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COMPARATIVE GRAMMAR.

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## A COMPENDIUM

OF THE

## COMPARATIVE GRAMMAR

OF THE

# IND0-EUROPEAN, SANSKRIT, GREEK AND LATIN LANGUAGES. 

BY<br>\section*{AUGUST SCHLEICHER.}

## TRANSLATED FROM THE THIRD GERMAN EDITION

BY
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## TRANSLATOR'S PREFACE.

This book is a translation of those parts of Schleicher's 'Compendium der vergleichenden Grammatik der Indogermanischen sprachen' which treat directly of the Indo-European original language, Sanskrit, Greek, and Latin: it was undertaken for the use of students of Greek and Latin Philology, on the suggestion of Mr. Peile, M.A., of Christ's College, Cambridge, to whom I am indebted for several hints and corrections. My thanks are due to Herr Gustav Voigt also, for help kindly given.

I shall be glad if readers will point out any mistakes in the translation.

Herbert Bendall.
Liverpool College, Oct. 1874.

## PREFACE TO THE FIRST EDITION.

This work is meant to be an elementary handbook for lectures and self-instruction. The want of such a work has been hitherto widely felt. The state of IndoEuropean Philology is now such that it has become possible to write a compendium of the comparative grammar of the Indo-European languages. After we have discarded that part which is still doubtful, there remains a large store of knowledge, embracing the different sides which language offers to scientific treatment: this knowledge will, in my opinion, stand unshaken for all time. The chief object of a compendium of the Indo-European languages is to collect and arrange in a short and appropriate form, and yet in an intelligible manner, these results of Indo-European Philology. Where, hawever, it is impossible to avoid mentioning what is obscure and doubtful, it will be expressly characterized as such.

It is no slight task to compose a first handbook of this kind treating of the formation of the Indo-European languages: whether the writer of the present work has succeeded in temporarily satisfying the want, others must decide; but he begs them to take it into consideration that his book is a first essay in the direction pointed out.

The following account of the origin of my book may to some extent at least show that I have honestly encountered the difficulties of the task.

I have been Academical Professor for fifteen years, and have lectured on Indo-European grammar from the outset; partly sketching out grammars of particular Indo-European languages, from a philological point of view, partly writing a grammar of the languages which collectively form a speech-stem, i.e. a so-called Comparative Grammar. To infer from the number of hearers whom even these latter lectures attracted, and from the perseverance and attention with which I was listened to, they must have treated the subject in a manner intelligible to beginners. I have remodelled my notes more than once. It was a real pleasure to work for my hearers and pupils here: I am indebted to their encouragement and participation for the heartiness with which I undertook the complete re-arrangement of my treatise on Comparative Grammar of Indo-European languages, which I had delivered in two sets of halfyearly lectures.

In these lectures on Indo-European grammar I felt the want of a printed elementary treatise, which should offer in the most appropriate way the necessary examples and comparative tables. Dictating, and continually writing on the black board, is wearisome both to hearers and to the lecturer. Hence the thought first occurred to me of having my paper multiplied in MS. for the use of my pupils. And from this arose by degrees what I have now completed, the composition
of a compendium especially for beginners. This book is therefore my notes repeatedly revised, and this is the point of view from which I desire it to be used and criticized.

It is to be understood that in my lectures I did not confine myself to the matter in the notes; what is printed here is merely that part which I used to dictate. Enlargements on particular points and excursus by the way I have never denied myself. Those who make use of this compendium will perhaps take this into consideration. The attempt to reduce the compass of the book to the narrowest limits possible made it a necessity to banish from it all discussions as regards different views. Generally I have attempted, whenever I could, to arrange the facts in such a way that they carried their proofs with them : moreover, the materials are so copious that even in the lectures it is difficult to find time for a controversial statement of details.

Circumstances unfortunately compelled me to finish the last preparation of the MS. for a printed compendium in a short time: but I hope that I have nevertheless written a useful book.

The design and execution of my work must speak for themselves; to discuss these points here would occupy too much space, and lengthen the compass of the preface to excess.

August Schleicher.

[^0]
## ABBREVIATIONS.

| A.S. | Anglo-Saxon | mom. | momentary |
| :--- | :--- | :--- | :--- |
| acc. to | according to | N.H.G. | New High German |
| bef. | before | O.Bulg. | Old Bulgarian |
| bes. | beside | O.H.G. | Old High German |
| betw. | between | origl. | original Indo-European |
| caus. | causative |  | language |
| comb. | combination | partt. | particles |
| dial. | dialect | Pol. | Polish |
| diall. | dialects | $\sqrt{ }$ | root |
| ex. | example | Scl. | Sclaronic |
| exx. | examples | sf. | suffix |
| f.f. | fundamental form | sff. | suffixes |
| fm. | form | st. | stem |
| fmn. | formation | stt. | stems |
| inscrr. | inscriptions | termn. | termination |
| M.H.G. | Middle High German. | unacc. | unaccentuate |
| Asterisk $*$ | indicates that the form does not occur. |  |  |

The other abbreviations explain themselves.

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## ERRATA.



## INTRODUCTION.

I. Grammar forms one part of the science of language : this science is itself a part of the natural history of Man. Its method is in substance that of natural science generally; it consists in accurate investigation of our object and in conclusions founded upon that investigation. One of the chief problems of the science of language is the inquiry into, and description of the classes of languages or speech-stems, that is, of the languages which are derived from one and the same original tongue, and the arrangement of these classes according to a natural system. In proportion to the remainder but few speechstems have hitherto been accurately investigated, so that the solution of this chief problem of the science must be looked for only in the future.
By grammar we mean the scientific comprehension and explanation of the sound, the form, the function of words and their parts, and the construction of sentences. Grammar therefore treats of the knowledge of sounds, or Phonology; of forms, or Morphology ; of functions, or the science of meaning and relation, and syntax. The subject of grammar may be language in general, or one particular language or group of languages; grammar may be universal or special: it will in most cases be concerned in explaining the language as a product of growth, and will thus have to investigate and lay down the development of the language according to its laws. This is its exclusive province, and therefore its subject is the laying-down of the 'life of the language,' generally called historical grammar, or history of language, but more correctly 'science of the life of
a language' (of sound, form, function, and sentence), and this again may be likewise as well general as more or less special.

The grammar of the Indo-European languages is therefore a special grammar: because it treats of these languages as products of growth, and exhibits their earlier and earliest gradations, and would therefore be more accurately called a special historical grammar of Indo-European languages.

Note 1.-By comparative grammar is meant not that grammar which is merely descriptive, but that which throws light on specch-forms as far as possible, because as a rule it is not confined to the treatment of any one particular language.

Note 2.-The following work embraces only two parts, viz. scientific treatment of sounds and of forms. Indo-European function and sentence-formation we are not at present in a position to handle in the same way as in the case of the more external and intelligible branches-sounds and forms.
II. To assume one original universal language is impossible; there are rather many original languages : this is a certain result obtained by the comparative treatment of the languages of the world which have lived till now. Since languages are continually dying out, whilst no new ones practically arise, there must have been originally many more languages than at present. The number of original languages was therefore certainly far larger than has been supposed from the still-existing languages. The easiest preliminary distribution of languages which we can make is suggested by their morphological constitution.

There are-

1. Languages which are simply composed of invariable disjointed meaning-sounds, Monosyllabic, e.g. Chinese, Annamese, Siamese, Burmese. Such sounds we denote by $R$ (radix). The Indo-European language would be in this stage of development when the word ai-mi (I go, $\epsilon i \mu \iota$ ) was sounded not so, but as $i$ or $i m a$ (formula $R$, or $R+r$ ).
2. Languages which can link to these invariable sounds sounds of relation, either before, or after, or in the middle, or
in more than one place at once [denoted here as $s$. (suffix), $p$. (prefix), $i$. (infix)]. These are Confixative languages, e.g. Finnish, Tatar, Dekhan, Basque, the languages of the aborigines of the New World, of South Africa (Bântu), and most languages in fact. In this step of development the word ai-mi would be $i-m a$ or $i-m i$.
3. Languages which for the purpose of expressing relation can regularly vary their roots as well as their confixes (which have sprung from independent original roots), and can at the same time preserve intact the means of compounding. These are Inflexive languages. Such a root as is regularly varied for the end of expressing relation is here denoted by $R^{x}\left(R^{1}, R^{2}\right.$, etc.), a similar suffix by $s^{x}$.

Hitherto we have become acquainted with only two speechstems of this class, the Semitic and the Indo-European. The latter has for all words only one formula, viz. $R^{x} s^{x}\left(s^{x}\right.$ meaning one or more than one regularly variable suffix), and consequently a regularly variable root with a regularly variable expression of relation at the end of the suffix, e.g. ai-mi, $\epsilon i \mu \iota, \sqrt{ } i$.

The Indo-European is therefore a suffix-language, together with the neighbouring languages of the Finnish stem, including Tataric, (Turkish) Mongolian, Tungusian, Samoiedish, as also with the Dravidian (Dekhan)-all included in the formula Rs.

Note 1.-The Semitic, which is not akin to the Indo-European, has inore word-forms, namely $R^{x}$ and $p R^{x}$, forms quite strange to Indo-European, which has only one. Besides, its vowel-system is perfectly distinct from the Indo-European, not to mention other marked differences. Cf. Aug. Schleicher, 'Semitisch und Indogermanisch' in Beitr. ii. 236-244. An attempt to deduce the fundamental language of the Semitic speech-stem has been made by Justus Olshausen in his lehrbuche der hebräischen sprache, Brunswick, 1862.

Note 2.-The augment in Indo-European is no relation-affix, no prefix, but an adherent, though originally independent word, which may moreover be omitted.
III. The life of a language (generally called its 'history') falls under two heads-

1. Development in prehistoric times. As man has developed, so also has his language, i.e. the expression of his thoughts by sounds: even the simplest language is the product of a gradual growth : all higher forms of language have come out of simpler ones, the Confixative out of the Monosyllabic, the Inflexive out of the Confixative.
2. Decline in the historic period. Language declines both in sound and in form, and in its decay changes of meaning take place alike in function and construction of sentences. The transition from the first to the second period is one of slower progress. To investigate the laws by which languages change during their life is a most important problem in the science of language, for unless we are acquainted with them we cannot possibly understand the languages in question, especially those which are still living.

Through different developments, at different points in the province of one and the same language, the self-same tongue branches out into the ramifications of the second period (whose beginning however is likewise earlier than the origin of historic tradition), and diverges into several languages (dialects) : this process of differentiation may repeat itself more than. once.

All these changes took place gradually and at long intervals in the life of the language, since generally all changes in language unfold themselves gradually.

The languages which spring immediately from an original language we call fundamental; almostevery fundamentallanguage has split up into languages; all these lastnamed languages may further branch into dialects; and these dialects into sub-dialects.

All the languages which are derived from one original-language form together aclass of speech or speech-stem;
these again are sub-divided into families or branches of speech.
IV. The name of Indo-European has been given to a distinct set of languages belonging to the Asiatico-European division of the earth, and of a constitution so consistent internally, and so different from all other languages, that it is clearly and undoubtedly derived from one common original language.

Within this Indo-European class of speech however certain languages geographically allied point themselves out as more closely related to one another : thus the Indo-European speechstem falls into three groups or divisions.

These are:

1. The Asiatic or Aryan division, comprising the Indian, Iranian (or more correctly Eranian), families of speech, very closely allied to one another. The oldest representative and fundamental-language of the Indo-European family, and generally the oldest known Indo-European language, is the OldIndian, the language of the oldest portion of the Vêdas; later on, after it had become fixed in a more simplified form, and subject to certain rules, as a correct written language, in opposition to the peoples' dialects, called Sanskrit. We are not acquainted with Eranian in its original form: the oldest known languages of this stem are the Old-Baktrian or Zend (the Eastern), and the Old-Persian, the language of the Achaimenid cuneiform inscriptions (the western). To this family besides is related the Armenian, which we know only from a later date, and which must have branched off even in early times from the Eranian fundamentallanguage.
2. The south-west European division, composed of the Greek, next to which we must perhaps place the Albanian, preserved to us only in a later form; Italian (the oldest known forms of this language are the Latin,-especially important for us is the Old-Latin, as it was before the in-
troduction of the correct literary language formed under Greek influence, -the Umbrian and the Oscan), Keltic, of which family the best known, though already highly decomposed, language is the Old-Irish, Erse dating from 700 a.d. Italian and Keltic have more in common with one another than with the Greek.
3. The North-European division, composed of the Sclavonic family with its closely-allied Lithuanian, -the most important language for us of this group,-and the German, widely separated from both. The oldest forms of this division are the Old-Bulgarian (Old Church-Slavonic in MSS. dating from 1100 a.d.) : the Lithuanian (and of course the High-Lithuanian, South-Lithuanian, Prussian Lithuanian), first known to us 300 years ago, but clearly of far greater antiquity, and the Gothic from the fourth century. Beside the Gothic, however, are the oldest representatives of German and Norse, Old-High-German, and Old-Norse, which we may bring forward when they present earlier forms than Gothic.

The greatest number of archaic particulars in point of sounds and construction of language is found in the Asiatic division, and within it, in the Old-Indian ; next in point of archaicisms (i.e. preservation of similarity to the original language, by having fewer strongly-developed and peculiar forms) comes the S.W.-division, in which Greek is found to be most faithful ; and lastly the N.-European group, which, if regarded as a whole, may be shown to have the most characteristic development, and to be the least faithful to the original language.

By combining these facts with the above-named relationships of the Indo-European languages, and drawing inferences as to the process of separation of the Indo-European body of language in ancient times, we get the following result: The Indo-European original language differentiates first, through unequal development in different parts where it prevailed, into
two fundamental-languages, viz. the Sclavo-Teutonic, which afterwards divided itself into Teutonic and Sclavo-Lithuanian, and the Aryo-Graeco-Italo-Keltic, the remaining portion of the Indo-European language, which divided itself into Graeco-Italo-Keltic and Aryan ; and the Graeco-Italo-Keltic soon split up into Greek and Italo-Keltic, while the first, the Aryan, remained undivided for some time. Later still the SclavoLithuanian, the Aryan (Indo-Eranian) and Italo-Keltic, further divided themselves. It may be that at most or at all of the divisions there arose more languages than we now know of, since probably many Indo-European languages have died out through lapse of time. The further eastward an Indo-European people lives, the more archaicisms are found in its language: the further westward they have gone, the fewer archaicisms, and the more numerous new-formations are found in the language. From these and other indications we infer that the Sclavo-Teutonic race first began its wanderings westwards; next followed the Graeco-Italo-Keltic ; and of the Aryans who remained behind, the Indians journeyed south-eastward, the Eranians south-westward. The home of the Indo-European original race must be sought in the highlands of Central Asia.

It is only of the Indians, who were the last to leave the parent stem, that it is quite certain that they expelled an aboriginal race from their later dwelling-place, a race of whose language much passed into their own: a similar process is highly probable in the case of many other Indo-European peoples.

The most ancient divisions of the Indo-European, up to the origin of the fundamental languages belonging to the families of speech formed from the speech-stem, may be seen in the following table (see next page). The length of the lines shows the duration of the periods, their distances from one another, the degrees of relationship.

Note.-In the present work an attempt is made to set forth the inferred Indo-European original language side by side with its really existent derived languages. Besides the advantages offered by such a plan, in setting immediately before the eyes of the student the final results of the investigation in a more concrete form, and thereby rendering easier his insight into the nature of particular Indo-European languages, there is, I think, another of no less importance gained by it, namely that it shows the baselessness of the assumption that the nonIndian Indo-European languages were derived from Old-Indian (Sanskrit), an assumption which has not yet entirely disappeared. This view has found supporters up to the present date, especially as regards Old-Baktrian (Zend). The term 'Sanskritist,' not seldom applied to Indo-European philologers (meaning that we concede to Sanskrit a position which it does not deserve, by deriving other languages from Sanskrit, or explaining them by it, instead of studying them fundamentally), is likewise shown to be quite inapplicable by the plan employed in the Compendium. The disadvantage of having in certain cases Indo-European original forms iuferred which are more or less doubtful, does not weigh at all against the advantages which, according to our view, are attained by the arrangement of the subject used hereafter.

