ντο, ἐ-φέρο-ντο, ἐ-λέλυ-ντο; but Hom. κεί-ατο (they lay) = *κειῖ-ῃτο, in the opt. θησαί-ατο (Od. xviii. 191), in the plup. after a consonant (old Attic inser.) ἐ-τετάχ-ατο. The forms of the 3rd plur. in -ατο are very common in Homer, so much so indeed that they are found even in cases where phonetic laws would require the n to remain a

¹ Thus φερόμεσθα : φέρομεσ = ἐφερόμεσθα : *ἐφέρομε, cf. *supra* 247, 1.

² *Supra* 69, 6.

³ Thus λέλυσθε : λέλυσαι = πέπυσθε : πέπυσαι

⁴ Cf. *supra* 47 C.

consonant, *e.g.* Hom. βεβλή-ατο (Od. vii. 97) analogical for ἐ-βέβλη-ντο. They are also very common in the New Ionic of Herodotus. In the classical language, on the contrary, they have entirely disappeared; by the side of ἔθετο : ἔθεντο, ἐλύετο : ἐλύοντο, etc., this plural in -ατο might well seem an anomaly, when the original nasal from which the α had arisen was no longer perceptible. The ending -ντο was introduced wherever this substitution was possible: ἔκει-ντο, ἐλύσα-ντο, διδοῦντο, φέρουντο,¹ etc. When the group thus obtained would have been unpronounceable, namely in the pluperfects of roots ending in a consonant, *e.g.* ἐ-τεταχ-, the language preferred a periphrasis, τεταγμένοι ἦσαν (they were posted).

§ 2. Primary Endings.

(263) The law which derives the primary terminations from the secondary by the addition of an *i*² would hold good in Greek for the 1st, 2nd, and 3rd sing. and 3rd plur. mid., if, as the theory would presuppose,³ the secondary terminations were respectively *-μα, *-σα, *-τα, *-ντα, instead of -μᾶν, -σο, -το, -ντο. This is all that can be said with a view to connecting the two systems with one another.⁴

(264) I. *Singular*.—1. Always -μαι, τιθέ-μαι, δείκνυ-μαι, —φέρο-μαι, φέρω-μαι, λύσο-μαι, λυθήσο-μαι, etc.

2. Termination -σαι, whence -αι in the thematic forms: *φέρε-σαι = Sk. *bhḍra-sē*, indic. λύη = λύει, subj. λύη = λύηαι, etc. In the indicative Attic substitutes λύει, and this form is even adopted by the κοινή in the three verbs βούλει, οἶει and ὄψει. As it is hardly possible to reconcile λύη and λύει, λύει must probably be regarded as an active form transferred to the middle,⁵ especially as the form λύη is very common in Old Attic. In the non-thematic presents, τίθε-σαι, δίδο-σαι, δείκνυ-σαι, etc. (but Hom. δίζηαι), the ending -σαι has been restored in its

¹ Thus φέρουντο : φέροιτο = ἐφέροντο : ἐφέρετο.

² *Supra* 248. But here the *i* becomes *y*, because it follows a vowel.

³ *Supra* 269.

⁴ It must also be observed that in Arcadian the primary ending of the 3rd sing. -ται comes closer still to the secondary -ρο.

⁵ *Supra* 249, 2 B.

entirety through the analogy of the perfect λέλυσαι, which was itself imitated from λέλειψαι.¹

3. Gk. -ται = Sk. -tē : τίθε-ται, φέρε-ται, φέρε-ται.

II. *Dual*.—1. -μεθον (?), as in the secondary tenses, *supra* 261.

2, 3. -σθον, as in the active -τον, *supra* 250 and 261.

III. *Plural*.—1. -μεσθα and -μεθα as in the secondary tenses; Hom. and poet. φερόμεσθα, class. φερόμεθα.²

2. -σθε for *-θε, as in the secondary tenses.³

3. After a vowel -νται, τίθε-νται, δίδο-νται, φέρο-νται, φέρω-νται; after a consonant -αται, Hom. κεί-αται κέαται (they lie) = *κείγ-ηται. New Ionic considerably extended the latter ending (τιθέαται, ιστέαται Herod.),⁴ which was eliminated by the classical language, κείνται.⁵

§ 3. Endings of the Perfect.

(265) The perfect in Greek took the primary terminations.

I. *Singular*.—1. λέλειμ-μαι, λέλυ-μαι, etc.

2. λέλειψαι = λέλειπ-σαι, ἔστιξαι (thou hast been pricked), πέπυσαι (thou knowest) = πέπυσσαι, etc., whence λέλυσαι for *λέλναι, the intervocalic σ being similarly restored everywhere, except in a few Homeric forms, βέβλῃαι, μέμνηαι.

3. λέλειπ-ται, γέγραπ-ται, λέλυ-ται, etc.

II. *Dual*.—1. λελείμ-μεθον (?).⁶—2, 3. -θον and -σθον (like 2nd plur. -θε and -σθε), λέλειφ-θον, λέλυ-σθον.

III. *Plural*.—1. λελείμ-μεθα, λελύ-μεσθα, etc.

2. λέλειφ-θε, πέφαν-θε, πέπυσ-θε, —λέλυ-σθε.⁷

3. After a vowel, λέλυ-νται; after a consonant, Hom. ἤαται (they sit) = *ἡσ-ηται⁸ (Sk. *as-atē*), τετεύχ-αται, ἐρράδ-αται (they have been sprinkled), Old Att. (inscr.) γεγράφ-αται; termination -αται extended in poetic language, βεβλή-αται, and in New Ionic,

¹ *Supra* 260, 2.

² *Supra* 262, 1.

³ *Supra* 262, 2.

⁴ Cf. *supra* 262, 3, and Att. τιθέῃσι, *supra* 251, 3.

⁵ Thus κείνται : κείται = τίθενται : τίθεται.

⁶ Read in Sophocles, *Electra* 950.

⁷ *Supra* 262, 2.

⁸ With Ionic shortening, ἔαται (Il. iii. 134), and plup. εἶατο for ἦατο (Il. xviii. 504, Od. i. 326, etc.).

οικείται (they are settled), lost in the classical language, ἡνται (they sit), and regularly superseded by a periphrasis, γεγραμμένοι εἰσιν.¹

§ 4. Endings of the Imperative.

(266) All the terminations of the imperative middle, except those of the 2nd person, are modelled on those of the imperative active.²

I. *Singular*.—2. -σο, secondary ending: non-thematic present, τίθε-σο, δίδο-σο, ἵστα-σο, δείκνυ-σο, and also, regularly, τίθου, δίδου, ἵστω; non-thematic aor. (Hom.) φάο, Att. θοῦ=Hom. θέο=*θέε-σο, δοῦ=*δόο, etc.; perf. λέλειψο, λέλυσο; thematic pres. φέρον and (Ion.) φέρειν=φέρεο=*φέρε-σο, etc. The form peculiar to the sigmatic aor., λείψ-αι, λύσ-αι, is probably the same as that of the infinitive active,³ with the accent thrown back (inf. φιλῆσαι, imper. φίλησαι) as in all the conjugated forms.⁴

3. -σθω, like -τω in the imperative active.⁵

II. *Dual*.—2, 3. -σθον, -σθων, cf. -τον, -των.

III. *Plural*.—2. -σθε, secondary and primary ending: τίθε-σθε, δό-σθε, λύε-σθε, λέλνυ-σθε, λύσα-σθε.

3. (α) κρῖνέ-σθω (inscr.), like 3rd sing. (β) λυέ-σθων (modelled on λυέ-των), chiefly Attic. (γ) λυέ-σθωσαν (modelled on λυέ-τωσαν), common Greek and Attic. (δ) διδό-σθω=*διδό-νσθω, ἀνελόσθω=*ἀν-ελό-νσθω, etc. (modelled on λυό-ντω),⁶ chiefly in Doric. (ε) ἐπι-μελό-σθων=*-νσθων (modelled on λυό-ντων) in Old Attic.

SECTION III.

THE LATIN MEDIOPASSIVE.

(267) The Latin mediopassive has a passive function in the case of those verbs which have an active form (*legō lego-r*), and an active function in the verbs called deponents (*sequo-r*=

¹ *Ut supra* 262, 3.

² *Supra* 254 *seq.*

³ *Supra* 167 note. The use of the infinitive as an imperative is very common in Greek.

⁴ Cf. *supra* 81.

⁵ Thus λυέσθω : λύεσθε=λυέτω : λύετε.

⁶ Thus *λυόνσθω : λυέσθω=λυόντω : λυέτω.

ἔπο-μαι), which are conjugated only in the middle. Sometimes the two voices are interchanged without the meaning of the verb being thereby affected, e.g. *ῥῖθ* and *ῥιερῖ*,¹ *solebam* and *solitus sum*.