A form traced back to the sound-grade of the Indo-European original language, we call a fundamental-form [f.f.] (e.g. Lat. generis, f.f. ganasas; Gk. yévous, f.f. ganasas). Hence it is only when forms of different sound-grades are brought to one and the same sound-grade, that we can compare them with one another. When we bring forward these fundamental-forms, we do not assert that they really were once in existence.


## G R A M M A R.

## PHONOLOGY.

## A. VOWELS.

## INDO-EUROPEAN ORIGINAL-LANGUAGE.

Since in the citation of examples we make use not only of vowels but also of consonants, before we treat of the vowels we proceed to set forth a table of the speech-sounds collectively, arranged according to the physiology of sound, followed by the necessary remarks upon pronunciation, etc.

Table of the Sounds of the Indo-European Original Language,
i.e. those sounds from which arose the sounds of the different Indo-European languages, according to the laws of soundchange which come into play during the life of a language, and to which accordingly, they may be traced as to a common source.

| consonants. |  |  |  |  |  | vowels. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| momentary sounds. |  |  | prolonged sounds. |  |  | $\left.\left.\frac{a}{i}\right\}\right\} \begin{aligned} & a a, \bar{a} a \\ & a i, \bar{a} i\end{aligned}$ |  |
|  | unaspirated. mute sonant | aspirated. sonant | SPIRANTS. mute sonant | nasals. | $\begin{array}{\|c} r-\text {-sound. } \\ \text { sonant } \end{array}$ |  |  |
| Gutt. | $k \quad g$ | $g h$ |  |  |  |  |  |
| Pal. |  |  | $y$ |  |  |  |  |
| Ling. |  |  |  |  | $r$ |  | $a u, \bar{a} u$ |
| Dent. | $t \quad d$ | $d h$ | $\delta$ | $n$ |  |  |  |
| Lab. | $p \quad b$ | $b 7$ | $v$ | $m$ |  | $u$ |  |

§ 1. Note 1.-The three aspirates and the vowel-diphthongs with $\bar{a}$ (thus $\bar{a} a, \bar{u} \bar{i}, \bar{a} u$ ) probably were wanting at an earlier period in the life of the Indo-European original language ; in the most archaic state of the language, while it was yet uninflected, all the vowel-diphthongs were absent.

Thus the Indo-European original language probably possessed six momentary sounds, viz. three mutes, and three sonants; six consonantal prolonged sounds, viz. three spirants, and three socalled liquids, i.e. the two nasals $n, m$, and $r$ ( $l$ is a secondary offshoot of $r$ ), and six vowels. At a later period, shortly before the first separation, there were nine momentary, and nine vowel-sounds. We must not overlook the numerical proportion belonging to the number of sounds.

Note 2.-Sonants (or medials) are those consonants in whose production the glottis gives a simultaneous sound: this is the case with all nasals and $r$ - and $l$-sounds, whilst the momentary consonants and spirants can be pronounced with or without the accompaniment of the vocal-sound. Sonants thus have something of the vowel in their composition. The aspirates are double sounds; both sounds of which they consist, the preceding momentary consonant and the subsequent aspiration, must be heard in pronunciation.

Note 3.-The momentary consonant which precedes the pronunciation of an initial vowel-the so-called spiritus lenis, the aleph or hamza of the Semitic,-which is formed by the sudden separation of the vocal chords, should properly be represented here and in the other languages in the tables, and expressed by a special character (perhaps', after Gk. analogy). It is a consonant sound produced in the larynx alone, and must therefore be placed in a laryngal class of sounds (to which $h$ also belongs, v. post. §4). Nevertheless I have ventured to abide by the majority of Indo-European spelling-systems, and to leave this sound uncharacterized.

## Vowels of the Indo-European Language.

| Fundamental vowel. | 1st Step. | 2nd Step. |
| :---: | :---: | :---: |
| 1. $a$-scale $a$ | $\mathrm{a}+\mathrm{a}=a a$ | $\mathrm{a}+\mathrm{aa}=\bar{a} a$ |
| 2. $i$-scale $i$ | $\mathrm{a}+\mathrm{i}=a i$ | $\mathrm{a}+\mathrm{ai}=\bar{a} i$ |
| 3. $u$-scale $u$ | $\mathrm{a}+\mathrm{u}=a u$ | $\mathrm{a}+\mathrm{au}=\bar{a} u$. |

Note 1.-The second step occurs in the Asiatic, SouthEuropean, and North-European divisions of the Indo-European languages, and therefore in all probability traces its existence
from the original language, though the separate languages often $\S 2$. disagree in its use.

Note 2.-aa and $\bar{a} a$ were perhaps even in early times both compressed into $\bar{a}$. But at the same time the two $\bar{u}$ s which thus arose are distinguished from one another, e.g. in Greek and Gothic $\bar{a}$ of the 1st is distinguished from $\bar{a}$ of the 2nd step. Notwithstanding that the earliest Indian and the Zend seem to bear evidence against the contraction of both as, we have placed throughout hereafter an $\bar{a}$ for $a a$ and $\bar{a} a$ in original IndoEuropean words, chiefly because it would be impossible to distinguish always between a 1st and a 2nd step-form.
$a$, the commonest vowel, constitutes a class by itself ; $i$ and $u$ are by nature very similar, and are fundamentally different from $a$. $i$ and $u$ have the consonants $y$ and $v$ as collateral relations, and frequently as representatives, whilst $a$ cannot pass into any consonantal sound, and has therefore the vowel-nature in a higher degree than the more consonantal sounds $i$ and $u$. $a$ is by far the most frequent vowel in the Indo-European language, occurring more often than $i$ and $u$ taken together.

Each vowel can move in its own scale only: this takes place in the root itself for the purpose of expressing relation : the vowels in stem-formative and word-formative suffixes likewise are capable of step-formation, since these suffixes themselves have arisen from roots originally independent. The funda-mental-form of the root is always to be cited with the fundamental vowel. Before two consonants the step-formation does not take place; the fundamental vowel $a$ (never $i$ or $u$ ) is found in all roots which end in two consonants.

The essence of inflexion depends upon the vowel-system.
Vowel-lengthening must not be conceded to the original language as being of secondary origin.

Note.-Even where the correspondence between different Indo-European languages seems to point to a greater antiquity in the lengthening (e.g. in many nom. sing. as Sk. pitắr (s), Gk. $\pi a \tau \eta{ }^{\prime} \rho$, Old-Lat. patēr, Goth. fadar, i.e. *fathār ; Sk. dúrmanās, Gk. $\delta v \sigma \mu \epsilon \nu \eta^{\prime} ;$ Sk. $\dot{a} c ̧ m a ̈, ~ G k . ~ \pi o \iota \mu \dot{\eta} \nu$, Lith. akmil, Lat. homō,
§ 2. Goth. guma, i.e. ${ }^{*}$ gumä $)$ we believe that we see an unoriginal phenomenon, which suitably to the nature of the case did not become developed in the different Indo-European languages till after their separation from the original language (not unfrequently the conformity is wanting even in this particular, cf. Sk. bháran, Gr. ф'́ $\rho \omega \nu$, Lat. ferens, Goth. bairands, Sclav. bery). In the original language we can cite here only the pure fundamental forms, i.e. the word preserved perfectly intact as regards all its parts (thus, e.g. patars, dusmanass, akmans).

## Examples.

1. $a$-scale.
$v a k-m i(1 \mathrm{sg}$. pres.), $\sqrt{ }$ vak (speak), $v a-\imath \bar{a} k-m a(1 \mathrm{sg} . \mathrm{pf}),. ~ v \bar{a} k-s$ (uox); bhar-ämi, ba-bhar-mi (I bear), bhar-ta-s (borne), $\sqrt{ }$ bhar (bear), ba-bhär-ta (3 sg. pf.), bhār-a-s (burden), bhār-aya-ti (3 sg. pres. caus, vb. ; форє $\hat{\imath}$ ) ; da-ta-s, da-tā (datus, data), $\sqrt{ } d a$ (give), $d a-d \bar{a}-m i(1 \mathrm{sg}$. pres.) ; $d h a-t a-s, d h a-t \bar{a}$ (past part. pass. n. sg. m. f.), $\sqrt{ } d h a$ (set), $d a-d h a \bar{a}-m i(1 \mathrm{sg}$. pres.), etc.
2. $i$-scale.
$i$-masi (1 pl. pres.), $\sqrt{ } i$ (go), ai-mi (I go); vid-masi ( 1 pl. pres.), $\sqrt{ }$ vid (see, know), vaid-mi (I see), vaid-aya-ti (3 sg. pres. caus. vb.), vi-vāid-ma (pf.) ; $\sqrt{ } d i v$ (shine), div-am (acc. sg. wordst. $d i v$, light, bright sky, $Z \epsilon u ́ s$ ), daiv-a-s (shining, diuos, deus), etc.
3. $u$-scale.
bhug-na-s (past part. pass.), a-bhug-am (1 sg. aor.), Vbhug (bend), bhaug-ämi ( 1 sg. pres.) bu-bhāug-ma ( 1 sg. pf.) ; yug-a-n (iugum), $y u g-t a-s$ (iunctus), $\sqrt{ } y u g$ (iungere), $y u-y a ̄ u g-m a(1 \mathrm{sg}$. pf.), etc.

Note.-The agreement of Greek and Gothic proves the 2nd step in pf.; $\pi$ 白 $\phi \in u r a$ gives no evidence against the 2 nd step, but is a Graecism for ${ }^{*} \pi \epsilon \epsilon \notin o u y a$; cf. forms like $\lambda \epsilon \in-\lambda o \iota \pi-a, \sqrt{ } \lambda \iota \pi$, which therefore would lead us to expect ov here, because $\epsilon \iota$ corresponds to $\epsilon v$; v. sub Greek vowel-system.
§ 3.
Vowel Sound-laws
(i.e. influence of vowels and consonants on vowels) were not existent in the original Indo-European language.

A meeting of several vowels occurs but seldom, since hitherto
no consonants have been elided, and prepositions, like separable § 3 . adverbs, stand before their verb. Nevertheless, if two vowels do come into contact with one another in consequence of wordformation, hiatus perhaps occurred in the most original state of the language ; in early time, however, $a$ may have become fused with following vowels: thus probably $i$ (and $u$, but examples are wanting) after $a$ becomes combined with it into a diphthong, in cases like blarait ( $3 \mathrm{sg} . \mathrm{opt}$ ), $\sqrt{ }$ bhar (bear), pres. st. bhara-, $i$ is the sign of the opt. ; the opt.-st. is thus bharai-, $t=\mathrm{sf}$. of 3 sg . But the sequence of two vowels, of which the former is $i$ or $u$, will not be considered as a hiatus, e.g. $i$ and $u$ (so also ai, $\bar{a} i, a u$, $\bar{a} u$ ) remain unchanged before other vowels, as $i$-ant $i$ ( 3 pl. pres. $\sqrt{ } i$, go), $k u$-kru-anti ( 3 pl . pf.) krau-as (neut. the hearing, $\sqrt{ } k r u$, hear).

Note.-The earliest Old-Indian points clearly to the nonavoidance of hiatus between $i, u$ (and the diphthongs which have these vowels as their key-elements), and following vowels. We may nevertheless suppose that iyanti, kukruvanti, krauvas were pronounced, i.e. that $i$ and $u$ before vowels split up into $i y$, $u v$, as this pronunciation almost arises from them.

## SANSKRIT.

Tabular View of Sanskrit Sounds.
§ 4.

| consonamts. |  |  |  |  |  | vowels. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| momentary. |  |  | prolongrd. |  |  | $\left.\frac{a^{a}}{i_{\bar{\imath}}}\right\} \quad e \bar{a} \hat{a} i$ |  |
|  | UNASPIRATED. mute sonant | $\begin{aligned} & \text { ASPLRATED. } \\ & \text { mute sonant } \end{aligned}$ |  |  |  |  |  |
| Gutt. | $k \quad g$ | kh ${ }^{\text {gh }}$ | $h$ | $\dot{n}$ |  |  |  |
| Pal. | $k^{\prime} \quad \dot{g}$ | $k^{\prime} h \quad g h$ | ¢ $y(j)$ | n |  |  |  |
| Ling. | $t \quad d$ | $t h \quad d h$ | s | $n$ |  | $r \bar{r} l$ | $\} \bar{a} \bar{u} u$ |
| Dent. | $t \quad d$ | th $d h$ | $s$ | $n$ |  |  |  |
| Lab. | $p \quad b$ | $p h \quad b h$ | $v$ | $m$ |  | $u \bar{u} \quad$ d |  |

§4. The nasalised pronunciation of vowels (as Fr. en, on) is indicated by $\sim^{\sim}(\tilde{a}, \tilde{\imath}$, etc.) : this pronunciation arises through the change of a following nasal consonant according to soundlaws.

The accented syllable is marked ${ }^{\prime}$.
Note 1.-If we compare the above table with the table of Indo-European sounds in § 1, we shall find that the sounds collectively existed in the original language likewise ( $\bar{e}=$ original $a i, \bar{o}=$ original $a u$ ), but in addition to them we shall see a number of very similar unoriginal sounds, which have arisen from those original sounds according to the laws of language, and now stand side by side with them.

Note 2.-The doctrine of the Sanskrit alphabet belongs to Sanskrit special-grammar, as an appendix to the sound-rules.

Pronunciation. Known to us through the Hindu, which is on the whole a very good representative, and by means of the physiology of sounds, and the history of language.

The remarks on the pronunciation of the aspirates in § 1 hold good here also: they are distinct double sounds, and the $h$ must be made audible after the momentary sounds.

We are accustomed to pronounce the momentary palatals $k, \dot{g}, k^{\prime} h, g^{\prime} h$, like $t s c h, d s c h$, or, more accurately, like French $d j$, $t s c h h, d j h$, a pronunciation which is correct only for a later state of the language; in the earlier period the correct pronunciation of $k$ and $\dot{g}$ would be a close blending of $k y, g y$-almost like $k, g$, in German kind, gieng (in the case of the aspirates the aspiration is still naturally added). Our pronunciation of these sounds is nevertheless clumsy (especially before other sounds than $i, e$ ), and we therefore willingly abide by the somewhat incorrect traditional pronunciation, i.e. momentary dental + lingual spirant.
'Lingual,' for want of a better term, is used for that part of the mouth between the palate and the teeth. The momentary linguals are sounds like $t$ and $d$, except that they are produced not by the teeth, but much further back towards the palate:
to effect this the tongue must be bent backwards: these sounds are called by the Hindus 'head-sounds' (which has been mistranslated 'cerebral'): in the conventional European pronunciation they are not distinguished from the dentals.

Of the spirants, the exact pronunciation of ${ }_{o}^{\circ}$ (a variation fr. $s$ acc. to sound-laws) is not known; it has no equivalent in sound : we pronounce it either as $h$ or not at all.
$h$ is always audible and equivalent to a sonant, and is therefore like our $h$, but must, however, be sounded emphatically. The $h$ is a fricative noise formed in the upper part of the larnyx, and belongs (like', § 1, Note 3) to the class of laryngal consonants. For convenience, here and in the other languages where it makes its appearance, we have placed it amongst 'Gutturals.' $h$ can be produced either with or without vibration of the vocal chords, i.e. as a sonant or as a mute.
$\varsigma$ must be pronounced like $y$, but without its accompanying vocal-sound, and probably somewhat more sharply (with closer contraction of the organ), perhaps like ch in sichel; the conventional pronunciation as a sharp $s h$ is wrong, and must be avoided; $\varsigma$ has nothing in common with $s$.
$s^{\prime}=$ Germ. sch, Fr. ch.
Nasals. $\dot{n}$ is the guttural nasal, and must therefore be pronounced like Germ. $n$ in enkel, or $n g$ in lange ; $n$ is the pal. nas., which must have been sounded as a close blending of $n y$ (as Fr . $g n$ in campagne) ; $n$, the head-nasal, takes the place of formative $n$, where $t$ or $d$ follows: our pronunciation of it is unsuccessful, for we usually confuse it with $n$.
$r$ and $l$ as vowels are perhaps sounded as in Germ. hadern, handeln, pronounced with an inaudible $e$ as $e r, e l$; the existence of a strong vowel-sound in vowel $r$ is expressly attested by Hindu grammarians (Benfey, Or. und Occ. iii. 25 sqq.). $\bar{r}$ is $=$ long $r$, and should therefore be distinguished from it by a more prolonged pronunciation. Also $r$ before consonants was pronounced as a consonant, with a strongly perceptible vibration of
the chords (as in other languages, especially in Zend), which even appears in spelling as a perfect vowel ( $a, i$ ) after $r$. (Benfey, ib. p. 32.)

Note.-The Bohemian likewise has $r, l$, as vowels; the Slovack dialect has, moreover, the long form of each sound.

## Sanskrit Vowels.

Of special importance are the change of $a$ to $i, \bar{i}$, and $u, \bar{u}$, and its total loss (the latter rarely happens in the case of the other vowels). In the latter cases $r$ and $l$ after consonants form syllables, and count as vowels ; $r$ is then even capable of being lengthened to $\bar{r}$ (as $i$ and $u$ to $\bar{i}$ and $\bar{u}$ ).

Besides short $i$ and $u$, Sanskrit has further their unoriginal lengthenings $\bar{i}, \bar{u}$; $a i$ and $a u$ have been compressed into $\bar{e}$ and $\bar{o}$ (through approximation of $a$ to $i$ and $u$, whereby it became $e$ and $o$; and through a further like assimilation of $i$ and $u$ to $a$, which thus passed into the same vowels $e$ and $o$; from $e e$, oo $\operatorname{arose} \bar{e}, \bar{o})$.

Here for the first time we are met by a very important law affecting the life of a language-the law of assimilation (partial and total), and by the no less frequent 'vowel-weakening,' a favourite change, especially in the case of $a$. The vowel-scales of the Sanskrit are now therefore as follows:-

Weakening. Fund.-vowel. 1st Step. 2nd Step.

| 1. $a$-scale loss $; i, u ; \bar{i}, \bar{u} ;$ | $a$ | $\bar{a}$ | $\bar{a}$ |  |
| :--- | :--- | :--- | :--- | :--- |
| 2. $i$-scale | $i$ | $\bar{e}$ | $\bar{a} i$ |  |
| 3. | $u$-scale | $u$ | $\bar{o}$ | $\bar{a} u$ |

Note. The $a$-scale is thus enriched by one member: a negative step-formation (i.e. the weakening) has thereby placed itself in a parallel line with the positive.

## Examples.

1. $a$-scale.

The weakening occurs principally through the influence of the accent; a similar influence is likewise exercised by assimi-
lation to $i, u$ of the following syllable，or the preceding con－$\S 6$. sonant has an effect equivalent to this assimilation．

Loss of $a$ occurs most frequently before $r$ ，also after $r$ ，in which cases $a r$ and $r a$ followed by a consonant become vowel $r$ ； in parallel cases $a l$ becomes vowel $l, v a=u, y a=i$ ；loss of $a$ is however by no means confined to these instances．

Examples of complete loss of $a$ are：
$r=a r ; \sqrt{ } b h a r$（bear，pres．bhár－āmi，申＇́ $\rho \omega$ ，fero），bhr－tá－s（n．sg． masc．part．perf．pass．）；$\sqrt{ } k a r$（make， 3 sg．pres．kar－ōti），krt－á－s （made），$k a-k r-m a ́ ~(1 ~ p l . ~ p f.) ; ~ \sqrt{ }$ mar（mori），mrt－á－s（mortuos， $\left.\beta \rho o \tau o ́ s={ }^{*} \mu \rho o-\tau o-\varsigma\right)$ ；st．mä－tár－（ $\mu \eta \tau \epsilon \in \rho-$ ，mater），mäa－tŕ－bhyas （matribus），$m \bar{a}-t r-s-s u$（ $\mu \eta \tau \rho a ́ \sigma \iota$ ），etc．

This $r$ is subsequently treated acc．to analogy of the other vowels，and thus is also lengthened；e．g．acc．pl．mā－t⿳亠丷厂彡⿱丆贝⿴囗⿱一一儿丶－s （matres，$\mu \eta-\tau \epsilon ́ \rho-a \varsigma$ ），$d \bar{a}-t \frac{1}{r}-n$（datores，$\delta o-\tau \hat{\eta} \rho-a \varsigma$ ），st．d $d \bar{a}$－tár－（dator， ठoт $\eta_{\rho}$ ）．
$l=a l$ occurs only in $\sqrt{ }$ kalp（ 3 pres．med．kálp－a－tē，keep one－ self right，succeed），which stands for original karp（v．＇Con－ sonants＇），$k l p-t a ́-s$（n．sg．masc．past part．pass．）．
$r=r a ; p r k^{\prime} h-\dot{a} t i(3 \mathrm{sg} . \operatorname{pres}),. \sqrt{ }$ prak＇h（pray，cf．Goth．frah， Lat．prec，e．g．in prak－šyáti， 3 sg．fut．）；prth－ù－s（broad），$\sqrt{ }$ prath （cf．$\pi \lambda a \tau-\dot{v}-\varsigma$ ，Lith．plat－ù－s），etc．

Note．－The Hindu grammarians treat $r, l$ ，as fundamental vowels，ar，al，as their first step－formations．As a vowel of the first step it is generally $=a$（for it often stands parallel to $\bar{e}, \bar{o}$ ， also），in the second it is perfectly $=\bar{a}$ ．The first step is called by the Hindu grammarians gundés（masc．＇quality＇），the second step $v$＇rddhi－s（fem．＇increase，＇$\sqrt{ }$ vardh，to increase，fmd．with sf． $t i$ ，expressions which have often been introduced into European works ou language．

Loss of $a$ ，without admitting vocalisation of consonants，occurs not only before other consonants，but also before $r$ ，which is capable of being vocalised，in those cases where a vowel follows $r$ （from ar）；in which case，as in all others where $a$ is lost before a consonant，the latter alone remains．Examples：$k^{\prime} a-k r \frac{1}{e}$
§6. (1. 3. sg. pf. med.), $\sqrt{ } k a r$ (make), for ${ }^{*} k^{\prime} a-k a r-\bar{e}$, and this fr. 1. *ka-kar-mē, 3. *ka-kar-tē; k'k-kr-ús (3. pl. pf. act.), fr. ${ }^{*} k a-k a r-a n t i$.

Loss of $a$ before other consonants, e.g. ga-ghn-ús (3. pl. pf.), $\sqrt{ }$ han, ghan (kill), for ǵa-ghan-ús (sg. ǵga-ghắn-a); ǵa-gm-ús (3. pl. pf.), $\sqrt{ }$ gam (go), for *'ga-gam-us (sg. ǵa-gắm-a); s-ánti (3. pl. pres.), $\sqrt{ }$ as (esse), for *as-anti (as $s$-unt for ${ }^{* e s-u n t) ; ~ s-y a ́ t i ~}$ (e.g. in $v y$-ava-syáti, he determines), for *as-yati, $\sqrt{ } a s$, $s a$, so too $\varsigma$-yáti for *aç-yati, f.f. *ak-yati, $\sqrt{ } a c ̧, ~ c ̧ a ~(a c u e r e) ; ~ a ́-p a-p t-a t ~(3 . ~$ sg. aor.) for ${ }^{*} a-p a-p a t-a t, \sqrt{ } p a t$ (fall, fly, $\pi \tau-\epsilon \in \sigma \theta a \iota$ ), etc.
$u=v a$ ( $a$ is lost and $v$ becomes $u$ ); uk-tá-s (n. sg. masc. past part. pass.), $\sqrt{ } v a k$ (speak, 3. sg. pres. vák-ti), $u-$-ááki-a (3. sg. pf.) for
 for *a-va-uk'-am (1. sg. aor.), f.f. *a-va-vak-am (Gk. єimov fr. *é- $F \epsilon-F \epsilon \pi-o \nu$ ) ; sup-tá-s (pf. part.), $\sqrt{ }$ svap (sleep ; suáp-iti 3. sg. pres., á-svap-am, 1. sg. aor.); urú-s (wide, $\epsilon \dot{\jmath} \rho u ́ \rho) ~ f o r ~ * ~ r a r u ́-s ~$ (comp. st. várìyãs-, superl. várižtha-), etc.
$i=y a$ ( $a$ is lost and $y$ becomes $i$ ); ǐs- $t \bar{a}-s$ (past part. pass.) for *yag-ta-s, $\sqrt{ } y a g ́$ (offer, worship; 3 sg. pres. yáǵ-ati), i-yáǵg-a
 yag-anti; vidh-yati ( 3 sg. pres.), $\sqrt{ }$ ryadh (wound, slay), vi-vidh-ús ( $3 \mathrm{pl} . \mathrm{pf}$., $3 \mathrm{sg} .=v i-v y \frac{a}{a} d h-a$ ), etc.
§7. Weakening of $a-1$. to $i$ and $u$ occurs before $r$, sometimes with assimilation to vowel of following syllable; weakening of $a$ to $i$ often occurs without influence of following sounds. $u$ in certain cases corresponds to original an, am (the nasal is lost, after dulling the preceding $a$ into $u$ ).

Examples. gir-i-s (mountain), $\sqrt{ }$ gar (be heavy), Zend gairis, both from *gar-i-s (cf. Scl. gor-a, with another st.-termn.); gur-ú-s (heavy), cf. Gk. ßap-ú-s, f.f. of both *gar-ú-s, the original $\sqrt{ } \mathrm{fm}$. gar comes to light only in the Sk. step-forms of this word, e.g. gár-isththa-s (superl. of gurú-s) ; kur-úu (2 imper. act.), $k u r-u$ - $t \bar{e}(3 \mathrm{sg}$. pres. med.), and other like forms of $\sqrt{ } k a r$ (make),-these stand for *kar-u, *kar-utē, etc., whilst the latter again stand for *kar-nu, *kar-nutē, etc. (v. post. 'Rules of Con-
jugation'), kur-más next for *kur-umas, fr. *kar-nu-mas, where, § 7. as in the similar forms, the $u$ which caused the assimilation is lost ; pur-ú-s (many), f.f. and Old-Persian par-u-s, cf. $\pi o \lambda-u ́-\varsigma$, $\sqrt{ }$ par (fill), pur-á-m, pur- $-\frac{1}{\boldsymbol{z}}$ (state), from same $\sqrt{ }$ par, with $a$ changed to $u$ before $r$, without assimilating influence (cf. $\pi o ́ \lambda-\iota-s$, f.f. par-i-s).

Weakening of $a$ to $i$ is frequent, e.g. kir-áti ( 3 sg . pres.), $\sqrt{ } \mathrm{kar}$, pf. $k a-k \frac{1}{a} r-a$ (pour out) ; gir-áti ( 3 sg . pres.), $\sqrt{ }$ gar, pf. ǵa $a$ gá̀r-a (throw) ; çis-más acc. to sound-laws for ${ }^{*}$ cis-mas ( 1 pl .), beside çắs-mi ( 1 sg .), pres. st. and $\sqrt{ } ¢ \bar{a} s$ (pure $\sqrt{ } \mathrm{fm}$. ças, bid). This weakening occurs especially in the case of roots in $a$ (which by-the-bye we find wrongly classified with $\sqrt{ }$ termns. $\bar{a}, \bar{e}, \bar{a} i, \vec{o}$, acc. to the system of the Hindu grammarians), e.g. sthi-tá-s (sta-tu-s, $\sigma \tau a-\tau o ́-s), \sqrt{ } s t h a$ (stand) ; hi-tá-sfor earlier (Vêd.) dhi-tá-s ( $\theta \epsilon-\tau o ́-s)$, $\sqrt{ } d h a$ (set) ; mi-tá-s (like the preceding, past part. pass.), $\sqrt{ }$ ma (measure); st. pi-tar- for ${ }^{*} p a-$ tar-, cf. $\pi a-\tau \epsilon ́ \rho-$-, pa-ter-, $\sqrt{ } p a$ (protect) ; further in pres. redupln. e.g. bi-bhár-mi, $\sqrt{ }$ bhar (bear), $t i-s b t h \bar{a}-m i=\bar{i} \sigma \tau \eta \mu \iota$, f.f. of both is ${ }^{*} s t i-s t \bar{a}-m i$, earlier ${ }^{*} s t a-s t \bar{a}-m i$, $\sqrt{ }$ stha (stand; cf. Sk. dá-dhā-mi, dád-dā-mi, and Gk. $\tau i ́-\theta \eta-\mu$, $\delta i-\delta \omega-\mu \iota$, where the Sk . does not yet show that weakening which has occurred in Gk.).
$u=a n, a m$, e.g. in termn. of $3 \mathrm{pl} .-u s$, fr. -anti, -ant, e.g. bhárēy-us= $\phi_{\text {époıє }}={ }^{*}$ bharay-ant ( 3 pl. opt. pres. act.), babhrús $=$ *babharanti (3 pl. pf. act.), ubhắ, ubhā́u=ă $\mu \phi \omega, a m b \bar{o}$; thus later languages show the more original form, etc.
2. $a$ becomes weakened to $\bar{i}, \bar{u}$, likewise in the combination $a r$, so that $\bar{i} r, \bar{u} r$, the latter after labial consonants, are considered as of the same force as vowel $r$; the weakening to $i$, however, occurs not only before $r$, but also not seldom in other cases.
$\bar{u} r=r($ vowel $)=a r$ after labial initial $\sqrt{ }$ sounds, e.g. $p \bar{u} r-n \dot{d}-s$ (plenus) for ${ }^{*} p r-n a-s$, Zend pere-na-s (Zend ere $=$ Sk. vowel $r$ ), f.f. ${ }^{*} p a r-n a-s, ~ \sqrt{ } p a r$ (fill), etc., yet also $k^{\prime} a^{\prime} n^{\prime} k^{\prime} \bar{u} r$-, intensive pres. st. $\sqrt{\text { k }}$ kr (go), and the like.
$\bar{i} r=r($ vowel $)=a r$ after all except labial initial sounds, e.g.
§ 7. stīr-ṇá-s (past part. pass.) for str-ṇá-s, f.f. star-na-s, $\sqrt{ }$ star (strew); dìrghá-s for ${ }^{*} d r g h a-s$ (long), Zend daregha-s, Gk. סo入ı $\chi^{o}-$-s, etc., f.f. *dargha-s, cf. compar. and superl. formed in Sk. with step-fmn. of $\sqrt{ }$ vowel $a$, compar. st. drắgh-īyãs-, superl. st. drắgh-ištha-.
$i$ as a weakening of $a$ often occurs, especially in cases of roots in $a$ (like its weakening to $i$ ), nevertheless it also often occurs in the case of a non-radical $a$ belonging to formative affixes, e.g. $h i \bar{i} n \dot{a}-s$ for ${ }^{*} h a-n a-s$ (past part. pass.), $\sqrt{ } h a$ (leave, 3 sg. pres. $\dot{g} \dot{a}-h \bar{a}-t i) ; p \bar{z}-t a-s$ (past part. pass.), $\sqrt{ } p a$ (drink, 3 sg. pres. piba-ti for ${ }^{*} p i ́-p a-t i$, fr. *pa-pa-ti); yu-nī-más for * $y u-n a-m a s ~(1 ~ p l . ~$ pres.), cf. $y u-n \frac{1}{a}-t i(3 \mathrm{sg}$. pres.), pres. st. $y u-n a-, \sqrt{ } y u$ (iungere), etc.