This being assumed, among the terminations of the Latin mediopassive there are only three which seem primitive and are directly comparable with those of Greek, namely: in the present, 2nd sing., *sequere* = **seque-se* = **seque-so*,² a primary form with a secondary ending, equivalent to a Greek un-augmented form *ἔπει-σο, just as, in the active, **lege-s* for **lege-si* corresponds to (ἔ-)λεγε-ς; in the present, 2nd plur. *legimini* (*estis*), *sequimini* = λεγόμενοι, ἐπό-μενοι, a nominal form which does not belong to the conjugational system;³ lastly, 2nd sing. imperat. *seque-re* = Gk. ἔπει-σο. To these must be added, in the 2nd sing. of the present, the alternative form *lege-ris*, *seque-ris*, derived from the imperat. *sequere* by an analogical process very easy to restore.⁴

Two of the forms of the present are thus accounted for; but what explanation is to be given of the others? The problem is still unsolved. We might assume, indeed (but even this would be rather bold), that the 1st plur. *vehimur* is only a syntactical doublet of *vehimus*, through rhotacism before an initial vowel, the Latins having said *vehimus trāns montem*, but *vehimur in currū*; that then *vehimus* and *vehimur* were differentiated, the one to an active, the other to a middle signification, and that the ending of *vehimur* gave rise through analogy to *vehit-ur* and *vehunt-ur*; and that, lastly, *veho-r* was formed from *vehō* through a clumsy imitation of the relation of *vehimus* to *vehimur*. The simplicity of this explanation is very enticing; but unfortunately the same middle terminations in *r* are found in Celtic,⁵ where rhotacism is unknown.

¹ *Supra* 125.

² Cf. *supra* 34 A δ, and 260, 2.

³ *Supra* 32 A β, 115, 7 and 156.—As *legimini* corresponds equally well to the infinitive λεγόμεναι, we are at liberty to see in it a combination of the infinitive (with locative meaning) and the participle; this would also explain the fact that *legimini* retains the same form for all three genders.

⁴ E.g. *legeris* : *legere* = *legis* : *lege*.

Hence Windisch (*Abhandlg. d. phil.-hist. Kl. d. Kgt. Sächs. Ges. d.*

The same objection and many others even more serious from the standpoint of scientific phonology, must lead us to reject the old theory (correct from a merely grammatical point of view),¹ which explained the middle through the agglutination of the reflexive pronominal element *sē* (*veho-r* = **vehō sē*, etc.). All that we can affirm with certainty at present is that Sanskrit also has some middle terminations in *r*, without even attempting to enter into details in regard to the manifold corruptions which Sanskrit on the one hand and Latin on the other must have introduced into the primitive type.²

However this may be, it is certain that from the paradigm *lego-r*, *lege-re* *lege-ris*, *legi-tur*, *legi-mur*, *legi-minī*, *legu-ntur*, the Latin language abstracted terminations which it transferred unchanged to the subjunctives, futures, and imperfects. The perfect and the tenses derived from it were supplied by periphrastic expressions, *lētus sum* or *fuī*, etc.

With the single exception of *legere*, the imperative was likewise formed analogically: 2nd sing. *lege-re*, and *legi-tor* on the model of *legitō*; 3rd sing. *legi-tor*; 2nd plur. *legiminī* (*este*); 3rd plur. *legu-ntor* on the model of *leguntō*. In old Latin there is also a form of the 2nd and 3rd sing. *fā-minō*,³ modelled approximately on *fāminī* and the relation of *este* to *estō*.

Wissensch. x. p. 449) has thought that the Latin mediopassive can be entirely explained from Celtic. But, though his view rests on a large number of plausible data, it cannot be accepted in its entirety.

¹ Cf. *supra* 224.

² For a quite recent hypothesis, see *Revue critique*, xxiv. p. 237.

³ *Leg. XII. Tab. i. 1, qui in jus vocat, ni it, antestamino* (or *-minor*, through a double corruption) = "if the defendant summoned to appear in court refuse to present himself, the summoner shall prove the fact of his refusal by witnesses."

CHAPTER III.

VARIATIONS IN THE STEM OF THE TENSES AND MOODS.

(268) After the three verbal categories of voice, number, and person, it only remains for us to study those of tense and mood. Tense is the relation of past, present, or future, affecting the verbal concept. This relation itself is susceptible of a large number of different shades of meaning: for example, a past fact may be regarded from the point of view of its consequences in the present, "he is dead," Gk. *τέθνηκε*, or solely as past, in order to state it and detail the circumstances of it: "he died yesterday at six o'clock," Gk. *ἔθαυε*; the present, again, may state an actual and momentary fact, "I say *U*," or a habit, "I smoke very little," or a general property, "man speaks," to say nothing of the present so often used as a future, "I am going this evening," Gk. *εἰμι* (I shall go). The languages with which we are concerned are far from having a special form for each of these delicate shades of meaning; these shades of meaning are deduced from the tone of the speaker and from the sentence taken as a whole. On the other hand, in each tense, the fact expressed by the verb may be thought of either as constant and positively affirmed, or as eventual and relative, or as simply desired and subordinate, or, lastly, as obligatory and commanded: to these distinctions correspond the four moods, indicative, subjunctive, optative, and imperative, the only moods known to the Indo-European languages.¹

The formation of the stems of the different tenses and moods

¹ We have seen that the infinitive and participles are not verbal moods, but nominal forms. They will, however, be recapitulated under the head of conjugation, as well as the supines, verbal adjectives, and gerundives. It has been thought better to present a complete view of the verbal system, and not to break too far with the usages of practical grammar.

has been analysed in detail in the investigation of primary and secondary derivation. It only remains to consider the logical grouping of these stems in the conjugational system, and the regular variations to which they are liable through the addition of the person-endings.

As regards the first point, it will be remembered that many Latin tenses have in practical grammar a different name from that which they have in comparative grammar, in other words, that their ordinary function does not strictly correspond to their theoretical function. In the following account the Latin tenses will appear under the Greek categories to which they morphologically correspond; but at the same time, under each Greek tense, we shall mention the Latin tense having the same function.

(269) The variation of the conjugated stems in respect of gradation may be summed up in two main laws:

I. The non-thematic forms¹ are distinguished as strong or weak, according as the grade of the syllable immediately preceding the termination is normal (deflected in the perfect only) or reduced: the strong form properly appears only in the singular of the active, the weak form in the plural and dual of the active and in the whole of the middle, *e.g.* *τίθη-μι τίθε-μεν τίθε-μαι*.²

II. In the thematic forms the vowel *e/o*, immediately preceding the termination, takes the form *o* in all the 1st persons and in the 3rd plural, but everywhere else the form *e*: *φέρω φέρο-μεν φέρο-ντι, φέρο-μαι φερό-μεθα (-μεθον?) φέρο-νται; φέρεις φέρει φέρε-τε φέρε-τον, φέρε-αι φέρε-ται φέρε-σθε φέρε-σθον*.

The first law is very often interfered with in its applications by analogy; in Latin, owing to the comparative rarity of the non-thematic forms, only faint traces of it remain. On the other hand, the second law is always observed in Greek, and

¹ *Supra* 86.

² Of course Greek, as throwing the accent as far back as possible, and *a fortiori* Latin, no longer retain any trace of the changes of accentuation which originally caused these variations and which are often revealed to us by Sanskrit: *e.g.* *et-μι tμεν*, Sk. *ē mi i-mās*, and cf. *supra* 42 and 207.

almost always in Latin in those forms which are certainly thematic; for if we conjugate the regular paradigm of the present, we obtain, on the one hand *vehō* and *vehunt* = **veho-nt*, on the other *vehis* = **vehē-s*, *vehi-t*, *vehi-tis*. There remains only *vehi-mus* instead of **veho-mus* = Dor. *ἐχο-μες*. But **veho-mus* certainly became *vehumus*, a well authenticated archaic form confirmed by *sumus* and *volumus*. What was the next stage? Did *vehumus* phonetically become *vehimus*, as *optimus* became *optimus* or **manubus manibus*?¹ Or was *vehimus* rather developed through the influence of *vehitis*, as one is led to think on account of *sumus* and *volumus*, which apparently remained unchanged because they had not by their side a 2nd pers. **sitis* or **volitis*? Whatever solution is adopted, it will be seen that the Latin thematic flexion is scarcely less pure than the Greek. It is only necessary to point out the alternations once for all.

(270) The Greek conjugation distinguishes seven tenses: present, imperfect, future, future-perfect, aorist, perfect, and pluperfect. To these may be added the verbal nouns containing no notion of time. Latin has confused the aorist with the perfect, just as, in the moods, it has confused the optative with the subjunctive, and the subjunctive with the future: *vidī* and *dixī* are treated as the same tense, and so also *sim* and *feram*; *ferēs* is a subjunctive used as future, and *ferēs* a corrupted future² used as subjunctive.

SECTION I.

PRESENT.

§ 1. Indicative.

(271) There is a great variety of signs for the present;³ there is none for the indicative; this mood, in all tenses, assumes the form of the tense itself without modification.

¹ *Supra* 30, 139 and 206, 5.

² At once future indicative, aorist subjunctive, and perhaps future subjunctive, on account of the quantity of the last vowel of the stem, cf. *supra* 106.

³ *Supra* 87, I, II, 88, 89, VI, 90, X, 91, 92, 93.