Note 1.-Through this weakening are developed also roots with $i$, which originally were in $a$, e.g. Sk. $k r i$ (buy), e.g. pres. $k r \bar{i}-n \bar{a}-t i$, fut. krē-šyáti, pf. k'ikrā́y-a, etc., thus with pure $i$, seems nevertheless to have come from original $k r a=k a r$, cf. Gk . $\pi \epsilon \rho-\nu \eta \mu \iota$, Lith. perkù (buy), where the $\sqrt{ }$ with $k$ is a further formation. The weakenings of original $a$ are altogether not rarely formed by steps like original $i$ and $u$; e.g. fr. pi-tā-mahá-s
 pāi-tā-maha- (adj. grandfatherly); fr. st. dhtir-a- (adj. firm, stable), $\sqrt{ }$ dhar (hold), weakened to dhêrr, sf. -a-, dhäir-ya-m (neut. stability) ; fr. pur-ṇ̀ $\dot{-}$ māsa-s (masc. full-moon; on $p \bar{u} r-n a ́-, ~ \sqrt{ }$ par, v. supr.), pāur-na-māsá- (adj. of a full-moon), etc. A change of $a$-scale to $i$ - and $u$-scales is accordingly seen, especially in later formations, having arisen after the language-instinct had lost the root-forms.

Note 2.-Cf. the cases where $\bar{\imath}$ apparently stands for $a$, though it really is a contraction of $y a, y \bar{a}$, or an auxiliary vowel, § 15 , c, f.
§8. The fundamental vowel $a$ appears in Sk. as the commonest vowel in roots and relation-sounds, e.g. $\dot{a d-m i}$ ( 1 sg. pres.), $\sqrt{ }$ ad (edere) ; ás-ti (3 sg. pres.), $\sqrt{ }$ as (esse) ; bhár-asi ( 2 sg. pres.),
 part. act.), $\sqrt{ }$ bhar (bear) ; áp-as (opus), áp-as-as (operis); mán-as ( $\mu \in \in \nu-o s)$, mán-as-as ( $\left.{ }^{*} \mu \epsilon \nu-\epsilon \sigma-o s, \mu \in ́ \nu o u s\right)$; áç-va-s, f.f. akras (equos,
 (centesimus), etc.

The step-formation of $a$ to $\bar{a}$ cannot further be analysed $\S 9$. into first and second steps (as in Gk., Lat., Goth.), and, moreover, can scarcely-only by means of the analogy of completely corresponding words in $i$ and $u$-be distinguished from lengthening. Therefore we hesitate to make the distinction between lengthening and step-formation in the case of f . vowel $a$, and accordingly probably admit many forms as steps, which would be more accurately denoted as lengthenings. The step-formation of $a$ to $\bar{a}$ occurs in roots and in relation-sounds.

Examples of step-formed roots with $\sqrt{ }$ vowel $a$ are $b a$-bhắr-a ( 3 sg. pf.) bes. bhár- $\bar{a} m i\left(1 \mathrm{sg}\right.$. pres.), $\sqrt{ }$ bhar (bear); u-vák $k^{\prime}-a$ ( 3 sg. pf.) bes. vák-ti (3 sg. pres.), $\sqrt{ } v a \not k_{i}^{(s p e a k) ; ~ v a ̀ s-a s ~}$ (uestis) bes. vas-té ( 3 sg. pres. med.), $\sqrt{ }$ vas (clothe); kār-áyati ( 3 sg. pres. causat. vb.) bes. $k a r-\frac{1}{o}-t i(3 \mathrm{sg}$. pres.), $\sqrt{ } \mathrm{kar}$ (make), etc.

Note.-The roots which end in a occur mostly in step-raised forms [whence arose the grammatic rule that roots in $a$ appear only in pronominal functions, as $t a$ (n. sg. masc. sa, acc. $t a-m$ dem.), ya (n. sg. masc. ntr. ya-s, ya-t rel.), ka (n. acc. sg. masc. $k a-s, k a-m$ ), etc., whilst all verbal roots end in $\bar{a}$-acc. to Hindu grammarians in $\bar{u}, \bar{e}, \bar{a} i, \bar{o}]$. Also the un-raised forms, indeed the shortened forms of these roots are not rare, e.g. gíg $g \bar{a}-t i$, ǵá-gã-ti (3 sg. pres.), but ga-tá-s (past part. pass.), ga-hí ( 2 sg . imper.), gá-k\%hati, f.f. ga-skati (3 sg. pres.), cf. $\beta \in \epsilon \beta a ̆ \mu \epsilon \nu, \beta a ̆ \tau \eta{ }^{\prime} s$, $\checkmark$ $g a$ (go); dá-dà-mi ( 1 sg . pres. $\delta i-\delta \omega-\mu \iota$ ), but $d a-d-m a ́ s$ for *da-da-mas ( 1 pl. pres.), ef. $\delta i-\delta o-\mu \epsilon \nu, \delta o ́-\sigma t s, \delta o-\tau \eta ̆ \rho, ~ d a ̆ m u s, ~ \sqrt{ } d a$ (give) ; dá-dhā$-m i\left(1 \mathrm{sg}\right.$. pres.), but da-dh-más, fr. ${ }^{*} d a-d h a-m a s$, cf. $\tau i-\theta \epsilon-\mu \epsilon v, \theta \in ́-\sigma \iota \varsigma, \theta_{\epsilon-\tau o ́ s}, \sqrt{ } d h a$ (set); á-pã- $t(3 \mathrm{sg}$. aor.), $p \bar{a}-s y \dot{a}-t i\left(3\right.$ sg. fut.), but $p i ́-b a-t i$ for ${ }^{*} p i-p a-t i$, fr. *pa-pa-ti (3 sg. pres.), cf. $\pi \epsilon \in-\pi o-\mu a \iota, \pi o ́-\sigma \iota \varsigma, \sqrt{ } p a$ (drink) ; $p_{\hat{z}}^{\frac{1}{2}}-t i(3 \mathrm{sg}$. pres.), but $p a ́-t i-s$, cf. $\pi \dot{o}-\sigma \iota$, Goth. $f a-t h-s$, i.e. ${ }^{*} f a-d i-s$, Lith. $p d \dot{d}-t-s$, for *pa-ti-s (lord), with weakening of $a$ to $i$ in pi-tar- (n. pitā), cf. $\pi a-\tau \eta \rho$, f.f. $p a-t a r-, \sqrt{ } p a$ (protect); $t i-s$ sthā-mi, ${ }_{i}-\sigma \tau \eta-\mu \iota(1 \mathrm{sg}$. pres.), but $t i-s t h a-t i$ for ${ }^{*} s t i-s t a-t i$, fr. ${ }^{*} s t a-s t a-t i(3$ sg. pres.), with weakening of $a$ to $i$ in sthi-tá-s, f.f. *sta-tá-s, cf. $\sigma \tau a ̆ a-\tau o ́-s, ~ s t a ̆-t u-s$, $\sqrt{ }$ stha, original sta (stare), etc. Here accordingly, as in many other like cases, the root-forms are evidently $g a, d h a, d a, p a, p a$, stha; so too $a$ is everywhere to be assumed to be the root-sound, even where it happens that the raised forms only are seen in
§ 9. the existing language. Cf. my treatise on ' $a$-roots in Indogermanic,' Beitr. ii. 92-99.
$a$ as a sound expressing relation is found raised in termin. $a$ of pres. st. bhárā-mi ( 1 sg. pres.), bhárā-masi ( 1 pl . pres.) bes. bhära-si (2 sg. pres.), bhára-ti (3 sg. pres.), etc., bhára- is pres. st. of $\sqrt{ }$ bhar (bear); in almost all cases of the fem. of $a$ - st., e.g. náv-ā náv-ām (n. acc. sg. fem. nou-a, $\nu \in ́ F a$ ) bes. nava-s nava-m (n. acc. sg. masc.), st. nava- (nouos) ; áç- $r \bar{a}$ (equa) bes. ác-va-s (equos), st. áç-va-( $a k-v a-$ ), and generally before certain case-sff., e.g. dēē̆́á-s, earlier dē-ráa-sas (n. pl.) bes. dēvá-s (n. sg.), st. dērá- (deus); further in final syllables of sundry consonantal noun-stems before certain case-sff., e.g. dā-tấr-am (acc. sg.), $d \bar{a}-t \bar{t} r$-as (n. pl.), fr. st. dā-tár- (da-tor), which appears pure in e.g. $d \bar{a}-t a ́ r-i$ (loc. sg.), in $d \bar{a}-t r^{\prime}-b h i s$ (instr. pl.), $d \bar{a}-t r-\frac{1}{e}$ (d. sg.), and others it is weakened to $d \bar{a}-t r$.
§ 10. 2. $i$-scale.
Fundamental vowel $i$; $i$-más, cf. $i-\mu \in \nu$ ( 1 pl. pres.), $\sqrt{ } i$ (i-re); vid-más (1 pl. pres.), cf. Fi $\sigma-\mu \epsilon \nu$, Hom. Fio- $\mu \in \nu, \sqrt{ }$ vid (uid-ere, scire); viç-áti (3 sg. pres.), riç-as (n. pl. people, husbandmen), $\sqrt{ }$ viç (go in, dwell) ; div-am div-ás (acc. g. sg. of n. $d y a \bar{a} u-s$, sky), $\sqrt{ } d i v$ (shine; cf. $\Delta \iota F$-ós, similarly fr. $Z \in u ́ \varsigma=$ * $\Delta y \in \nu \varsigma)$; pák-ti-s (fem. coctio), cf. $\pi \epsilon \in \pi-\sigma l-\varsigma$ for ${ }^{*} \pi \epsilon \pi-\tau \iota-\varsigma, ~ \sqrt{ } p a k$, $\pi \epsilon \pi$, origl. kak, cf. Lat. coc, Lith. kep (coquere), formed through sf. -ti-, f.f. therefore $k a k-t i-s$.
$\bar{i}$ is not seldom a lengthening of genuine $i$, just as we have already found it to be a lengthening of $i=a$. The laws under which this lengthening takes place are not discovered in every instance. The lengthened $i$ is often interchanged with the unlengthened $i$, and is subject to step-formation and change (to $i y, y)$, like the latter.

In cases like pátī-n (acc. pl. msc.), f.f. pati-ms, st. páti(lord) ; páktī-s (acc. pl. fem.), f.f. pakti-ms, st. pákti- (coctio), we clearly see a compensatory lengthening, v. post. (§ 15 , d), where also the lengthening bef. $y$ is yet to be mentioned ( $\S 15, \mathrm{a}$ ), as
e.g. $\bar{i}-y \bar{a} t$ bes. $i-y \bar{a} t(3 \mathrm{sg}$. opt.) $\sqrt{ } i$ (ire). Bef. final $r$ in noun- $\S 10$. stt., as bef. $r$ folld. by a sf. which begins with a conson., lengthening occurs in the case of $i$ and $u$, e.g. st. gir- (speech ;
 gir-bhis for ${ }^{*} g i r-s u,{ }^{*} g i r-b h i s$.

So also in roots $\bar{i}$ appears bes. $i$, and is grammatically arbitrary, since in these cases the $\sqrt{ } \mathrm{fm}$. is usually characterized by the long vowel, as e.g. $\sqrt{ } b h i$, not $b h i \bar{i}$ (frighten), cf. $b i-b h i-m a ́ s ~ a n d ~$ bi-bhì-mas ( 1 pl . pres. ; 3 sg. bi-bhée-ti); in other roots it happens that only the lengthened vowel appears, e.g. nī-tá-s (past part. pass.), $\sqrt{ } n i$ ( $n \bar{\imath}$ acc. to Grammarians and Dictt. ; 'lead ') ; prī-tá-s, $\sqrt{ }$ pri (pri, delight), etc.

Note 1.-Root-fms. with final vowels are particularly often mentioned in the lengthened fm. in gramm. and dictt., because the lengthening was particularly popular in these cases. On the unoriginality of $\bar{z}$ and $\bar{u}$ in Indo-Eur., cf. my remarks in Beitr. i. 328-333.

Note 2.-On tr-tíya-s (ter-tiu-s), in wh. $t r$ can be taken as a weakening fr. tri (st. of numeral 3), v. sub. 'Numerals.'

The lst step of $i$ is in Sk. è, e.g. $\bar{e}-m i(\epsilon i-\mu l)$, f.f. $a i-m i$, § 11 . $\sqrt{ } i$ (ire) ; $v^{\frac{1}{e} d-a ~(F o i ̂ ~} \alpha$ ), $r^{\prime} \bar{e} d-a-s$ (n. sg.; sacred writings of the Hindus, Vēda), $\sqrt{ }$ vid (see, know); vi-véç-a (3 sg. pf.), vééc-a-s (n. sg. house, cf. Foîк-o-s, uīc-u-s), f.f. vaik-a-s, $\sqrt{ }$ viç (go in); $d \bar{e} v-a ́-s$ (deus), f.f. daiv-a-s, $\sqrt{ } d i v$ (shine) ; pák-tē-s (g. sg.), pák-ti-s (coctio), pát-ē-s (g. sg.), pát-i-s (lord); bi-bhécti (3 sg. pres. redupl.), $\sqrt{ } b h i$ (frighten); nét-tra-m (eye, lit. ‘the guiding one'), $n a ́ y-a t i(3 \mathrm{sg}$. pres.), nay $=n \bar{e}$ ( $\mathbf{\nabla}$. post. $\S 14, \mathrm{~d}$ ), $\sqrt{ } n i$ (lead) ; cế-té ( $\kappa \hat{\imath}-\tau a \iota 3 \mathrm{sg}$. pres. med.), $\sqrt{ }$ çi (rest, lie), etc.

The 2nd step of $i$ is in Sk. $\bar{a} i$, e.g. $v \dot{a} i c ̧-y a-s$ (man of third caste), $\sqrt{ }$ viç (go in; cf. viç-as and véç-a-s); ráidd-ya-s (vēdic, learned), $\sqrt{ }$ vid (see, know; cf. $\left.V^{\prime} \bar{e} d-a-s\right)$; dấiv-a-s (godly), whence $d \bar{a} i v-a-m$ (destiny), st. dēv- $\dot{a}$ - (deus), $\sqrt{ } d i v$ (shine); çắiv-a-s (belonging to the god Çiva, Çiva-worshipper), fr. Çicá-s (the god Çiva) ; väizs? ?acá-s (belonging to Vishnu, Vishnu-worshipper
\$11. fr. Višnu-s (the god Vishnu) ; bef. vowels not ai but ay is found (§ 14), e.g. nắy-aka-s (masc. leader), nāy-áya-ti (3 sg. pres. causat. st.), $\sqrt{ } n i$ (lead), etc.
§12. 3. u-scale.
This scale, in all its parts, runs parallel to the $i$-scale, also the lengthening of $u$ to $\bar{u}$ occurs here, like $i$ to $\bar{i}$ above.