(272) I. *Active*.—1. The non-thematic presents of all classes, *εἶμι ἵμεν, τίθημι τίθεμεν, δίδωμι δίδομεν, ἴστημι* (Dor. *ἰσῆμι*) *ἴσταμαι, δάμνημι δάμναμεν, δείκνυμι δείκνυμεν*, etc., in Greek, show gradation with unusual regularity. Latin retains no trace of it: it has *imus* like *is*, *fertis* like *fers*, *stamus* like *stas*, etc., the strong form having prevailed everywhere, except in *damus*, *datis*, where the weak form prevails.¹ But the inflexion of the root **es* (to be) in each language requires special mention.

Gk.: the sing. with strong form, regular; plur., 1st *ἐσμέν* for **σ-μέν*, 2nd *εἰστέ* for **σ-τέ* (cf. Sk. *smḍs*, *sthḍ*), 3rd Ion. *ἔασσι* = **ἔσ-αντι* (Att. *εἰσί* = Boeot. *ἐντί*)² for **σ-αντι* = Sk. *sṁnti*; dual *ἐσ-τόν* for **σ-τόν*. The strong form of the sing. has passed into the plural and dual. It will be observed that the forms of the root *ēs* are subject to this corruption; e.g. the optative *εἴην* = **ἔσ-γην* for **σ-γην* (Sk. *syām*, Lat. *siem*).

Lat.: sing., 1st *sum* (instead of **esmi* or **esm*), which would have become **erem*), very probably on the analogy of *sumus*; ³ 2nd *es* = **es-s*, 3rd *es-t*, regular; plur., 1st *sumus* for **s-mus*, with *u* on analogy of the thematic presents (*volumus*, **agumus*, etc.); 2nd *estis* for **s-tis*, intrusion of the strong form; 3rd *sunt* for **sent* = **sñt(i)*, through analogy of *volunt*, *agunt*. On the other hand, the weak form of the plural, being introduced into the singular, gave rise to the enclitic *st*, so common in the comic poets and in colloquial Latin.

2. Thematic presents: *λέγω, legō, supra* 249, 1 A.

(273) II. *Middle*.—1. Always the weak form, *τίθεμαι, δίδομαι, δύναμαι, δείκνυμαι*, etc., except in *κείμεναι*, which has the strong form (cf. the deflected root in *κοίτη*, bed), through an irregularity which goes back to the parent-speech, Sk. *çetē* (he lies).⁴ There is no corresponding type in Latin.

2. Thematic: *λέγομαι, —legor*.

¹ This does not mean that there is a gradation in *das*: *dātis*. If *das* had the strong form, the vocalism would probably be **dōs* (cf. Gk. *ἔδωσ* and *supra* 41 in *fine*); hence we must see in it the influence of the analogy of *amās*.

² *Supra* 251, 3.

³ Thus *sum*: *sumus* = *sim*: *simus*.

⁴ Transition to the thematic conjugation in *κέο-νται* (Od. xvi. 232).

§ 2. *Subjunctive.*

(274) I. *Active.*—We have seen that the subjunctive has regularly: in the non-thematic tenses, the root in the normal form and with a short thematic vowel before the person-endings, *e.g.* Hom. ἴομεν (dactyl)=εἴ-ο-μεν (let us go); in the thematic tenses, the vocalism of the indicative and a long thematic vowel through Indo-European contraction, *e.g.* λέγω, λέγω-μεν, λέγη-τε.¹ The weak grade of ἴμεν contaminated ἴομεν, which is more common in Homer as a tribrach than as a dactyl. But the greatest corruption of all is due to the confusion of the two types, which were originally distinct: on the one hand there was the flexion ἴω ἴομεν, on the other the flexion λέγω λέγωμεν; it was inevitable that, owing to the exact similarity of the 1st persons of the singular, the other persons also should tend to become assimilated to one another, and that the long vowel, being regarded as the necessary sign of the subjunctive, should gradually be extended to all the verbs in -μι. Accordingly, from the Homeric period, Greek scarcely knows any other type than ἴωμεν, ὦμεν=ἔωμεν=*ἔσωμεν, τιθῶμεν=τιθέωμεν, δεικνύωμεν, etc.

This subjunctive in its turn was not without influence on the other moods: thus δεικνύωμεν called for a corresponding form δεικνύομεν in the indicative; that is, the transition from the non-thematic to the thematic conjugation, which is fairly common in Greek and almost invariable in Latin,² had its starting-point here; and we seem to discern a similar relation between ἴωμεν and the participle ἰών.³

In the subjunctive of the non-thematic present, the only Latin correlative is the future *erō*=**es-ō*, 1st pl. *er-ī-mus*, possibly also *ferō*, which might be the subjunctive of a verb **fer-mi* as well as the indicative of a verb *fer-ō*.⁴ To the thematic present morphologically corresponds the Latin future *legēs*, which stands to λέγης for *λέγης as *legis*=**legēs* stands to λέγεις for λέγεις;⁵ but the vowel *e* was extended throughout the whole of the inflexion (*legēmus*=Gk. *λέγημες), except in

¹ *Supra* 89, VII and 143.² Cf. *Supra* 86, 87, 88 and 249, 1 B.³ *Supra* 123.⁴ *Supra* 89, VII.⁵ *Supra* 143.

the 1st sing., which was taken from another tense.¹ From the point of view of meaning the Latin correlative is *legam legās*.

(275) II. *Middle*.—The type with a short vowel is entirely superseded by the type with a long vowel, *δεικνύμαι* like *λέγωμαι*. Dialectically Greek has also another type, either primitive, or more probably analogical, formed by lengthening the predesinential vowel of the indicative: *ζώννυνται* (Od. xxiv. 89), *ρήγγυνται*, *ρήγγυται*,² Dor. *δύνāμαι*.

Long vowel: Gk. *λέγωμαι*, *λέγη*, *λεγώμεθα*, *λέγησθε*, Lat. (*legar*), *legēris*, *legēmur*, the corresponding forms in regard to function being *legar*, *legāris*, *legāmur*, etc.

§ 3. Optative.

(276) I. *Active*.—1. The optative of the non-thematic present has the sign *-ιη-* in the strong forms, *-ι-* in the weak forms,³ and this alternation is generally very strictly observed, *τιθείην* *τιθεῖμεν*, *διδόιην* *διδόιμεν*, *εἶην* *εἶμεν*, etc. But in New Ionic and late Attic the strong form passed into the plural, thus producing forms like *διδόιμεν*, *εἶμεν*, with the hystero-gene ending *-σαν* in the 3rd pl., *διδόισαν*, *εἶσαν*.⁴

In Latin, on the contrary, it is the plural which has imposed its stem on the singular; there is no trace of gradation except in *siem* (*siēs siet* arch.) *simus*; everywhere else we find the weak form, *sim*, *velim*, *duim*⁵ (called subjunctives).

In the verb *εἶμι* and all the verbs in *-νῦμι* there appears, based on the model of *ἴωμεν*, *δεικνύμεν*, an optative *ἴοιμι*⁶ (also *ιοίην infra*), *δεικνύοιμι*, corresponding to a thematic indicative **ἴω*, *δεικνύω*, the regular forms **ἴην*, **δεικνύην* having disappeared without leaving the slightest trace of their existence.

2. In the thematic present, the sign is *-ι-* with no gradation, *λέγοιμι* *λέγοιμεν*, *τιμάοιμι* *τιμάοιμεν* (Attic *τιμῶην* = *τιμαοίην* on the analogy of *διδόιην*).⁷ Latin correlative, very doubtful, *amem* = **ama-oi-m* (?) or **amā-ye-m* (?), *supra* 144.

¹ *Supra* 104, 143 and 147.

² Thus *ρήγγυται*: *ρήγγυται* = *φέρηται*: *φέρεται*.

³ *Supra* 95.

⁴ *Supra* 247, 3 C.

⁵ *Supra* 95.

⁶ Hom. *τοι*, and even *ξαι* (may he be) = **ξσ-οι*.

⁷ Later, in vulgar Greek. *φιλήην* on the model of *τιμῶην*, and even *δῶην*, *δῶήμεν*.

II. *Middle*.—Properly the weak form, *τιθείμην, διδοίμην* (never **διδουίμην*), *δυναίμην*,¹ etc.,—*λεγοίμην*. The very rare type *δεικνυίμην* is analogical.

§ 4. Imperative.

(277) I. *Active*.—1. When the 2nd pers. sing. has no termination, it has the strong form, *ἴστη, δείκνυ*; in Greek before terminations it has the weak form, *ἰστάτω, δείκνυτε, τιθέτω, δίδωτω, ἴθι, ἴτω*, and even *ἴσθι* (be) = **σθι*, though the other persons have the strong form as in the indicative, *ἴστε, ἴστω*. Latin uses the strong form indiscriminately, *stā stātō, ī itō, es estō*, except in *datō date*.

2. Thematic: *λέγε λέγετε, lege legite*.

II. *Middle*.—1. Non-thematic: as in the active: Gk. *τίθεσο, δίδοσο, ἴστασο, δείκνυσσο*; Lat. *fāre, dare*.

2. Thematic: *λέγου = *λέγεσο, legere*.

§ 5. Infinitive.