Fund. vowel $u$, e.g. buddhá-s for ${ }^{*} b u d h-t a-s$ (past part. pass.), bu-budh-é̀ ( $1,3 \mathrm{sg}$. pf. med.), $\sqrt{ } b u d h$ (learn, know); tud-áti (3 sg. pres.), $\sqrt{ }$ tud (thump); yug-á-m (iugum, ̧uyóv), yuk-tá-s (past part. pass.) for ${ }^{* y u g-t a-s ~(i u n c t u s), ~} \dot{a}-y u \dot{g}-a t(3 \mathrm{sg}$. aor.), $\sqrt{ } y u \dot{g}$, $y u g$ (iungere); su-tá-s (past part. pass.), $\sqrt{ } s u$ (produce, sow); çru-tá-s, $\kappa \lambda v-\tau o ́-s$ (past part. pass.), çru-dhí (vēd. 2 sg. imper. aor. $\kappa \lambda \hat{u}-\theta \imath$ ), $\sqrt{ } c ̧ r u$ (hear), etc. In pres. st. $\varsigma ̧ r-n ̣ u$-, e.g. $\varsigma_{r-n ̣ \frac{1}{o}-m i}$ ( 1 sg . pres.), $\sqrt{ }$ çru (hear), $r u$ is exceptionally weakened to $r$, by complete loss of $u$.

The lengthening of $u$ to $\bar{u}$ occurs here, just as in the $i$-scale
 (masc. ntr. past part. pass.), $\sqrt{ } b h u(b h u ̈, b e), ~ c f . ~ \phi u ̈-\tau o ́-\nu, ~ f u ̆-t u r u t-s ; ~$ $s \bar{u}-n u ́-s$ (son), cf. Lith. sūnùs, Goth. sunus, $\sqrt{ }$ su (bear, sow, sts. also given as $s \bar{u}$ ); $s \bar{u}-n \bar{u} \frac{1}{i}-n$ fr. ${ }^{*} s u-n u-n s$ (acc. pl.), Goth. sununs, st. sünú- (n. sg. sū-nú-s, cf. § 15, d). Like $i$, so $u$ bef. $r$, and bef. $r+$ conson. in noun-stt. is lengthened (§ 10), e.g. st. dhur-(fore-part of a coach-pole, e.g. acc. sg. dhúr-am), n. dhūr for *dhur-s, instr. pl. dhür-bhis for *dhur-bis, etc.
§ 13. 1. step $\bar{o}$, e.g. bódh-ati (3 sg. pres.), $\sqrt{ } b u d h$ (learn, know); pra-tōd-a-s (masc. goad), $\sqrt{ }$ tud (push) ; yu-yṓǵg $a(1,3 \mathrm{sg} . \mathrm{pf}$ ), yóg-a-s (joining, speculation), $\sqrt{ } y u g ́$ (iungere) ; bháv-ati (3 sg. pres.), á-bhav-at (3 sg. pf.), bhav=bhō (v. § 14, d), $\sqrt{ } b h u$ (be); söš-yáti ( 3 sg . fut.), $\sqrt{ } s u$ (bring forth); cróotra-m (ntr. ear), $\sqrt{ }$ çru (hear), sū-nṑs (g. sg.), st. sūnú- (n. sg. sū-nú-s, son), cf. Lith. sūnaús, Goth. sunaus, etc.
2. step $\bar{a} u$, e.g. $\bar{a} u \bar{u} d d h \dot{a}-s$ (masc. Buddhist) fr. buddhá-s (past part. pass. n. propr. Buddha), $\sqrt{ } b u d h$ (know); á-tāut-sam for *a-tāud-sam (1 sg. aor.), $\sqrt{ } t u d$ (push) ; yááug-ika-s (adj. fr. yó́ga-s
supr.), st. yóga-, $\sqrt{ } y u g$ (iungere) ; $b h \bar{a} v-a-s$ (being, nature), § 13. $b h \bar{a} v=b h a ̄ u(\nabla . \S 14, \mathrm{~d}), \sqrt{ } b h u$ (be) ; sấu-ti (3 sg. pres.), su-šáàv-a ( 1,3 sg. pf.) for ${ }^{s} s u-s a \bar{v}-a$ ( v. sub. consonn.), $s \bar{a} u=s \bar{a} u(\mathrm{v} . \S 14, \mathrm{~d}$ ), $\sqrt{ }$ su (bring forth); á-çrāu-šam ( 1 sg. aor. compos.), $\sqrt{ }$ çru (hear), etc.

Note.-" $\bar{i}$ and $\bar{u}$ are subject to step-formation only when they are at the end of roots," is the rule of Sk. grammar, i.e. they are in these cases lengthenings of real $i, u$; as medial root-sounds however, they are felt by the language-instinct to be unorigl., and are therefore not treated like genuine $i, u$. Real $i$ and $u$ appear besides only before root-termns. which consist of one consonant.

## Vowel Sound-Laws.

Note-Only the most important Sk. sound-laws are here mentioned-those which operate within the word: the changes undergone by the termn. of a word in consequence of its place in a sentence belong to the department of Sk. special-grammar, not to the Indo-Eur. (the so-called 'Comparative') Grammar.

1. Laws of the concurrence of vowels.

Fundamental law: Sk. permits hiatus in its earliest remains of language alone (in the Vēdic hymns), where we find even two like vowels in juxtaposition. In classical Sk. hiatus is avoided, a . by contraction, b . by loss of the former vowel, c . by separation, $d$. by change of vowel to corresponding spirant.

Contraction occurs when $a$ happens to stand before another vowel, except in those cases where $a$ is lost bef. the following vowel. Change to the consonn. takes place when $i, u$ (including their furthest formations $\bar{e}[=a i], \bar{o}[=a u], \bar{a} i, \bar{a} u)$. This contrast between $a$ and $i, u$, arises from the fact that $a$ has no corresponding spirant, whereas $i$, $u$, have by their side $y, v$, which are only different from them through a slight distinction in pronunciation ; the change from $i, u$, to $y, v$, is through intermediate $i y, u v$.
a. Exx. of contraction : pres. st. bhára- $+i$ of opt. mood $=$ bhárēe-, e.g. bháré-t fr. *bhara-i-t (3 sg. opt. pres., $\sqrt{ }$ bhar, bear) ;
§ 14. noun st. áçva-+i of loc. case $=$ áçvē (loc. sg. of n. sg. áçva-s, equos), etc.

Note.-v. older peculiar contractions post. (§ 15, c).
b. Loss of $a$ occurs e.g. in cases like dhanin- (rich, in. sg. masc. $d h a n \frac{1}{\imath}$ ), fr. st. dhána- (neutr. n. sg. dhána-m, wealth) + sf. in; only bef. sf. $y a$ is $a$ regularly lost, e.g. st. dhán-ya-(adj. rich, n. sg. masc. dhán-ya-s), from same st. dhána-. Roots in $a$ do permit this loss of $a$ not unfrequently, e.g. $d a-d-m a ́ s, d a-d h-m a ́ s$ ( 1 pl. pres. act.), fr. pres. stt. $d a-d a-, d a-d h a-(1 \mathrm{sg} . d \dot{a}-d \bar{a}-m i$, $d \dot{a}-d h a ̄-m i), \sqrt{ } d a$ (give), $\sqrt{ } d h a$ (set); so also in pf. they lose their termn., and subsequently even assume an auxil. vowel $i$, as if they ended in a conson., $d a-d-i-m a ́, d a-d h-i-m \dot{a}$ ( $1 \mathrm{pl} . \mathrm{pf}$.), like $t u$-tud-i-má, $\sqrt{ }$ tud (push), so that it becomes probable that $a$ was lost bef. $i$, and not ma, but ima, etc., was considered to be the termn.
c. The splitting-up of $i$ and $u$ (and of their lengthenings $\bar{i}, \bar{u}$, -perh. it is more correct to suppose no lengthening to take place before vowels) to $i y$, $u v$, is retained where these vowels are radical in monosyll. words, more rarely also in ordinary Sk . otherwise, i.e. when two consonn. stand before the vowel.

Exx.: bhiy-i (loc. sg.), cf. n. sg. bhī-s (fear), st. thus bhī-; $i y-\bar{a} y-a\left(3 \mathrm{sg} . \mathrm{pf}\right.$.), $\sqrt{ } i$ (go), fr. ${ }^{* i-a} i-a ; \bar{a} i$ is $\sqrt{ } i$ in 2nd step, $i$ in fund. fm.
$\varsigma^{\prime} u$-çruv-ús ( 3 pl . pf.), $\sqrt{ }$ çru (hear), f.f. $k u$-kru-anti ; āp-nuv-ánti ( 3 pl. pres. fmd. by $n u$ fr. $\sqrt{ } \bar{a} p$, work); $b h r u v-i ́ h(l o c . ~ s g),. ~ n . ~ s g . ~$ $b h r u \bar{u}-s$ ( $\partial$ - $\phi \rho \rho^{\prime} s$ ), st. therefore $b h r u \bar{u}$-.

Note.-y-anti (3 pl. ind. pres.), $\sqrt{ } i$, contrary to rule where we should have expected iy-anti; $i$ is here exceptionally treated according to the plan laid down below.
d. The change into corresponding semi-vowel is regular in ordinary Sk ., that is, occurs exclusively in the case of $i$ and $u$ as 2 nd part of diphthongs $e(=a i), \bar{a} i, \bar{o}(=a u), \bar{a} u$, e.g.
pákty- $\bar{a}$ (instr. sg. of n. sg. pákti-s, coctio) for ${ }^{*}$ palkti- $\bar{a}, n i-n y-\bar{e}$ ( 1,3 sg. pf. med.), $\sqrt{ } n i\left(n \bar{i}\right.$, lead) for ${ }^{*} n i-n i-\bar{e}$.
náy-ati (3 sg. pres.), $\sqrt{ } n i$ (lead), here raised to 1st step $n \bar{e}, \S 14$. i.e. nai.
$n i-n a ̆ ́ y-a(1,3 \mathrm{sg} . \mathrm{pf} . \operatorname{act}$ ) $, \sqrt{ } n i, n \bar{a} i=2 \mathrm{nd}$ step of $n i$.
çr-ṇv-ánti ( 3 pl. pres. act.), $\sqrt{ } \varsigma r u$ (hear), pres. st. $\sqrt{ }{ }_{\varsigma} r-n ̣ u-$ (cf. § 12) for ${ }^{*}$ çr-ṇu-anti, f.f. kru-nu-anti; cf. supr. āpnuv-ánti, with splitting of $n u$ into $n u v$, whereas here two consonn. stand before $u$.
çráč-ana-m (the hearing, ear; n. sg. ntr.), $\sqrt{ }$ çru (hear), raised to çro=çrau + sf. ana; çráv-as (ntr. the hearing, ear $=\kappa \lambda \epsilon ́$ Fos, Scl. sloves-), likewise fr. same root + sf. as.
çu-çrà̀v-a ( $1,3 \mathrm{sg} . \mathrm{pf}$.), $\sqrt{ }$ çru (hear), here raised to 2 nd step çrāu.
Note 1.-The earlier lang. shows the splitting-up only in the case of $i, u$. The scale of variation is as follows: 1. $i, u+$ vowel, e.g. pákti- $\bar{a}$; but there arises very easily, 2. iy, uv + vowel, e.g. páktiy- $\bar{a}$; and finally the vowel element is lost entirely, 3. $y, v+$ vowel, e.g. pákty- $\bar{a}$.

Note 2.-The fms. explained in § 6, such as $\bar{u} k^{\prime}-u^{\prime} s, ~ i g '$ - $\dot{u} s$, form no exception to the laws above laid down, and are prob. not contracted fr. ${ }^{*} u u k^{\prime} u$ s, iig ${ }^{\prime}$ is, but rather arise fr. resolution of $v, y$, into $u, i$; ${ }^{*}$ va-vak'-us, *ucak'us, *uvたus, $\bar{u} k{ }^{*}{ }^{*}$; * ${ }^{*}$ ya-yaǵ-us, *iyaǵus, *iyǵus, žg ís, are the gradations of change here to be understood.
2. Vowel-change caused by the neighbouring $\$ 15$. consonn.

Note.-A single instance had to be mentioned as early as $\S 7$, as $p \bar{u} r n a \dot{\alpha} s$ with $\bar{u}$ on acct. of $p$; generally the weakenings of $a$ bef. $r$ are intrinsically caused by this conson.
a. $y$ often lengthens preceding $u, i, a$ (for splitting-up of $y$ to $i y, \bar{z} y, ~ v . ~ s u p r . ~ § ~ 14, ~ 1, ~ c.), ~ e . g . ~ c r u ̄-y a ́-t e ̄ ~(3 ~ s g . ~ p r e s . ~ p a s s),$.
 g'i-tá-s, past part. pass., ǵáyati 3 sg. pres.) ; ǵā-ya-tē (is born, 3 sg. med.), $\sqrt{ } \dot{g} a$ (generally g'an, and thus means bring forth, bear ; cf. Zend $z a-y \bar{e}-i t e \overline{\text { e }}$ f.f. therefore $g a-y a-t a i)$, etc.

Note.-Bef. $y=i, i$ also may be explained as splitting-up of $i$ to $i y$. Perh. fr. this source arise also the lengthenings of $u$ to $\bar{u}$, and $a$ to $\bar{a}$, bef. $y$. Cf. sq.
§ 15. b. iy sometimes occurs instead of $y$, and also $i y$ with the favourite vowel-lengthening bef. $y$.

After $a$ in certain cases $i y$ (with $a$ or $\bar{a}$ therefore $\bar{e} y$ ) instead of $y$ (with $a$ or $\bar{a}$ therefore $a y, \bar{a} y$ ), e.g. pres. st. in $a+o p t$. element $y a$ forms not $-a-y a$, but -a-iya, i.e. -ēya, e.g. bód dhēyam for ${ }^{*} b o ̄ d h a-y a-m(1 \mathrm{sg}$. opt. pres.), pres. st. bodha-, $\sqrt{ } b u d h$ (learn, know) ; $d^{\frac{1}{e}-y a-s}$ (part. necessitatis, n. sg. masc.) for ${ }^{*} d \bar{a}-y a-s$, st. $d \bar{a}-y a$, consisting of step-formed $\sqrt{ } d a$ (give), and sf. $y a$; gängēya-s (found in or on the Ganges), fr. gángā (nom. pr. Ganges), step-fmd. gäng $\bar{a}+$ sf. $y a$, for ${ }^{*} g a ̈ n g g a ̈-y a-s$.

Also after consonn. occurs $\bar{z} y$ for $y$, thus in compar. st. fmd. with origl. sf. yans, e.g. st. lághīyãs- (n. sf. masc. lághīyãn), fr. laghú-s (light)= $\bar{\epsilon}-\lambda a \chi u ́-s$, for ${ }^{*} l a g h-y a ̃ s-, ~ c f . ~ \epsilon ́-\lambda a ́ \sigma \sigma \omega \nu ~ f o r ~$ * $\lambda a \chi-y \omega \nu$, and superl. lágh-iš-t $t h a-s, ~ \epsilon \in-\lambda a ́ \chi-\iota \sigma-\tau o-s$, where is- is a relic of -yas-, -yãs-. So moreover the sf. $y a$ has also a fm. $\bar{y} y a$, e.g. st. karan-ǐya- (faciendus) for *karan-ya-, st. kára-na, which loses its termn. bef. $y a(\S 14,1, \mathrm{~b}$ ), etc.