(278) I. *Active*.—1. Hom. Aeol. *ἔμμεναι ἔμμεν, τιθήμεναι*, etc.: Ion.-Att. *εἶναι = *ἔσ-ναι, τιθέναι, διδόναι, δεικνύναι*, etc., the two formations being without any etymological connexion, either with one another,² or with that of Latin *īre, stāre, dare, esse, ferre*.³

2. Hom. Aeol. *ἀκουόμεναι, φιλήμεναι* (like *τιθήμεναι* owing to the flexion *φίλημ*⁴), *φερέμεν*; Ion.-Att. *λέγειν = *λέγε-Feν* (?);⁵ Lat. *legere*; the same remark applies.

II. *Middle*.—Gk. *τίθεσθαι, δίδοσθαι, δείκνυσθαι, —λέγεσθαι*; ⁶ Lat. *darē, ferrē—legē, legier* (arch.), *amārē amārier* (arch.);⁷ the same remark applies.

§ 6. Participle.

(279) I. *Active*.—1. Gk. *τιθείς = *τιθέ-ντ-ς*,⁸ *ιστās, διδούς, δεικνυς*, irregular *ῶν* and *ῥών*, contracted *ῶν*, whence was formed

Transition to the thematic conjugation in *μαρνοίμεθα* for *μαρναί-μεθα* (Od. xi. 513).

² *Supra* 115, 5, 130, 156 and 167.

³ *Supra* 125.

⁴ *Supra* 249, 1 A.

⁵ *Supra* 167.

⁶ *Supra* 130 and 167.

⁷ *Supra* 125 and 161.

⁸ *Supra* 47 C, 123 and 200, 5.

by analogy a new declension ὦν ὄντος (the contraction of ἐόντος could only have given *οῦντος); Lat. *iēns*, **sēns* (*sōns*), *stāns*, *dāns*, *dēns*, *fāns*.

2. Gk. λέγων, Lat. *legēns*.¹

II. *Middle*.—1. Gk. τιθέμενος, ιστάμενος, διδόμενος, δεικνύμενος; Lat. *fēmīna*=*θημένη, *fāminē* (you speak), *daminē*, perhaps *dominus*.²

2. Gk. λεγόμενος; Lat. *legiminē* (perhaps *alumnus*), entirely obsolete however except in the 2nd pl. of the mediopassive, its function being supplied by the verbal in *-to-*, *datus*, *lēctus*, *secūtus*, so far, that is, as the essentially past meaning of the latter form allows.

SECTION II.

IMPERFECT.

§ 1. *Indicative*.

(280) I. *Active*.—1. The gradation is as regular in the Greek non-thematic imperfect as in the present, on which it depends: ἴστην ἴσταμεν, ἐτίθην ἐτίθεμεν, ἐδείκνυν ἐδείκνυμεν, etc. The purely Attic forms ἐτίθεις ἐτίθει and ἐδίδουν ἐδίδους ἐδίδου are due to the analogy of ἐφίλεις and ἐδύλου.³ The only exceptions are εἰμί and εἶμι, which have generalised the strong form.

Imperfect of εἰμί.—Sing. 1st: Hom. ἦα=*ἦσ-ῃ, naturally confused with the perfect ἦα=*ἦσ-α;⁴ without augment, Hom. ἔα; contracted, Att. ἦ or rather ἦν, the latter form being modelled on 3rd sing. ἦ in accordance with the relation of ἐτίθην to ἐτίθη. 2nd: ἦς=*ἦσ-ς, and ordinarily Att. ἦσθα borrowed from the perfect. 3rd: ἦς (Dor.)=*ἦσ-τ; Att. ἦ and much oftener ἦν=Hom. ἦε ἦεν=*ἦσ-ε, a perfect form.—Plur. 1st: ἦμεν=*ἦσ-μεν. 2nd: ἦσ-τε, and usually ἦτε because of ἦμεν. 3rd: ἦσαν with hysterogene addition of the affix -σαν⁵ (an original *ἦσ-αν=*ἦσ-ῃτ would have become *ἦαν).—Dual: Hom.

¹ *Supra* 160, 200, 5, 201, 2 and 209.

² *Supra* 115, 7 and 156.

³ Cf. *supra* 251, 3 note, and in the optative διδοῖμεν (for διδοιμεν) on the model of δηλοῖμεν.

⁴ *Supra* 252, 1.

⁵ *Supra* 247, 3 C.

ἦστον ἦστην.—There is also an analogical flexion *ἕα ἕας ἕαρα* (Herod.) and a thematised flexion (*ἕον*) in Homer.

Imperfect of εἶμι.—Sing. 1st: ἦα=*ἦγ-*m*.—Plur. and dual: ἦμεν=*ἦ-μεν, ἦτε, ἦσαν, ἦτον, ἦτην, with no gradation.—Weak form only in ἴσαν (poetic).—The other Attic flexion ἦεν ἦεις ἦει belongs to the pluperfect.¹—There are also in the poets three thematised flexions, one with the augment, ἦιον, another with no augment, εἶον, and a third with weakened root, ἴον on the model of subj. ἴω.

Latin has nothing to be compared with these forms, except *eram*=*ἕα* (?), which in any case has been corrupted,² and, with no gradation, pl. *erāmus*. All its other imperfects were obtained by means of a special suffix, *ībam, dabam*,³ and the stem of this suffix also does not vary, *īdāmus*.

2. Thematic: Gk. *ἔλεγον*.—Lat. *legēbam*.

II. *Middle*.—1. The weak form always, *ἐτιθέμην, ἐδιδόμην, ἐδεικνύμην*, etc., except in *ἐκείμην* like *κείμεαι*, and the impf. mid. (not Attic) of *εἶμί*, like the impf. act., *ἤμην ἦσο ἦμεθα*, etc.—Lat. *dabar*, with no morphological correlative elsewhere, and naturally without gradation, pl. *dabāmur*.

2. Thematic: Gk. *ἐλεγόμην*.—Lat. *legēbar*.

§ 2. Other moods.

(281) In Greek the moods of the present are also those of the imperfect, since, on the augment being taken away, the stem of the two tenses is exactly the same. Latin alone has developed an imperfect subjunctive, *essem, legerem*, (pass. *legerer*, mid. *sequerer*), which has already been connected in its origin with the Indo-European aorist subjunctive, used in Greek as a future indicative.⁴

SECTION III.

FUTURE IN ALL MOODS.

(282) The future indicative being always thematic,⁵ its personal and modal inflexions are very simple. Moreover, the only

¹ Cf. *infra* 298, 3.

² *Supra* 149.

³ *Supra* 104 and 147.

⁴ *Supra* 106 and 150.

⁵ *Supra* 97.

moods of the future are in Greek the indicative and optative, in Latin the indicative and imperative (imperative present used as future).¹ The subjunctive in particular is generally supplied by that of the present (*timeō nē pluāt*, I fear lest it *may* rain), and we know already how close are the relations in Greek and Latin between the subjunctive and future.

I. *Active*.—1. Indicative: Gk. *ἔσσω, λέξω, στελώ (pl. στελοῦμεν, στελεῖτε), τιμήσω, etc. The morphological correlative in Latin is **essō* and *essem*, *faxō* and *faxem*, etc., *legerem*, *amārem*: the first forms, which are rare, have kept the gradation, *faxō*, *faxis* = **faxēs*, etc.; the others have lost it, exchanging *ē* for *e* (*essēs* for **essēs*), and generalising this *e* in all persons, pl. *essēmus*, etc.² The functional correlative is *amābo*³ and *legam legēs*.

2. Optative: Gk. λέξοιμι, μανοῖμι (Att. μανοίην).

3. Infinitive: Gk. λέξεῖν = *λέγ-σε-ῖεν (Æol. ἀξέμεναι ἀξέμεν); supplied in Latin by a periphrasis, *lētūrum esse*.

4. Participle: Gk. λέξων.—Lat. *lētūrus*.⁴

II. *Middle*.—1. Indicative: ἔσομαι = *ἔσσομαι, λέξομαι, στελοῦμαι, etc.—Lat. *imitābor* and *sequar sequēris*.

2. Optative: λεξοίμην.

3. Infinitive: λέξεσθαι.—Lat. *secūtūrum esse*.

4. Participle: λεξόμενος.—Lat. *secūtūrus*.

III. *Passive*.—1. Indicative: σταλήσομαι, λεχθήσομαι,⁵ etc.—Lat. *amābor* and *legar legēris*.

2. Optative: σταλησοίμην, λεχθησοίμην.

3. Infinitive: σταλήσεσθαι, λεχθήσεσθαι; supplied in Latin by a periphrasis, *lētum irē*, which requires a short explanation. We know the origin of the supines, and we know that the phrase *eō lūsum* means "I go to play." Hence a phrase *vīsum īre* will mean "I go to the sight," and, as sight can be taken either in an active or passive sense, the meaning of the phrase will be either "to go to see" or "to go to be seen." In *vīsum irē* the latter meaning has prevailed. The form *irē* is not the

¹ *Supra* 255 and 257. Exceptionally imperat. fut. οἶσε (Od. xxii. 431). οἰσέτω (Il. xix. 173).

² Cf. *supra* 106 and 150.

⁴ *Supra* 121, 6.

³ *Supra* 105 and 147.

⁵ *Supra* 103 and 146.

cause of the passive meaning; for we know that etymologically *trī* has the same meaning as *tre*.¹ But it is very likely that the passive meaning of the expression caused the ending *ī* to prevail, because custom had confined *amāre* to the active, and *amārī* to the passive.

4. Participle: *σταλησόμενος, λεχθισόμενος*.

SECTION IV.

FUTURE-PERFECT.

(283) This tense scarcely exists in Greek except in the passive voice; there are however a few examples of the active voice, *τεθνήξω* (I shall be dead), or middle, *μεμνήσομαι* (I shall remember).² It has the same moods as the future.

Latin has no similar formation. It supplies its place by a perfect subjunctive, *vidērō* = **ειδέω*,³ *lēgerō*, etc., middle *secūtus erō*, pass. *lēctus erō* (cf. Gk. *λελεγμένος ὦ*).

SECTION V.

AORISTS.

§ 1. Indicative.

(284) I. *Active*.—1. The radical non-thematic aorist is, next to the non-thematic present and imperfect, the most remarkable instance of the retention of the original gradation. We must however distinguish the case in which the root ends in a vowel, *ἔθην*, and that in which it ends in a consonant, **ἔ-χεf-a*.⁴

A. The two forms alternate regularly: *ἔθην ἔθμεν, ἔδων ἔδομεν, ἔβαν* (Ion. *ἔβην*) and Hom. 3rd dual *βάτην*, etc. In the so-called roots with metathesis⁵ the long vowel is regularly used in all forms: *ἔτλημεν, ἔγνωμεν*. This was most likely the starting-point of the analogy which levelled the inflexion of many radical aorists, ever since the Homeric period, and of which the most remarkable instance is the inflexion *ἔστην ἔστημεν*, which does not vary at all.

B. The regular inflexion would be *ἔχεα *ἔχμεν, ἔκηα* (I burnt)

¹ *Supra* 125.

² *Supra* 100 and 146.

³ *Supra* 144.

⁴ Cf. *supra* 245, 1.

⁵ Cf. *supra* 90, VIII note.

= **ē-kāf-a*) **ἐκαυμεν*, *ἔθηκα*¹ **ἔθεκμεν*, **ἔκτεν-α ἐκταμεν* (= **ἔκτῃ-μεν*), etc. The last form was faithfully retained in the plural and dual, and from the 3rd pl. *ἐκταν* was even formed an analogical 3rd sing. *ἐκτα* (Hom.). We shall also find in the middle the equivalent of **ἔχυμεν*. But, as a general rule, the entire stem of the sing., including the *a* of the 1st person regarded as a thematic vowel,² was transferred without modification to the plural and dual, *ἐχέαμεν* and *ἐχεύαμεν*, *ἐθήκαμεν*, etc.

Latin has nothing that can be compared with these forms, except that its present *stat* = **stāt* resembles *ἵστη* (**στᾶ-τ* without augment) much more closely than any other Greek form.

2. The sigmatic aorist is a non-thematic aorist ending in a consonant; hence its regular inflexion would be *ἔ-λειψ-α*, **ἔλειψ* = **ἔ-λειψ-ς*, **ἔλειψ* = **ἔλειψ-τ*, **ἔ-λιψ-μεν*, **ἔ-λιψ-τε*, **ἔ-λιψ-αν*. But we know what took place: the *a* of the 1st sing. and 3rd pl. was added to the stem;³ while, in regard to the root, the weakened form **ἔλιψαν* was retained and even extended to the sing., especially in verbs which already had the weakened root in the present, *ἔσχισα*, *ἔστιξα*, cf. *σχίζω* = **σχιδ-γω*, *στίζω*, etc.;⁴ in all other cases it was the grade of *ἔλειψα*, sometimes modified (*ἔλῦσα* for **ἔλευσα*), which prevailed, and in any case there is no longer a trace of gradation in the transition from the singular to the plural and dual.

A fortiori this uniformity is absolute in the Latin inflexion, *dixi diximus*, which is that of the perfect.

3. Non-thematic aorist: *ἔλαβον*, *ἔλιπον*, *ἔφυγον*, etc.; in Latin, barely a few traces of this formation.⁵

(285) II. *Middle*.—1. A. The regular weak form in *ἰθέμην*, *ἰδόμην*, etc.; the long vowel of metathesis in Hom. *πλήτο* (it filled itself); the strong form (very rare) extended in Att. *ὠνήμην* for *ὠνάμην*, from *ὀνίνημι* (to benefit).

B. The regular weak form in *ἔχυτο*, Hom. *χύτο* (it was poured), *ἔσσυτο*, Hom. *σύτο* (it was thrown, 1st sing. act. *ἔσσευα*), *ἀπέκτατο* (he was killed); the strong form and the false stem in *a* extended in *ἐκτάτο*, etc.

¹ Cf. *supra* 99.

² *Supra* 245, 1 and 247, 3.

³ *Supra* 90.

⁴ *Supra* 245, 1 and 247, 3.

⁵ Cf. *supra* 96.

2. The false stem in *a* of the sigmatic aorist passes into the middle with no modification: *ἐλειψάμην* (for **ἐ-λίψ-μην*), *ἔσχισάμην*, *ἐλυσάμην*, etc.

3. Thematic: *ἐλαβόμην*, *ἐλιπόμην*, *ἐφνγόμην*, etc.

(286). III. *Passive*.—The stem of the two passive aorists of Greek shows not the least trace of gradation, and it may be doubted whether any gradation ever existed in its flexion, *e.g.* *ἐτύπην ἐτύπημεν*, *ἐλέχθην ἐλέχθημεν*; for not a trace of it survives in the Latin forms *jacēs jacet jacemus*, which, apart from the augment, exactly coincide with *ἐτύπης ἐτύπη ἐτύπημεν*.¹

§ 2. *Subjunctive*.

(287) I. II. *Active and Middle*.—1. The only regular subjunctive is naturally that with short thematic vowel,² of which many examples are found in Homer, *e.g.* *καταβήομεν*, *στήομεν*, *δώομεν*, *γνώομεν*, *θήομεν*, *θήομαι*, *βλήεται*, but which was superseded in the classical language, as in the present, by the subjunctive with long vowel, *στῶμεν* = *στέωμεν* = Hom. *στήωμεν*, *θῆ* = *θέη* = Hom. *θήη*, *βῶμεν*, *θῶμεν*, *θῶμαι*, etc.

2. The sigmatic aorist subjunctive with short vowel was likewise very common in the Homeric dialect, *e.g.* *βή-σο-μεν* (Il. i. 144), and survived up to the end with the function of a future indicative;³ but in its original function it was superseded by a subjunctive with long vowel, which may very well have been originally a future subjunctive,⁴ *λέξωμεν*, *λέξωμαι*.

3. In the thematic aorist the long vowel appears, and presents no difficulty: *λάβω*, *λάβωμεν*, *λάβωμαι*, etc.

III. *Passive*.—The regular subjunctive with short vowel, Hom. *τραπήομεν*, *δαμήετε*, superseded from the time of Homer by a subjunctive with long vowel, *δαμήης*, *φανήη*, the only form recognised in the classical language, (*τυπέω*) *τυπῶ*, (*τυπέωμεν*) *τυπῶμεν*, *λεχθῶ* *λεχθῶμεν*, etc. In Latin the form *jaceō* exactly corresponds to *τυπέω*, and, being taken for an indicative, must

¹ Cf. *supra* 98.

² *Supra* 89, VII and cf. 274.

³ *Supra* 97.

⁴ The same accident may have happened in the aorist subjunctive *essēs*, *ferrēs*, which is shown by the long vowel to be a future subjunctive, *supra* 106 and 282.

have had an important share in causing the partial transition of this passive form to the thematic flexion.

§ 3. *Optative.*

(288) I. *Active*.—The gradation is faithfully kept throughout, βαῖν βαῖμεν, σταῖν σταῖμεν, θείν θείμεν, δοῖν δοῖμεν, etc. But each regular form has a corresponding analogical by-form, βαῖνμεν, σταῖνμεν, θείνμεν, δοῖνμεν,¹ less used in good Attic; and we already find σταῖνσαν in Homer (Il. xvii. 733). The analogy of the subjunctive with long vowel gave rise to an optative *θέοιμι,² of which various forms are found in Herodotus and Attic writers, and in particular *θοῖτε in κατάθουτε (the accent thrown back owing to the contraction being forgotten).