Note.- $\bar{z} y=y$ is not developed in Indian until after the division of Aryan into Ind. and Eran. ; the Zend, which stands so close to Old-Ind., still has $y=$ Sk. $i y$.
c. $y \bar{a}$ was sometimes compressed into $\bar{i}$. So esp. in fem. stt. in $\bar{\imath}$, which prob. can only be $=y \bar{a}$, e.g. bhárantī (the bearing one, f.)
 ${ }^{*}$ gan-i-tar-ya (genetrix) $=\gamma \epsilon \nu \epsilon ́ \tau \epsilon \iota \rho a$, i.e. ${ }^{*} \gamma \epsilon \nu \epsilon \tau \epsilon \rho-y a$, etc., ya- stt. fr. usual masc. stt., Sk. bhárant-, ǵani-tår-, Gk. ф'́ $\rho o \nu \tau-, \gamma \in \nu \epsilon-\tau \eta \eta^{\prime} \rho-;$ $d \bar{e} v \bar{\imath}={ }^{*} d a i v y \bar{a}$ (dea), cf. Lith. deivé, i.e. *deivyắ, f.f. daiv-yā (once 'goddess,' now='ghost'), later fmn. fr. st. dèvá-, Lith. dềva, f.f. daiva- (deus); Vēd. ávī (instr. sg. for Sk. ávy-ā, both fr. áviā (ávi-s, ouis, $\bar{a}$ sf. of instr. sg.), etc. : $\bar{\imath}$ is clearly a weaker vowel-fm. for $y \bar{a}$ in opt., e.g. 3 sg . act. bibhr-y $\frac{1}{\bar{\sigma}}-t$, but 3 sg . med. $b i b h r-i-t a, ~ \sqrt{ } b h a r$ (bear, pres. st. bibhar-), etc.

Sometimes $\bar{i}$ is a product of a similar earlier contraction of $i-a$ or $y a$ after loss of conson. betw. $i$ and $a$, as in sìd-áti ( 3 sg . pres.), fr. ${ }^{*} s i$-adati for ${ }^{*} s i$-sad-ati, $\sqrt{ }$ s $a d$ (sit, pf. $s a-s a ́ d d-a$, aor.
 fr. ${ }^{*}$ sisdo for si-sed-o, f.f. ${ }^{*}$ si-sad-ami (with not unfreq. pres. redupln.), also the ìr now used as a root, e.g. ìr-té (3 pres. med., rises, causat. $\bar{r}$-áyati, he arouses), is recognized as a product of pres. redupln. ; $\bar{\imath} r={ }^{*} i-a r,{ }^{*} i y a r, ~ \sqrt{ } a r$ (go), etc.
d. Compensatory lengthening. Esp. in declens.-fms. (n. sg., acc. pl.) is found lengthening of the foregoing vowel after loss of conson. Exx. :
N. sg. rá ${ }^{\prime} \dot{g} \bar{a}$ for ${ }^{*} r a ̈ g ́ a n-s, ~ s t . ~ r a ̄ g ́ a n-~(m a s c . ~ r e x) ~+~ n o m . ~ s f . ~ s, ~$
 mātấ for ${ }^{*}$ mātar-s, st. mātar- (mater), cf. $\mu \eta \dot{\tau} \eta \rho$ for ${ }^{*} \mu \eta \tau \in \rho-\varsigma$; dúr-manäs for ${ }^{*} d u r$-manas-s (masc. fem. evil-minded, compounded of dus, evil, mánas ntr. mens), cf. $\delta \nu \sigma \mu \epsilon \nu \eta{ }^{\prime}$, for ${ }^{*} \delta \nu \sigma-\mu \epsilon \nu \epsilon \sigma-\varsigma$; agnimán for *agnimant-s (fiery, st. agni-, ignis + sf. -mant). Notice bháran without compens. lengthening for *bharant-s (n. sg. part. pres. act., whilst the corresponding Gk. $\phi \in \rho \rho \omega \nu$ for *фє $\phi=\nu \tau s$ has the lengthening).

Acc. pl. áçuān for *açvan-s, n. sg. áçca-s (equos); pátīn for ${ }^{*}$ patin-s, n. sg. patis (lord); sūnún for ${ }^{*} s u ̄ n u n-s, ~ n . ~ s g . ~ s u ̄ n u ́-s ~$ (son) ; mátīs for *mati-ns, n. sg. máti-s (fem. thought): dhēnứs for ${ }^{*} d h e \bar{n} u n-s$, n. sg. dhēnú-s (milch cow).

Bef. sonant consonn. we ought prob. to consider $\bar{o}$ to be a compens. lengthening=as, with dulling of the vowel, e.g. mánöbhis, instr. pl. for *manas-bhis, fr. mánas- (neutr. mens, $\mu \epsilon ́ \nu o s)$ and $b l i s$ (sf. of instr. pl. consisting of $b h i+\mathrm{pl} . \mathrm{sf} . s$ ), etc. This change of as to $\bar{o}$ often takes place in case of final as.

Note.-In the case of compens. lengthening in Sk. and in the other languages, we might make a more accurate distinction as follows: 1. ${ }^{-}+$conson. $=-$(cf. O.-Bulg instr. sg. $-m i=$ origl. $b h i$, bes. instr. pl. $-m i$, i.e. $-m \bar{i}=$ origl. $-b h i s)$, in terminations; medially this case is not found: $2 .{ }^{-}+$conson. $1+$ conson. $2=^{-}$(e.g. mätā for ${ }^{*}$ mātars) in termn.: 3. ${ }^{-}+$conson. $1+$ conson. $2=^{-}+$conson. 2, final and medial (e.g.matīs for ${ }^{*}$ matin-s; Gk. $\epsilon i \mu i$ for ${ }^{*} \hat{\varepsilon} \sigma \mu l$; a subdivn. forms here + cons. $1+$ cons. $2+$ cons. $3=^{-}+$cons. 3 (e.g. i $\sigma \tau \overline{a ́ s}$ for ${ }^{*} i \sigma \tau a \nu \tau s$ ): $4 .{ }^{`}+$
§ 15. conson. $1+$ cons. $2=^{-}+$cons. 1 (e.g. $\mu \dot{\eta} \tau \eta \rho$ for $\left.{ }^{*} \mu \eta \tau \epsilon \rho \varsigma\right)$, or ${ }^{-}+$cons. $1+$ cons. $2+$ cons. $3={ }^{-}+$cons. 1 (e.g. $\phi$ '́p $\omega \nu$ for ${ }^{*} \phi \in \rho o \nu t s$, finally and medially, the latter, e.g. Gk. є̋ $\phi \eta \nu a$ for *'่́ $\phi a \nu \sigma a)$. The physiological explan. of this sound-process is difficult, esp. in case No. 4.
e. Dulling of $\bar{a}$ to $\bar{e}$ and $\bar{a} u$ bef. lost conson. and in fine. For $\bar{a}$ there occurs a dulled fm . in $\bar{e}$, in certain cases in the middle of a word, when $\bar{a}$ has been produced through compens. lengthening ( $\$ 15, \mathrm{~d}$ ), in the case of unusual and late consonantal loss: in termn. it occurs, but is likewise confined to certain cases; also we find $\bar{e}$ for $\bar{a}$, like $\bar{a} u$ for $\bar{a}$, the latter of which is retained in the old lang. Exx.:
$\bar{e}$ for $\bar{a}$ when consonn. have been lost; thus in imperat. pres. $\bar{e} d h i ́ f+{ }^{*} \bar{a}-d l i i,{ }^{*} a s-d h i(\sqrt{ }$ and pres. st. as-, esse, dhi termn. of 2 sg. imper.); dhēhi for ${ }^{*} d h a \bar{h} h i$, with asp. (v. § 59) for Vēdic daddhi for ${ }^{*} d a d h-d h i$ (pres. st. $d a d h, \sqrt{ } d h a$, set); $d \bar{e} h i$ for ${ }^{*} d \bar{a} h i$, fr. ${ }^{*} d a d h i$ for $d a d d h i$ (pres. st. dad, $\sqrt{ } d a$, dare); in pf. fm. as Sk. pēt-i-má for ${ }^{*} p a \bar{t}-i-m a$, Vèd. papt-i-má fr. ${ }^{*} p a-p a t-m a(1 \mathrm{pl}$. act.; pf. st. papat-, $\sqrt{ }$ pat, fly, fall); tēn-i-r $\frac{1}{e}$ for ${ }^{*} t \bar{e} n-i-r e \bar{e}$ fr. older ta-tn-i-rē (3 pl. med.; pf. st. tatan-, $\sqrt{ }$ tan, stretch), etc.; finally in voc. of fem. $a$ - st., e.g. áçvē (but earlier still áaça), voc. of açcū (equa). $\bar{a} u$ for earlier $\bar{a}$ (cf. $\bar{o}$ for as in termn. bef. sonants, $\S 15, \mathrm{~d}$ ) occurs in n. acc. dual, e.g. áçuāu, earlier áf̧cūa (n. áçvas, equos) ; further in $1,3 \mathrm{sg}$. pf. act. of roots in $a$, e.g. dadâu, archaic dadá, $\sqrt{ } d a$ (dare).
f. An auxil. vowel $i, \bar{i}$, occurs betw. stem-termns. and termns. which begin with a conson. in word-fmn., esp. in conjugation fms., in which origly. and partly still in the earlier lang., the termn. was added immediately to the stem-termn., e.g. pres. fm. of single vbs., as sváp-i-mi, scáp-i-ši, scáp-i-ti, stap-i-más (1, 2,3 sg., 1 pl. pres.), etc., for ${ }^{*}$ svap-mi, etc., $\sqrt{ }$ ssap (sleep); in pf. this occurs regularly in case of certain persons, e.g. 1 pl. tutud- $i$-má, $\sqrt{ }$ tud (tundere), etc. Here we often see even now the older fms. without inserted $i$, partly even in ordinary Sk., as e.g. kakar-tha ( 2 sg. pf.), $\sqrt{ } k a r$ (facere), partly in the earlier lang.
of the Vēdas, in which a fm. tutudmá, etc., may be found. In § 15. fut. e.g. gam-i-šyámi ( 1 sg . fut.), $\sqrt{ }$ gam (ire); in part. pres. pass., e.g. vid-i-tá-s, $\sqrt{ }$ vid (see, know), and many similar fmns., this insertion of $i$ occurs in certain roots.
$\bar{i}$ occurs as auxil. vowel in aor.-fms., e.g. 2 sg. $\bar{a}-n a \bar{i}-s-\bar{\imath}-\overline{-} s, \sqrt{ } n$ ( $n \bar{i}$, lead), bes. 1 pl . ánäi-š-ma; in pres. fms. as 1 sg. bráv-ī-mi, 3 sg. bráv-ī-ti, bes. 1 pl. brū-más, $\sqrt{ } b r u$ (brū, speak), and in impf. fms., as $\dot{a}-b r a v-i-s, \dot{a}-b r a v-\bar{i}-t(2,3 \mathrm{sg}$.$) (id.) ; \bar{a} s-\bar{i}-s, \bar{a}_{s} s-\bar{\imath}-t$ ( $2,3 \mathrm{sg}$. ), $\sqrt{ }$ as (esse), etc.; ghr-i -tá-s past part. pass., $\sqrt{ }$ grah (grasp), has likewise this $i$, which is therefore used just like $i$, only not so often.

The Vēd. às for ${ }^{*} \bar{a} s-t$ (acc. to a sound-law of Old-Ind., which must be discussed under ' Consonants'), instead of later $\bar{a} s-i-t$, favours the view that $i$ is an auxil. vowel inserted at a later time.

Note.—Since beside sváp-i-mi for *svapmi, etc., we see stápãmi, etc., we must simply suppose that here, as often elsewhere, beside the pres. st. svap-, there was a pres. st. in $a$, svapa-.

GREEK.
Summary of Sounds.

| consonants. |  |  |  |  |  | vowels. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| momentary sounds. |  |  | Prolonged sounds. |  |  | $\left.\left.\begin{array}{\|c} a \bar{a} \\ \iota \bar{i} \end{array}\right\} \in \eta\right\}$ |
|  | UNASPIRATED mute sonant ${ }^{1}$ | aspirated. <br> mute | SPIRANTS. <br> mute sonant ${ }^{1}$ | $\begin{aligned} & \text { nasals. } \\ & \text { sonant }{ }^{2} \end{aligned}$ | $r$-\& $l$-sounds. sonant ${ }^{1}$ |  |
| Gutt. | $\kappa \quad \gamma$ | $\chi$ | ${ }^{\circ}$ | $\gamma$ |  |  |
| Pal. |  |  |  |  |  |  |
| Ling. |  |  |  |  | $\rho \quad \lambda$ | 7 |
| Dent. | $\tau \quad \delta$ | $\theta$ | $\sigma$ | $\nu$ |  | $\rangle v \bar{v}$ |
| Lab. | $\pi \quad \beta$ | $\phi$ | (F) | $\mu$ |  | (ov) J J |

${ }^{1}$ Or medial.
§ 16. In this table only the indivisible sounds are mentioned.
$\zeta$ is a consonantal diphthong, namely $d$ with the sonant dental spirant (e.g. Sclavonian z). $\psi, \xi$, are only characters for two sounds $\pi \varsigma, \kappa \varsigma$. The vowel-diphthongs are $a \iota, \epsilon \iota, o \iota ; a v, \epsilon v, o v$ (older pronunciation) ; $v \iota$; also $a, \eta, \omega$ (older pronunciation, by which the $\iota$ was still heard); $\bar{a} u$ (perhaps in the word $\gamma \rho \bar{a} \bar{v} s$ [ $\gamma \rho \eta \hat{v}_{\varsigma}$ ], perhaps pronounced distinctly from av with short $a$ ), $\eta v, \omega v$.

Note 1.-v at an earlier period of the language was equivalent to $u$, but became pronounced like $y$, $\ddot{u}$, as early as classical times; $o v$ in the earlier language was the genuine diphthong ou, but even in the classical period it had become equivalent to $\bar{u}$, as indeed it did in other languages, e.g. French, the older ou became $\bar{u}$, whilst the spelling retains the earlier sound-grade.

To pronounce Old-Greek after the fashion of modern Greek is a mistake, which arises from utter ignorance of the laws of development and phonology of a language.

We should be careful to distinguish aı from $\epsilon \iota$ in pronunciation, because they are distinct sounds: they are pronounced as they are written, i.e. al like German ai or $e i$, but $\epsilon c$ like $e+i$ tacked on, a diphthong, which is found dialectically in German, and characterized in other languages by ey (ej) (cf. Curt. Erl. § 8 sqq.).

Note 2.-Like most other written languages, the Greek does not characterize its long vowels throughout; in earlier Greek, however, they were not indicated at all: $a$ serves as $a$ and $\bar{a}, c$ for $i$ and $\bar{z}, v$ for $\ddot{u}$ and $\bar{u}$, in the earlier writing $\epsilon$ for $e$ and $\bar{e}$ $(\eta)$; o for $o$ and $\bar{o}(\omega)$. These incomplete indications of sounds have nothing to do with the language itself, $\tau \in \varsigma$, e.g., must be read $\tau \hat{\eta}, \tau \epsilon \iota=\tau \eta \iota$, i.e. $\tau \hat{\eta}, \tau o \iota=\tau \omega \iota$, i.e. $\tau \hat{\omega}$, etc.; in all cases the long vowels are derived from the original language. Cf. ' Declensions.'

The system of Greek writing belongs to Greek specialgrammar, as an appendix to the phonology.

## The Greef Vewel-system.

The most important deviation from the original language lies in the colouring of $a$ into $e$ and $o$, which takes place alike in the case of $a$ and $\bar{a}$ by the side of the original vowel pre-
served : the archaic dialects (Dôric) have remained most faithful § 17. to the older order of sounds: $o$ has a double duty; it is not only 1 . the representative of the original $a$, but also 2 . (opposed to $\epsilon=a$ ) the representative of the original $\bar{a}$.

Through the differentiation of $\bar{a}$ into $o, \bar{a}, \eta, \omega$, it became possible to separate $\omega$ as the second step from the first $o, a, \eta$.

The weakening of $a$ into $c$ and $v$, as well as loss of $a$, occurs comparatively seldom.

This same colouring of the $a$-sound into $e$ and $o$ occurs when it is combined with $i$ and $u$ in a diphthong; here too $\epsilon(=a)$ is the first, $o(=\bar{a})$ the second step, which however is replaced in the $u$-scale almost always by the first step ( $\epsilon \iota, \epsilon \nu=$ original $a i$, $a u$; ou, ov=original $\bar{a} i, \bar{a} u$ ). It is only wherever the language has lost the living variability of the vowels according to their scales, $a \iota$ and $a v$ appear as steps raised from $\iota$ and $v$.