2. It is clear that the optative of the sigmatic aorist ought strictly to be *λιψ-ίη-ν *λίψ-ι-μεν. No such form is found; but we may be permitted to restore one which is very much like it, namely *λειψ-είη-ν, *λῡσ-είη-ν. The precise origin of this interpolated ε is not very easy to determine; but it may at any rate be observed that it has an exact correlative in the perfect optative εἰδ-είη-ν,³ and better still in the Latin sigmatic aorist optative *dixērim* = **deix-es-iē-m*. However this may be, the regular inflexion gave a 3rd pl. λείψειαν = *λειψει-ήτ, and on this form λείψειαν, as on that of the indicative ἔλειψαν,⁴ was based by analogy a new mode of inflexion, wrongly called Æolic, λείψεια, λείψειας, λείψειε, etc. In good Attic it is combined with the following mode of inflexion, thus forming the paradigm λύσαιμι, λύσειας (and λύσαις), λύσειε (and λύσαι), λύσαιμεν, λύσαιτε, λύσειαν (and λύσαιεν), λύσαιοι, λῡσαίην.

The inflexion λύσαιμι λύσαιμεν needs no comment; it is the optative based on the false stem λῡσα-.

3. In the thematic aorist, λάβοιμι λάβοιμεν.

II. *Middle*.—Always the weak form, with no irregularities, θείμην, δοίμην. False thematic vowel introduced in New Ion προσθείτο, Att. προσθοῖτο and πρόσθοιτο.

2. λῡσαίμην, λειψαίμην, like λύσαιμι.

3. In the thematic aorist, λαβοίμην, λιποίμην.

¹ Cf. *supra* 95 and 276.

² Cf. *supra* 276, 1 in *fine*.

³ *Supra* 144 and *infra* 294.

⁴ *Supra* 247, 3 A.

III. *Passive*.—The inflexion shows gradation: τυπείην τυπέμεν, λυθείην λυθείμεν, etc.; but also τυπείημεν, λυθείημεν, as above θείην θείμεν.

§ 4. Imperative.

(239). I. II. *Active and Middle*.—1. In the imperatives of radical aorists, the long vowel, at any rate in the active, is as common as the short, and in any case one or the other remains throughout the whole of the inflexion. On the one hand we have θές θέτω, δός δότω,—θέσθω, δόσθω, on the other hand τλήθι, γνῶθι (metathesis), whence βήθι βήτω, στήθι στήτω, κλύθι (a sort of compromise between *κλεῦθι and *κλύθι, cf. κλύω and κλέ(φ)ος).

2. The sigmatic aorist, with the single exception of the 2nd sing. λῦσ-ον and λῦσ-αι,¹ is based on the false stem in α, λῦσά-τω, λῦσά-σθω.

3. Thematic: λαβέ, ιδέ, εἰπέ, ἐλθέ,² λίπε, φύγε, etc.—ιδοῦ and ἰδοῦ, “lo!” (accented like ιδέ), λίπου, φύγου, etc.

III. *Passive*.—The imperative has the long vowel with no gradation, τύπηθι τυπήτω (cf. *jacētō*), λύθητι λυθήτω.

§ 5. Infinitive.

(290) I. *Active*.—1. Æol. δόμεναι δόμεν, Æol.-Dor. σῳάμεν, etc.; Ion.-Att. δοῦναι=Cypr. δόφεναι,³ θεῖναι=*θέφεναι, γνῶναι=γνώφεναι, whence βῆναι, στήναι, δύναι, etc.

2. Sigmatic: λῦσαι, λείψαι, φιλήσαι.

3. Thematic: λαβεῖν=λαβέεν=*λαβέ-φεν (?), λιπεῖν, etc.

II. *Middle*.—1. δόσθαι, θέσθαι.—2. λύσασθαι (through the false stem λῦσα-).—3. λαβέσθαι, ιδέσθαι.

III. *Passive*: τυπῆναι, λυθῆναι.

§ 6. Participles.

(291) I. *Active*.—1. δούς=*δό-ντ-ς, etc.⁴—2. λύσᾱς=*λῦσα-ντ-ς (false stem λῦσα-).—3. Gk. λαβών, λιπών, φυγών, etc.; Lat. *parēns*, **facēns* in the compound in *bene-ficent-ior*, etc., which evidently bear the same relation to *pariēns*⁵ and *faciēns* that *φυγών* bears to *fugiēns*.

¹ *Supra* 255, A δ and 266, I.

⁴ *Supra* 123.

² Cf. *supra* 81.

³ *Supra* 130.

⁵ *Supra* 90.

II. *Middle*.—1. δόμενος, θέμενος.—2. λῦσάμενος (false stem λῦσα-).—3. λαβόμενος, λιπόμενος.

III. *Passive*: τυπείς, λυθείς, like θείς, τιθείς.

SECTION VI.

PERFECT.

§ 1. *Indicative*.

(292) I. *Active*.—The original gradation of the radical perfect¹ differs very little from that of the other tenses: in the indicative active, the 1st sing. had the deflected grade, *φοῖδ-α*, or perhaps the normal grade, *e.g.* **φείδ-α*; the 2nd and 3rd sing. certainly had the deflected grade, *φοῖσ-θα*, *φοῖδ-ε*; all the other forms had the weak grade, *φίδ-μεν*, etc. This perfect *οἶδα*, the inflexion of which we have already seen,² is a valuable relic, almost unaltered, of the old alternation. Other examples, though less complete, are no less convincing; for they all go back to Homer, and were only gradually eliminated in later Greek. The following are the most certain examples: *γέγον-α*, pl. *γέγα-μεν* = **γέγῃ-μεν*; *μέμν-α*, pl. *μέμα-μεν*, dual *μέμα-τον*; *πέπονθ-α* (I have suffered), 2nd pl. *πέπασ-θε* (II. iii. 99, Od. x. 465, Aristarchus's correction for the impossible *πέποσθε*) = **πέπηθ-τε*, cf. *παθεῖν*; *δέδδοα* (I fear), which is restored in Homer in place of *δεῖδω* (false present, really contracted from **δεῖδω*), and is equivalent to **δε-δφοι-α* (root *δφει*, cf. *δέος* = **δφεί-ος*), pl. *δέδδιμεν* (written *δεῖδιμεν*) = **δέδφι-μεν*, Att. *δέδιμεν*, etc.

The principle of uniformity acted in two different directions. Sometimes, but very rarely, the weak form of the plural and dual prevailed throughout the whole of the flexion; thus, for example, on *δέδιμεν* was based the classical form *δέδια*, on **ἐλήλυθμεν* the classical *ἐλήλυθα*, which superseded the Homeric *εἰλήλουθα*,³ on *γέγαμεν*, *μέμαμεν*, the Homeric 3rd plurals *γαγάῃσι*, *μεμάῃσι*, which would presuppose in the 1st sing. **γέγαα*, **μέμαα*, and the same may be said of the Attic forms *ἐστᾶσι*.

¹ *Supra* 87, III.

² *Supra* 252.

³ Conversely *ἐλήλουθμεν* (II. ix. 49).

βεῖσι. Sometimes it was the vocalism of the perfect middle which was extended, and hence we find the hysterogene form τέτραφα (for τέτροφα, from τρέπω), on the model of τέτραμμα. But usually the normal or deflected grade of the sing., together with the final *a* of the 1st sing., spread to all the other forms, and so the regular forms *λέλαθμεν, *πέπαγμεν, *πέφυγμεν, *πέπιθμεν, *λέλιπμεν, etc., were superseded by the uniform inflexion λέληθα λελήθαμεν, πέπηγα πέπηγας (for *πέ-πωγ-θα) πεπήγαμεν, πέφευγα πεφεύγαμεν, πέποιθα πεποιθαμεν, λέλοιπα λελοίπαμεν, and so in a hundred other cases.

Much more does this uniformity of inflexion appear in the aspirated perfects, which are a mere variety of the radical perfects,¹ and the perfects in -κ-, which are an exclusively Hellenic formation.² In the latter the weak grade is not uncommon, because the perfect is modelled simply on the present, e.g. λέλῃκα like λύω, ἔσχῃκα like σχίζω, or on the perfect middle, ἔσταλκα like ἔσταλμαι.

In Latin, the perfect endings being middle,³ though different from the middle endings of Greek, we should expect to find regularly the weak grade of the root; and, as a matter of fact, the weak grade is fairly common in Latin, especially in those perfects which are shown to be least corrupt by their retaining the reduplication: *tu-tud-ī* (cf. Sk. *tu-tud-e*), *pu-pug-ī*, *cecīdī*, *pepulī*, *tulī*, etc. But the long vowel, which was regular in the sing. of the active, had made great inroads into this formation, e.g. **vīdī* had become *vīdī* through the influence of **vīde* = **ῥεῖδα*, and hence the lost active generally bequeathed its vocalism to the middle, which alone survived; *vīdī*, *vīcī*, *lēgī*, *ēgī*, *fēcī* (cf. ἔθηκα and τέθεικα), *mōvī*, *fūgī*, *fūī* (and *fuī* through subsequent shortening: so also we find in Sk. *babhūve* in the middle like *babhūva* in the active, in spite of the change in accentuation). Whatever the vocalism, however, it of course remained uniform, both in the aorist conjugated as perfect and in the secondary perfects in -*vī* and -*uī*.⁴

II. *Middle*.—The perfect middle, having originally only weak forms, necessarily remained more free from corruption than the

¹ *Supra* 87 in *fine*.

² *Supra* 253.

³ *Supra* 99, II and 146.