A large number of vowel-sounds, especially diphthongs and long vowels, arise in Greek through the elision, permutation, and change of position of the original spirants $y, v, s$, which were entirely, or in certain combinations, unbearable to Greek pronunciation. The vowel-sounds so formed are consequently entirely unoriginal, being products of the peculiar sound-laws of the Greek language, and foreign to the original state of the language.

The Greek vowel-system, in many parts differing from the original one, reminds us in several respects of the Zend ; whilst we find on the other hand the greatest conformity with that of the Latin language.

The vowel-scales of the Greek language are then as follows: Weakening. Fundamental-vowel. 1st Step. 2nd Step.

| $a$-scale loss $\quad \iota, v$ | $\epsilon, o, a$ | $o, \bar{a}, \eta$ | $\omega$ |  |
| :--- | :--- | :---: | :---: | :---: |
| $i$-scale |  | $\iota$ | $\epsilon \iota(a \iota)$ | $o \iota$ |
| $u$-scale |  | $v$ | $\epsilon v(a v)$ | $o v(\bar{a} v)$ |

Note.-More than one sound accordingly occurs here in different functions, as is the case with $i$ and $u$ in Sanskrit, and
§ 17. partly also in Zend. In the Greek, however, we meet with the ambiguity of the sounds for the first time to a greater extent; we may here therefore speak of it briefly. Besides the permutations shown above, $\iota=$ original $i$ and $a ; v=$ original $u$ and $a$; $o=o r i g i n a l ~ a$ and $\bar{a}$ : that is, the diphthongs are ambiguous because they stand, sometimes for scale-sounds, sometimes for results of contraction, sometimes for protracted vowels. e.g. $\epsilon \iota$ in $\epsilon i \mu \iota$ ( $\epsilon$, ibo), fundamental-form $a i-m i$, originally distinct from $\epsilon i \mu i$ (sum), from ${ }^{*} \dot{\epsilon} \sigma \mu c$, fund.-form $a s-m i$; $\epsilon i$ in $\epsilon i \pi o \nu$ (dixi), fr. ${ }^{*} \epsilon \epsilon \pi o \nu,{ }^{*} F_{\epsilon} F_{\epsilon \pi \sigma \nu,} \sqrt{ } F_{\epsilon \pi}$; $\epsilon i$ in $\epsilon^{\prime} \eta \nu$ (opt. pres.) for ${ }^{*} \epsilon \sigma \sigma \eta \eta \nu$, f.f. as-y $\bar{a}-m$; $\kappa \tau \epsilon i \nu \omega$ (kill) for ${ }^{*} \kappa \tau \epsilon \nu y \omega$; ov in $\sigma \pi \sigma v \delta \gamma^{\eta}$ (haste ; raised to $\epsilon v$ in $\sigma \pi \epsilon \epsilon^{\prime} \delta \omega, V_{\sigma \pi v \delta}$ ) is altogether different, as ov in $\pi o v{ }^{\prime}$ s (foot) for ${ }^{*} \pi o \delta-s$, f.f. $p a d-s$; $o v$ in $\tau o v{ }^{5}$ for $\tau o v s$ (acc. pl. of $\tau o-$ ),
 (gen. sing. masc. and n. fr. veo-, young); ov in yovvós for *yovFos (gen. sing. fr. yóvv, knee):-similarly in the case of oc, $\lambda o \iota \pi$-ós (remaining), $\sqrt{ } \lambda \iota \pi$, but $\mu o i \rho a$ (lot, fate) for ${ }^{*} \mu o \rho-y a$, $\sqrt{ } \mu \in \rho$ (divide) ; ois, fr. ö $\iota s$ (older form őFls, Lat. ouis); a $a$ in ail $\theta \omega$ (burn), $\sqrt{ } i \theta$, but $\mu$ é $\lambda a \iota \nu a$ (nom. sing. fem. st. $\mu \in \lambda a \nu$-, black) for $\mu$ é $\lambda a \nu y a$, etc.

## Examples.

1. $a$-scale.

Weakening. Loss. e.g. $\gamma^{i}-\gamma \nu 0-\mu a \iota$ (become) for ${ }^{*} \gamma \iota-\gamma \epsilon ́ v-o \mu a \iota$, $\sqrt{ } \gamma \epsilon \nu$, original gan; $\pi i-\pi \tau-\omega$ for ${ }^{*} \pi \iota-\pi \epsilon \tau-\omega, \sqrt{ } \pi \epsilon \tau$, original pat (fall); $\stackrel{\epsilon}{\epsilon}-\sigma \chi$-ov ( 1 sing. aor.), fund.-form $a$-sagh-am, $\sqrt{ } \sigma \epsilon \chi$, original $\sqrt{ }$ sagh; $\stackrel{⿺}{\epsilon}-\sigma \pi$-ó $\mu \eta \nu$ ( 1 sing. aor. $\ddot{\epsilon} \pi-o \mu a \iota$ ), $\sqrt{ } \sigma \epsilon \pi$ (follow), original $\sqrt{ }$ sak, etc.

There takes place not unfrequently a complete loss of an original $a$ in the elements of stem-formation, e.g. $\pi a-\tau \rho$-ós, $\pi a-\tau \rho-i$, from stem $\pi a \tau \epsilon \epsilon \rho-$ (father), original pa-tar-, thus stand for $\pi a \tau \epsilon ́ \rho-o s, \pi a \tau \epsilon ́ \rho-\iota$ (Homêric), f.f. patar-as, patar-i, etc.

Note.-Loss of initial $a$ in Greek is not common, cf. $\grave{\epsilon} \sigma-\mu \dot{\epsilon} \nu$ (we are), f.f. as-masi, Sansk. s-más, and Lat. s-umus; $\epsilon i \eta \nu=$ ${ }^{*} \epsilon \dot{\epsilon} \sigma y \eta \nu$, f.f. as-yām, Sansk. $s-y \bar{a} m$, Lat. $s-i \bar{e} m$; $\epsilon \hat{v}(\bar{\epsilon} \hat{v})$ for ${ }^{*} \epsilon \in \sigma v ́$, f.f. $a s u$, Sansk. $s u$ (well).

The weakening of original $a$ to $\iota$ (cf. Curt. Gk. Et., p. 641 sqq .) is not frequent or regular in roots, and occurs most often before two consonn., e.g. $\bar{\sigma} \sigma \cdot \theta \iota$, f.f. as- $d h i$ ( 2 sing. imper.),
$\sqrt{ }$ е́s, origl. and Sansk. as (to be); $\pi i \tau-\nu \eta \mu \iota$ beside $\pi \epsilon \tau-a ́ \nu \nu \nu \mu \iota \S 18$. (spread out), cf. pateo; $\pi \iota \tau-\nu \epsilon ́ \omega$ (fall), $\sqrt{ } \pi \epsilon \tau$, Sk. pat; кı $\rho-\nu \eta \mu$, beside $\kappa \epsilon \rho-a ́ \omega, \kappa \epsilon \rho-\alpha ́ \nu \downarrow \nu \mu \iota$ (mix); $\tau \ell \kappa-\tau \omega$ (bring forth), $\sqrt{ } \tau a \kappa$,
 $\dot{a}_{\varsigma}$-vas, Lat. eq-uos, f.f. $a k$-vas, $\sqrt{ } a k$ (run). The passing of original $a$ into $i$ is through intervening $e$, to which fact the examples cited bear witness.

This weakening of the fundamental $a$ into $\iota$ occurs regularly in the reduplicated form of the present, e.g. $\tau i-\theta \eta-\mu \iota$, Sk. and origl. dá-dhā-mi, $\sqrt{ } \theta \epsilon$, Sk. and origl. $\sqrt{ } d h a$ (place) ; $\delta l-\delta \omega-\mu l$, Sk. and origl. dá-dā-mi, $\sqrt{ } \delta o, \mathrm{Sk}$. and origl. da (give); $\gamma^{\prime}-\gamma \nu-o \mu a \iota, \sqrt{ } \gamma \epsilon \nu$, origl. gan (bring forth); $\pi i-\pi \tau-\omega, \sqrt{ } \pi \epsilon \tau$, origl. pat (fall). This $i$ (weakened from a) occurs lengthened to $\bar{i}$, e.g. in $\pi \frac{i}{i}-\nu \omega$ (drink), $\sqrt{ } \pi o$ ( $\pi \dot{\prime}-\sigma \iota \varsigma, \pi o-\tau \eta \dot{\eta} \iota o \nu, \pi \dot{\epsilon}-\pi \omega-\kappa a$ ), origl. pa; $\pi a \rho \theta \in \nu-o \pi-i \frac{i}{i} \pi-\eta$ s (looker-at-maidens), cf. $\quad \dot{a} \pi-\omega \pi-\eta$ (sight), $\sqrt{ } \dot{o} \pi$, origl. $a k$ (see); $\dot{v} \sigma-\mu i \nu \eta, \dot{v} \sigma-\mu i \nu \iota($ loc. sing. moil), f.f. yudh-manã, yudh-mani, the latter to the st. yudh-man-, $\sqrt{ }$ yudh (join battle), suff. man.

Dialectically (in Dôric, Aiolic) this weakening of origl. $a$ to $i$ is more common; e.g. Dôr. i $\sigma-\tau_{i}^{\prime} a$, Iôn. i $\sigma-\tau i \not \eta$, for $\dot{\varepsilon} \sigma-\tau_{i}^{\prime} a$ (hearth), origl. $\sqrt{ }$ vas; ì Arkad. and Kuprian for $\epsilon ่ \nu$ (in), related
 (n. sing. masc. part. pres. act.), $\sqrt{ } \boldsymbol{\epsilon} \sigma-$ (be), etc. Through the dulling of $a$ to $o$, and further of $o$ to $u$, a change of origl. $a$ to $u$ takes place.

This weakening of $a$ to $v$ (cf. G. Curt., p. 644 sqq.) occurs merely unconnectedly, in most cases through the influence of a nasal or $r, l$; and berein we must not forget that $v$ represents an older $u$, so that in Greek we have the same weakening from $a$ to $u$ as in Lat. and German, etc., e.g. $\nu v \kappa \tau-o ́ s$ (gen. sing.), stem $\nu v \kappa \tau-$ (night), (Sk. adv. nákt-am=noctu), Lat. stem. noct-: the root-vowel thus is $a$, and the root clearly $\checkmark n a k$ (necare, nocere) ; in ò $\nu v \xi$ (stem óvvð-, nail), root $\nu u \chi$, cf. Goth. nag-ls, Sk. nakh-ás, etc., the origl. vowel is no doubt $a$; $\gamma v \nu \eta^{\prime}$ (woman),
§ 18. $\sqrt{ } \gamma a \nu$ (bring forth), cf. Sk. ǵán-a-s (mensch), ǵánı (wife), Gothic kven-s (wife, spouse) ; кúкдоs (ring), cf. Sk. k'akrá-m; $\mu \nu \bar{\lambda}-o s, \mu v ́ \lambda-\eta$ (mola), $\sqrt{ }$ mal fr. mar, cf. mola, molere, Lith. malù, Gothic malan; ả $\nu$ - $\omega \nu \nu \mu o s$ (nameless) beside övoua (name), f.f. gnāman, etc.

Dialectically this change is more frequently observed, esp. in Aiolic, e.g. ŏ $\nu v \mu a=o ̋ \nu o \mu a ; ~ \check{v} \mu o \iota o s=o ̈ \mu o \iota o$, f.f. samaias, from stem $s a m=\mathrm{Gk}$. $\dot{\boldsymbol{j}}$ ( ${ }^{\boldsymbol{o} \mu o ́ s, ~ l i k e), ~ t h e ~ o r i g i n ~ o f ~ w h i c h ~ i s ~ f o u n d ~}$ in the pronoml. origl. $\sqrt{ } s a=\mathrm{Gk} . \delta$; Aiolic locative ă $\lambda \lambda \nu \iota$, $\tau \cup \hat{\delta} \hat{\delta}$, for $a ̈ \lambda \lambda o \iota$ ( $\grave{a} \lambda \lambda o-$, other), $\tau o \hat{\delta} \delta \epsilon$ ( $\tau o-$ demonstr. pronoml. st.); Boiôtian $\tau u ́$ for ${ }^{*} \tau u \iota=\tau o \iota(\mathrm{n}$. pl. masc. same st.), $\tau \hat{v} \varsigma ~ a ̆ \lambda \lambda u \varsigma=$ ${ }^{*} \tau v \iota{ }^{*}{ }^{*} \lambda \lambda \lambda \iota \iota=\tau o i ̂ s ~ a ̈ \lambda \lambda o \iota s$ (dat. loc. pl.), by contraction of $v \iota$ to $v$.

Note.-I hold it inadmissible to separate from the rest those cases in which original $k a, g a$, become $\kappa v, \gamma v$, and to explain them collectively from kva, gca, with loss of $a$; neither will a $\mathrm{fm} .{ }^{*} \kappa F a \kappa \lambda o s$ seem to me to be Gk., and yet we must suppose some such form. No one, so far as I know, has had recour'se to a fm. ${ }^{*} \nu F a \xi,{ }^{*}{ }^{\partial} \nu F a \xi,{ }^{*} \mu F a \lambda \eta$, in order to explain the $v$ in these words. Here $v$ must have arisen from $a$ without passing through $v a$, and the same process must have taken place after gutturals.

## §19. Root-vowel $a$ in the original language.

As a rule, $\epsilon$ is the representative of origl. $a$ in roots; whilst $o$ generally takes its place in the stem-formative and wordformative particles, $a$ is found in roots; in word-formative additions it is mostly dependent on a nasal now lost, but once in existence.
$\epsilon=a$. ${ }^{\epsilon} \delta-\omega$, Sk. ád-mi (eat), $\sqrt{ } \mathfrak{\epsilon} \delta$, origl. ad (edo) ; $\sqrt{ } \in \delta$ in ${ }_{\epsilon}^{\prime} \zeta-о \mu a \iota={ }^{*} \sigma \epsilon \delta-y \circ \mu a \iota$ (sed-eo), $\check{\prime} \delta$-os (sed-es), origl. sad (sit); $\sqrt{ } \gamma \epsilon \nu$ in $\gamma^{\prime} \nu-o s$ (gen-us), origl. gan (gi-gn-ere) of gan-as; $\epsilon \sigma-\tau i$, Sk. and origl. ás-ti ( $\sqrt{\epsilon} \sigma \sigma$, origl. as, esse) ; $\phi \hat{\epsilon} \rho \omega$, Sk. and origl. bhár-ämi, é $\phi \epsilon \rho-o \nu, \mathrm{Sk}$. and origl. á-bhar-am, $\sqrt{ } \phi \epsilon \rho$, origl. bhar (ferre), etc. So also $\epsilon$ is common in elements of relation, e.g. st. $\pi a-\tau \epsilon ́ \rho-$ (n. sing. $\pi a r \eta \rho^{\prime}$, father), origl. pa-tar- ; st. $\mu \hat{\eta} \cdot \tau \epsilon \rho-$ (n. sing. $\mu \eta_{\eta}^{\prime} \eta \rho$, mater), origl. mātar- ; st. $\mu \epsilon \in \nu-\epsilon \sigma-$ (n. sing.
$\mu \notin \nu o s$, might), Sk. and origl. mán-as; ф'́p-є $\epsilon \epsilon$, Sk. bhár-atha; § 19. origl. evidently bhar-a-tasi ( 2 pl. pres. act.), etc.
$o=a$. $\pi 0 \delta$-ós, Sk. and origl. pad-ás (g. sing.), st. and $\sqrt{ }$ pad (foot, go), where of course, in accordance with the sensibility of the Greek, the o may also be considered as a raised step from $\epsilon$ in $\pi \epsilon \delta$; $\dot{\delta}$, $\tau \boldsymbol{\prime}$, origl. and Sk. sa, $t a-t$, root and st. $s a, t a$ (pron. dem.) ; $\pi_{o ́ c}^{\prime}-\sigma_{l}-s$ (lord)=origl. and Sk. pá-ti-s (lord); $\mu \dot{v} \nu-o s$ (n. acc.), $\mu \epsilon ́ \nu$-ovs (gen. sing.) for ${ }^{*} \mu \epsilon ́ v \in \sigma-o s$, Sk. and origl. mán-as, mán-as-as; similarly in $a$-stems, $a$ changes to $o$, as $\nu \in ́ F_{o-s}$ (n. sing. masc.), $\nu \in ́ F_{o-\nu}$ (acc. sing.) $=$ Lat. nouo-s, nouo-m, Sk. and origl. náva-s, náva-m, etc.