⁴ Cf. *supra* 96, 105 and 148.

active, which included both weak and strong forms. This may be easily verified: the Greek perfect, especially in the oldest forms, very often shows the weakened root: to τείνω, for example (= *τέν-γω), corresponds Hom. τέταμαι = *τέ-τη-μαι (cf. τατός = *tentus*); to θείνω (to strike), Hom. πέφαται (he has been killed)¹: to τρέπω, τέτροφα, Hom. τέτραμμαι = *τέ-τη-μαι; to στέλλω, ἔσταλμαι = *ἔ-στλ-μαι; to πεύθομαι, πέπυσμαι, etc. When the vocalism of the perfect middle was corrupted, it was modelled on that of the present, never on that of the perfect active: thus *λέλιμμαι became λέλειμμαι on the analogy of λείπω, not *λέλοιμμαι on the analogy of λέλοιπα; except, of course, when both vocalisms agreed, λήθω λέληθα λέλησμαι. The perfect τέτογμαι (I have brought forth) on the analogy of τέτοκα, belongs only to very late Greek.

Latin, with the exception of its so-called perfect active, has no similar formation; it supplies its place in the middle and passive by a periphrastic tense, *secūtus sum*, *lēctus sum*, cf. λελεγμένοι εἰσί.

§ 2. Subjunctive.

(293) I. *Active*.—The perfect not being a thematic tense, the subjunctive with short vowel would be the only regular formation, and we do find two examples of it in Homer, εἶδομεν, πεποίθομεν. But, here as everywhere, the long vowel was introduced, and so on λείπωμεν, λύωμεν were based the forms λελοίπωμεν, λελύκωμεν.

Greek has only one example of the type, so common in Latin, formed by addition of the thematic vowel to a secondary stem with suffix *-es-: εἰδέω = *φειδ-έσ-ω (I may know) = Lat. *vīd-er-ē*.² It has imposed on it, as on the other forms, the long vowel, εἰδῶ εἰδῆς εἰδῶμεν, whereas Latin regularly has the short vowel, *vīderīs* = *veid-es-ēs. In Latin this subjunctive has the function of a future-perfect; in its function of subjunctive it is superseded by the optative *vīderim*.

II. *Middle*.—A form with short vowel, προσαρήρεται, in Hesiod; a few forms with long vowel, Att. κεκτῶμαι = Ion.

¹ Cf. *supra* 57, 4.

² *Supra* 143 and 144.

κεκτώμαι = *κεκτώμαι, and so also μεμνώμαι, κεκλώμαι; usually a periphrasis, λελεγμένος ὦ, in Latin *lētus erō* (future-perfect), and in function *lētus sim*.

§ 3. Optative.

(294) I. *Active*.—The regular formation would evidently be *φιδ-ίη-ν, *λε-λιπ-ίη-ν, and there are a few instances of it in Homer, ἔσταίην = *σε-σᾶ-ίη-ν, τετλαίην, τεθναίην. But the subjunctive λελοίπω λελύκω has its equivalent in the ordinary optative λελοίποιμι λελύκοιμι.

The formation εἰδείην (= *φειδ-εσ-ίη-ν) εἰδεῖμεν is unique,¹ whereas its Latin equivalent *vīderim vīderimus* (called perfect subjunctive) has been extended indefinitely.

II. *Middle*.—A few regular formations, Hom. and Att. μεμνήμην = *με-μνᾶ-ῖ-μην, Att. κεκτῆμην; some based on a false stem, Att. μεμνῶτο = μεμνέωτο = μεμνήοιτο; usually periphrastic, λελεγμένος εἴην; Lat. *lētus sim*.

§ 4. Imperative.

(295) I. *Active*.—The perfect imperative is extremely rare; in Homer, however, we find a few very regular examples of it, always with the root weakened before the terminations, δειδίθι which should be corrected to δέδδιθι = *δέ-δφι-θι (fear),² κέκλυθι (hear), ἔσταθι (stand), and we may correct πέπεισθι (*Æsch. Eum.* 599) to πέπισθι (believe), on the model of the Panhellenic and classical ἴσθι (know). The short vowel is also found in two forms with metathesis, τέτλᾶθι, τέθναῖθι. But this is all.³ Late Greek formed, on the model of λελύκω and λελύκοιμι, a thematic imperative λέλυκε, not found in good Greek, and, if necessary, it could always have recourse to the periphrasis λελυκώς ἴσθι.

II. *Middle*: λέλυσσο, λέλειψο, etc., with the vocalism of the indicative, and with no gradation.

¹ Cf. however δεδιέη (he might fear) in Plato. Cf. *supra* 144 and 253.

² Cf. *supra* 292.

³ In Latin, an isolated perf. imper. *me-men-tō* = μεμῆτω (*Il.* xx. 355) = **me-mn-tōd*.

§ 5. *Infinitive.*

(296) I. *Active*.—Regular in $\delta\epsilon\delta\iota\acute{\epsilon}\nu\alpha\iota = \delta\epsilon\delta\delta\iota\acute{\epsilon}\nu\alpha\iota = *\delta\epsilon\text{-}\delta\acute{\epsilon}\iota\text{-}\acute{\epsilon}\nu\alpha\iota$. As a general rule, formed by the mere addition of the suffix $-\acute{\epsilon}\nu\alpha\iota$ to the stem of the indicative, whatever this may be, $\lambda\epsilon\lambda\omicron\iota\pi\acute{\epsilon}\nu\alpha\iota$, $\lambda\epsilon\lambda\upsilon\kappa\acute{\epsilon}\nu\alpha\iota$.¹ Some dialects (Lesb., Dor.) have a thematic infinitive, $\gamma\epsilon\gamma\omicron\upsilon\acute{\nu}\epsilon\iota\nu$, $\delta\epsilon\delta\acute{\upsilon}\kappa\epsilon\iota\nu$, which must be compared with $\lambda\epsilon\lambda\acute{\upsilon}\kappa\omega$ and $\lambda\epsilon\lambda\acute{\upsilon}\kappa\omicron\iota\mu\iota$.

In Latin *vīdisse*, *lēgissee*, *dixisse*, with no etymological connexion with the Greek form.²

II. *Middle*.—The ending is $-\theta\alpha\iota$, and analogically $-\sigma\theta\alpha\iota$, as in the 2nd pl. indicative $-\theta\epsilon$ and $-\sigma\theta\epsilon$;³ $\lambda\epsilon\lambda\acute{\epsilon}\chi\theta\alpha\iota$, $\lambda\epsilon\lambda\acute{\epsilon}\iota\phi\theta\alpha\iota$,— $\delta\epsilon\delta\acute{o}\sigma\theta\alpha\iota$, $\lambda\epsilon\lambda\acute{\upsilon}\sigma\theta\alpha\iota$. In Latin, a periphrastic infinitive *lēctum esse*.

§ 6. *Participles.*

(297) I. *Active*.—The root is regularly in the weak form before the suffix $-\acute{\omega}\varsigma$ ($-\acute{\omega}\varsigma$)⁴ in a certain number of Homeric and classical perfect participles: $\epsilon\iota\delta\acute{\omega}\varsigma = *f\epsilon\text{-}f\iota\delta\text{-}\acute{\omega}\varsigma$, as contrasted with $\omicron\iota\delta\alpha$; $\epsilon\iota\kappa\acute{o}\varsigma \acute{\epsilon}\sigma\tau\iota\nu$ (it is likely) = $*f\epsilon\text{-}f\iota\kappa\text{-}\acute{o}\varsigma$, as contrasted with $\acute{\epsilon}\sigma\iota\kappa\alpha$; $\acute{\epsilon}\sigma\tau\acute{\alpha}\omega\varsigma$, fem. $\acute{\epsilon}\sigma\tau\alpha\tilde{\upsilon}\iota\alpha$; $\gamma\epsilon\gamma\acute{\alpha}\omega\varsigma = *\gamma\epsilon\text{-}\gamma\eta\text{-}f\acute{\omega}\varsigma$ ($\gamma\acute{\epsilon}\text{-}\gamma\omicron\nu\text{-}\alpha$), $\mu\epsilon\mu\acute{\alpha}\omega\varsigma = *\mu\epsilon\text{-}\mu\eta\text{-}f\acute{\omega}\varsigma$ ($\mu\acute{\epsilon}\text{-}\mu\omicron\nu\text{-}\alpha$), and even, through analogy, $\gamma\epsilon\gamma\alpha\tilde{\upsilon}\iota\alpha$, $\mu\epsilon\mu\alpha\tilde{\upsilon}\iota\alpha$, for $*\gamma\epsilon\text{-}\gamma\eta\text{-}\acute{\upsilon}\sigma\text{-}\iota\alpha$, $*\mu\epsilon\text{-}\mu\eta\text{-}\acute{\upsilon}\sigma\text{-}\iota\alpha$. But as a general rule the suffix $-\acute{\omega}\varsigma$ is simply added to the stem of the indicative, $\gamma\epsilon\gamma\omicron\nu\acute{\omega}\varsigma$, $\lambda\epsilon\lambda\omicron\iota\pi\acute{\omega}\varsigma$, $\lambda\epsilon\lambda\upsilon\kappa\acute{\omega}\varsigma$, $\pi\epsilon\phi\iota\lambda\eta\kappa\acute{\omega}\varsigma$. The Attic feminines $\acute{\epsilon}\sigma\tau\acute{\omega}\sigma\alpha$, $\gamma\epsilon\gamma\acute{\omega}\sigma\alpha$ are new formations modelled on $\tau\acute{\iota}\mu\acute{\omega}\sigma\alpha$.

Latin has no formation of this kind; it supplies its place by the verbal in $-\text{to-}$, in all middle verbs, *secūtus* (having followed), and sometimes, though very rarely, even in active verbs, *cēnātus* (having dined), otherwise, by a periphrasis.

II. *Middle*.—The suffix $-\acute{\mu}\epsilon\nu\omicron$ is added to the stem of the indicative: $\tau\epsilon\tau\gamma\alpha\mu\acute{\mu}\epsilon\nu\omicron\varsigma$, $\lambda\epsilon\lambda\epsilon\gamma\mu\acute{\mu}\epsilon\nu\omicron\varsigma$, $\lambda\epsilon\lambda\epsilon\iota\mu\acute{\mu}\epsilon\nu\omicron\varsigma$, $\lambda\epsilon\lambda\upsilon\mu\acute{\mu}\epsilon\nu\omicron\varsigma$, $\acute{\epsilon}\sigma\chi\iota\sigma\mu\acute{\mu}\epsilon\nu\omicron\varsigma$.

Latin supplies its place by *lēctus*, *lēctus*, *scīssus*, etc.

¹ *Supra* 130 and 167.

³ *Supra* 130, 167, and 262, 2.

² *Supra* 125 and 161.

⁴ *Supra* 128 and 166.

SECTION VII.

PLUPERFECT.

§ 1. *Indicative.*

(298) I. *Active*.—For the pluperfect there are various modes of formation (Latin knows only one); they may be classified as follows.

1. The pluperfect is essentially merely the augmented tense of the perfect; hence it has the same stem and the same gradation.¹ There are several Homeric examples of this formation; they all correspond to the perfects which in their inflexion have best preserved the original vocalism: *ῥοικα, εἰκτην* (they resembled)=*(*ē*-)*φε-φίκ-την*; *πέποιθα, ἐπέπιθμεν*; *γέγονα, γεγάτην* (Od. x. 138); *μέμονα, μέμασαν*. In the 3rd plural, as in almost all the augmented tenses, the termination *-σαν* has been introduced, *ἐδείδισαν, ἐτέθνασαν*.

2. Another pluperfect, almost the only one used in classical Greek, was formed by the addition of the aoristic suffix *-εσ-*, the same as in *εἶδew* and *εἶδειν*, to the perfect stem:² the typical form is 1st sing. Hom. *ἦδεα*=*(*ē*-)*φείδ-εσ-η* with long augment,³ and the inflexion, which shows no gradation, is that of the sigmatic aorist. So also *ἐλελοίπεα, ἐλελύκεα*, etc. Hence we find in Ionic the forms: 1st sing. *ἐλελύκεα*, 2nd *ἐλελύκεας*, 3rd *ἐλελύκεε(ν)*, etc., 3rd plur. *ἐλελύκεσαν* (for **ἐλελύκεαν*, through re-introduction of the *σ*); whence in Att. the inflexion: 1st sing. *ἐλελύκη*, 2nd *ἐλελύκης*, 3rd *ἐλελύκει* and *ἐλελύκειν*, 3rd pl. *ἐλελύκεσαν*. To this perhaps corresponds Latin *vīderam*, which in any case has been corrupted by some unknown cause,⁴ and likewise shows no gradation, *vīderāmus*.

3. On the 3rd sing. *ἐλελύκει* analogy based in Attic a new mode of inflexion, in accordance with the relation of *ἐτίθην ἐτίθης ἐτίθη*; in other words, the whole tense was conjugated on the basis of a false stem, *ἐλελύκει-*, namely: *ἐλελύκειν ἐλελύκεις ἐλελύκει, ἐλελύκειμεν ἐλελύκειτε ἐλελύκεσαν* (less usual than *ἐλελύκεσαν*), *ἐλελύκειτον ἐλελυκέιτην*.

¹ Cf. *supra* 292:

² Cf. *supra* 233, 3.

³ Cf. *supra* 101 and 253.

⁴ *Supra* 101 and 149.

4. The subjunctive *λελύκω* and the optative *λελύκοιμι* naturally called for a pluperfect **ἐλέλυκον*. This formation is rare in texts and is exclusively dialectal: *ἐγέγωνε* (he had cried) is found in Homer, *ἐπέφϋκον* in Hesiod. It is easy to understand the influence which it may have had on the creation of false presents like *πεφύκω*, *δεδοίκω* (Theocr. *Syracus.* 58), *ἀνώγω*, *γεγώνω*, etc.¹

II. *Middle*.—In the middle the pluperfect is strictly the augmented tense of the present, and calls for no further remark: *ἐλελύμην*, *ἐλελείμην*, etc. Latin supplies its place by a periphrasis: *vīsus eram*.

§ 2. Other Moods.

The Greek pluperfect, being merely the augmented tense of the perfect, has no other moods than the indicative (cf. *supra* 281). Latin formed through analogy (*supra* 150) a tense called pluperfect subjunctive, *lēgissem*, *amāvīsssem*, periphrastic in the middle voice, *vīsus essem*, *secūtus essem*.

SECTION VIII.

VERBAL NOUNS.

(299) 1. *Supine, active and passive* (Latin): *vīsum vīsū*, *lēctum lēctū*.—These are respectively the accusative and ablative of a stem in *-tu-*,² the meaning of which may be either active or passive.³ Of course custom alone, not the form of the case, caused the differentiation of meaning between these two forms.

2. *Future Participle active* (Latin): stem in *-tūro-*, *lēctūrus*, *vīsūrus*, related to nouns denoting agent.⁴

3. *Verbal in -to-* (Latin and Greek), past participle, in Greek usually passive, in Latin passive in active verbs and active in deponents, used secondarily in Greek to express the idea of possibility: *λεκτός* (said or able to be said), *ρήκτός* (broken or

¹ Cf. *supra* 89, VI in fine.

³ Cf. *supra* 282, III, 3

² *Supra* 119, 158, and 204, 6.

⁴ *Supra* 121, 6

breakable); *lēctus*, *frāctus*, *vīsus*, *secūtus*, *solitus*, *intuitus*, etc.¹

4 *Verbal in -río-* (Greek), future participle passive denoting obligation: *λεκτέος* (to be said), etc.²

5. *Verbal in -ndo-* (Latin), with the same function as the last formation: *legendus*, *sequendus*, etc.³

6. *Gerundives* (Latin): respectively the genitive, dative, ablative and accusative of the preceding stem: *dissimulandī causā*, *operam dare quaerendō*, *vīrēs acquirit eundō*, *inter cēnandum*, etc.⁴

¹ *Supra* 117 and 158.

² *Supra* 137, 156, and 171.

³ *Supra* 133, 156, and 169.

⁴ *Supra* 115, 5.

CONCLUSION.

(300) Here our comparative study of Greek and Latin comes to an end. We have surveyed in all its divisions the grammar, properly so called, of both languages, stating in each case the correlations and divergencies. We have almost always been able to account for these, by bringing them back historically and logically to two principles, as simple in their character as they are constant in their application: the agreement, based upon phonetic laws which are absolutely inviolable, goes back to a common origin; the divergence arises from the particular development of each language when left by itself, and in this development itself the essential factor is linguistic analogy, which is a special form of the association of ideas. Is it necessary at this point to warn the reader that this book cannot be a dictionary, and that many derivative or grammatical forms have had to be purposely excluded from an introduction which it was important not to make unduly long or complicated? Among these forms there are many which the student, with a little reflection and with the help of the method into which we have striven to initiate him, will be able to explain by himself without difficulty. On the other hand, there are some problems of this kind, very few, let us hope, before which he will be brought to a standstill; there are some of which we could not have given him the solution, because in the present stage of the science they are insoluble, and perhaps will always remain so. These details are of little importance. The essential point is that, alike in their general outlines and in their fundamental framework, Greek and Latin should appear to us to be really identical, not because of superficial and ill-observed resemblances, but because of characteristics which the minutest analysis only serves to bring out in a yet stronger light, and

because of the very essence of their nature ; that every grammarian, however vast or however limited his horizon, should, in order to survey it, arm himself with a scientific and precise method, which may defend him from arbitrary comparisons and hasty conclusions ; that, lastly, a clear, exact and fruitful idea of the evolution of language should take the place, in the minds of our students, of the imaginary entities and etymological fancies of former times

INDEX OF WORDS.

N.B.—This index does not include, as a general rule: (1) nominal forms other than the nominative singular, and verbal forms other than the 1st pers. sing. of the present indicative (except in cases which have a special interest); (2) the compounds which will be found in the chapter on composition (175 ff.); (3) secondary and tertiary derivatives, etc., which must be sought under their respective endings in the index of terminations.

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