Dialectically o takes the place of a. Aiolic $\beta \rho o \chi^{\epsilon} \omega$, for $\beta \rho a \chi$ '́ $\omega \mathrm{s}$ (adv.), from st. $\beta \rho a \chi \chi^{\prime}$ (breuis=breguis, short); Arkadian éкото́у for є́като́у (100), f.f. of -катоу is kata-m or kanta-m, cf. Sk. çatá-m; Kuprian ко́р $\zeta а=к а \rho \delta i ́ a ~(h e a r t), ~ c f . ~$ Lat. cord-, f.f. of this stem is kard- ; st. $\tau \in \kappa \tau a \nu$ - in тє́ктaıva, i.e. ${ }^{*} \tau \epsilon \kappa \tau a \nu y a$ (fem.), тєктаін-онає (build), i.e. ${ }^{*} \tau \epsilon \kappa \tau a \nu y o \mu a \iota$ stands by the form $\tau$ 'єктоע- (n. sing. тє́ктшע, builder), f.f. taktan-; the older $a$ is preserved in the Dôric Fiкatı for the newer Attic el้кобь (twenty), f.f. of the second part of the word is (da)kati; in סıa-кátıo七 for $\delta \iota a \kappa o ́ \sigma \iota o \iota ~(200),-к а т \iota o \iota ~ i s ~ d e r i v e d ~ f r o m ~ a n ~ o r i g l . ~$ stem kata- or kanta- (100).
$a=a$. $\quad \dot{a} \kappa-\omega \kappa-\eta$ (point), st. ăk $\kappa$-ovt- (n. ä́ $\kappa \omega \nu$, dart), origl. $\sqrt{a} \kappa$ (Lat. ac-, ac-utus) ; ä $\gamma-\omega$ (lead) = Lat. ago, Sk. áǵ-āmi, origl. $\sqrt{ } a g$; ă $\chi o s$ (grief), ă á $\chi$ - $\nu \cup \mu a \iota ~(a m ~ g r i e v e d), ~ o r i g l . ~ V a g h ; ~$ $\epsilon$ è $\lambda a \chi$-ús (little), Sk. lagh-üs (old ragh-ú-s) (light); $\pi \lambda a \tau u ́-s$ (broad, wide), Sk. prthú-s, origl. pratu-s; $\lambda a-\mu-\beta-a ́ \nu \omega$ (take), є̈- $\lambda a \beta-o \nu$, Sk. $\dot{a}-l a b h-a m, \sqrt{ } \lambda a \beta$, Sk. labh- (get); $\delta \alpha ́ \kappa-\nu \omega$ (bite),
 loq-uor, Sk. láp-āmi (cry out), $\sqrt{ } \lambda a \kappa$, origl. rak; st. тa-тép$(f a t h e r)=$ Lat. $p a-t e r-$, origl. pa-tar-, $\sqrt{ } p a$ (protect).
$a$ stands beside $\epsilon$, e.g. $\frac{\epsilon}{-}-\tau a \mu-o \nu$ beside $\frac{\epsilon}{\epsilon}-\tau \epsilon \mu-o \nu(\tau \epsilon ́ \mu-\nu \omega$, cut), in
 (turn), $\kappa \tau \epsilon i \nu-\omega$ (kill) $\left(=^{*} \kappa \tau \epsilon \nu-y \omega\right)$. We cannot trace herein a
§ 19. step from $\epsilon$ to $a$, but only a vowel-colouring, originally merely dialectic, which indeed was used in Greek for the purpose of expressing the relation of the aorist. As $\dot{\epsilon}-\tau a \mu-o \nu$ is to $\dot{\epsilon}-\tau \epsilon \mu-o \nu$, so are the present forms $\tau \epsilon ́ \mu \nu \omega$, $\tau \rho \varepsilon ́ \phi \omega$, $\tau \rho \epsilon \in \pi \omega$ to the Dôric $\tau a ́ \mu \nu \omega, \tau \rho a ́ \phi \omega, \tau \rho a ́ \pi \omega \omega$, which we have to consider as the pre-
 $\kappa \rho \epsilon i \sigma \sigma \omega \nu$ (better) (i.e. *крєт-уш ) beside крáт-ıбтоs (best). Cf. Dôric $\bar{a}=$ Iôn. Attic $\eta$.
$a=a+$ nasal. $\pi o ́ \delta a$ (acc. sing.), Sk. and origl. pád-am (pedem), $\pi o ́ \delta-a s$, Sk. pád-as, origl. padam-s; $\phi \in ́ \rho o \nu-\tau a$, Sk. and origl. bháran-tam (feren-tem), ф́́fovt-as, Sk. bhárant-as, origl. bharantams (acc. pl. ferent-es) ; é $\pi \tau a ́$, Sk. and origl. saptán (septem) ; סéкк, Sk. déçan, origl. dakan (decem); - $\sigma a$ ( 1 sing. aor. in comp.) $=$ Sk. and origl. $-s a-m$, cf. $\epsilon \epsilon-\delta \epsilon \epsilon \xi a(=\dot{\epsilon}-\delta \epsilon \epsilon \kappa-\sigma a)$ and Sk. $\dot{a}-d i k-$ $\check{s} a-m, \sqrt{ } d i c ̧$, origl. $d i k$ (show).
§ 20. Step-formation in the $a$-scale. Rule for the first step is : radical $\epsilon$ is raised to $o, a$ to $\bar{a}$ (i.e. $\eta$ ). There are, however, exceptions to this rule.

1. $\epsilon: 0$. фо́о-o-s (tax), фор'́̄ (bear (durative), wear) $=\mathrm{Sk}$. and f.f. bhā́r-a-s (burden), bhār-áyāmi (causat.) beside $\phi \hat{\epsilon} \rho-\omega$, Sk. and f.f. bhár-āmi (fero) ; Fó $\chi$-o-s (waggon), Sk. vah-a-s, f.f. vägh-a-s (waggon), $\sqrt{ }$ F $\mathcal{X}$, Sk. vah, origl. vagh (vehere), which, however, as a verb becomes intermixed with $\sqrt{ } \sigma \epsilon \chi, \mathrm{Sk}$. sah (have, hold); $\mu^{\prime}-\mu o v-a$ (strive), f.f. ma-mãn-a, beside $\mu_{\epsilon}^{\prime} \nu-o s ~(m i g h t), ~ S k . ~ a n d ~ f . f . ~ m a ́ n-a s, ~ \sqrt{ } \mu \epsilon \nu$, origl. $\sqrt{ }$ man (think); $\gamma o \nu-\eta$ (birth), yóv-o-s (thing born, bairn), $\gamma^{\prime}-\gamma o \nu-a$, f.f.
 f.f. gan-as, $\sqrt{ } \boldsymbol{\gamma} \in \nu$, origl. $\sqrt{ }$ gan (gi-gn-ere); то́коs (thing born, bairn), ток- $\mathcal{U}^{\prime}-\varsigma$ (parens), beside $\tau \epsilon \kappa$ - $\epsilon \sigma \theta a l$, $\tau i \kappa-\tau \omega, \sqrt{ } \tau \epsilon \kappa$ (produce) ; $\tau \in ́-\tau \rho o \phi-a$ beside $\tau \rho \epsilon \in \phi-\omega$, $\epsilon^{\epsilon}-\tau \rho a ́ \phi-\eta \nu, \sqrt{ } \tau \rho \epsilon \phi$ (nourish); ё-ктор-a beside $\kappa \tau \epsilon i \nu-\omega$ (i.e. $\left.{ }^{*} \kappa \tau \epsilon \nu-y \omega\right)$, ${ }^{\epsilon}-\kappa \tau a \nu-о \nu, \sqrt{ } \kappa \tau \epsilon \nu$ (kill);
 beside $\phi \theta \epsilon i \rho \omega$, i.e. ${ }^{*} \phi \theta \epsilon \rho-y \omega, \sqrt{ } \phi \theta \epsilon \rho$ (destroy); oo $\psi$ (voice), i.e. Fó $\pi-\varsigma$, origl. $v \bar{a} k-s$, Sk. $v \bar{a} k$ for ${ }^{*} v \tilde{a} k$-s (cry), beside $F \dot{\epsilon} \pi \pi$-os (word),
origl. $\imath a ̄ k$-as, Sk. $v a k$-as, origl. $\sqrt{ } v a k$ (cry) ; yóv-v, gen. yóvatos, § 20. older (Iôn.) yoúvatos $={ }^{*}$ yovFatos, yov ${ }^{\circ}$ ós $={ }^{*}$ yovFos, cf. Sk. ǵánu (genu) ; ò- $\nu o-\mu a$, older (Hom.) oü- $\nu o-\mu a$ (name), from ő- $\gamma \nu o-\mu a$, cf. Lat. gno-men, (Sk. nátm-an, also, with root-vowel raised).

In Greek, on account of the prosodic quantity of $o$, this step is possible only before two consonants, e.g. $\delta$ é $\delta о \rho к а=\mathrm{Sk} . d a$ -dárç-a, origl. $d a-d a r k-a$, beside $\delta \epsilon ́ \rho \kappa-о \mu a l$, ${ }^{c}-\delta \rho a \kappa-o \nu, \sqrt{ } \delta \epsilon \rho \kappa$, origl. dark (see).

Note.-The same kind of step-formation of $e=a$ to $o=\bar{a}$ occurs in Latin, also in Sclavonic, e.g. O.-Bulg. vez-a=original vagh-āmi, Lat. ueho, bes. voz-ŭu=original văgh-a-s, Gk. Fó $\chi$-o-s, v. infr.
2. $a: \bar{a}, \eta$. two equivalent sounds. e.g. $\lambda \epsilon \in-\lambda \eta \kappa-a, \lambda \epsilon \in-\lambda \bar{a} \kappa-a$, beside $\epsilon^{\epsilon}-\lambda a \kappa-o \nu, \sqrt{ } \lambda a \kappa$ (cry out), cf. Sk. lap, origl. rak; $\kappa \epsilon \in-\kappa \lambda \eta \gamma-a$ beside $\epsilon$ є́ $\kappa \lambda a \gamma-o \nu, \kappa \lambda a ́ \zeta \omega={ }^{*} \kappa \lambda a \gamma-y \omega, \sqrt{ } \kappa \lambda a \gamma$ (sound) ; $\lambda \epsilon \in-\lambda \eta \theta-a$, Dôr. $\lambda \epsilon ́-\lambda a \theta-a$, $\lambda \eta^{\prime} \theta \eta$ (forgetfulness), beside $\epsilon_{\epsilon}^{e}-\lambda a \theta-o \nu, \lambda a-\nu-\theta-a ́ \nu \omega$,
 $\sqrt{ } \lambda a \chi$ (get by lot) ; $\delta \epsilon ́-\delta \eta \chi-a$ beside $\delta a ́ \kappa-\nu \omega$, ${ }^{\epsilon}-\delta a \kappa-o \nu, \sqrt{ } \delta a \kappa$ (bite); $\epsilon \iota-\lambda \eta \phi-a, \lambda \hat{\eta} \psi-\iota \varsigma$ (i.e. $\lambda \eta \pi-\sigma \iota \varsigma=\lambda \eta \beta-\tau \iota \varsigma)$, beside $\epsilon$ ध $-\lambda a \beta-o \nu$, $\lambda a-\mu-\beta-\alpha ́ \nu \omega, \sqrt{ } \lambda a \beta$ (take); кє́-к $\kappa \bar{a} \gamma-a$ beside $\kappa \rho a ́ \xi \omega$, ${ }^{*} \kappa \rho a \gamma-y \omega$,
 $r a \bar{g}-a$, beside $a ̈ \gamma-\nu v \mu \iota, \sqrt{ }$ Fay (break); st. $\mu \hat{\eta}-\tau \epsilon \rho-$, origl. and Sk. $m \bar{a}-t a r-$, etc.

In elements belonging to the formation of words, $o$ will be found raised to $\eta, \bar{a}$ : this rule is observed regularly in the stemtermination $o=a$ in such stems as are raised in the feminine termination, e.g. $\nu$ éo-s (n. sing. masc.), $\nu \in ́ o-\nu$ (n. sing. neut.), origl. and Sk. náva-s, náva-m (nouo-s, nouo-m), but fem. $\nu \in ́-a$, Iôn. $\nu \in ́ \eta=$ origl. and Sk. nárā (noua). In $\dot{\eta}^{\prime} \bar{a}$, origl. and Sk. $s \bar{a}$, beside $\dot{\delta}$, origl. and Sk. $s a$ (pron. demonstr.), and other pronominal stems, is found radical o raised to $\eta, \bar{a}$, the root being equivalent to the stem as often.

Note 1.— $\mu \dot{\epsilon}-\mu \eta \lambda-a$ beside $\mu \hat{\epsilon} \lambda-\epsilon l, \sqrt{ } \mu \epsilon \lambda$ (be a care to), shows also the raising of $\epsilon$ to $\eta$.
§20. Note 2.-Sometimes $\bar{a}$ is shortened to $\breve{a}$, e.g. Fá $\sigma \tau v$ (city), Sk. $r \frac{a}{s}-t u$ (house), Sk. and original $\sqrt{ }$ vas (inhabit); similar shortenings often occur in the $a$-termn. of feminine stems.

Note 3.-The laying-down of the laws for the use of $\bar{a}, \eta$, belongs to the special-grammar of Greek: the Dôric predilection for the more ancient $\bar{a}$ and that of Iônia for $\eta$ are well known. In Attic likewise $\bar{a}$ changes to $\eta$, yet $a$ repeatedly occurs, owing to the surrounding sounds, especially in the case of $\rho, \epsilon, \eta, \iota, y$ (i.e. $\zeta$, $\sigma \sigma, \lambda \lambda$, etc.), preceding, and $\epsilon, \eta$, following, when its change to $\eta$ is stopped.

For the second step we have $\omega$ in examples such as ${ }^{\prime} \rho-\rho \omega \gamma-a$, $\dot{\rho} \omega \dot{\xi}, \dot{\rho} \omega \gamma$-ós (cleft), beside $\rho \dot{\eta} \gamma-\nu v \mu \ell, \sqrt{ } F \rho a y$ (break), cf. Goth. brak, Lat. frag; $\pi \tau \dot{\omega} \xi$, i.e. $\pi \tau \omega \kappa \kappa-\varsigma$, gen. $\pi \tau \omega \kappa$-ós (cowering), $\pi \tau \omega \sigma \sigma \omega$, i.e. ${ }^{*} \pi \tau \omega \dot{\kappa}-y \omega$ (cower), beside $\pi \tau \eta \dot{\eta} \sigma \omega={ }^{*} \pi \tau \eta \dot{\eta} \kappa-y \omega$, е゙- $\pi \tau a \kappa$-ov, $\sqrt{ } \pi \tau \alpha \kappa$ (cower), clearly a further formation from $\sqrt{ } \pi \tau a$, cf. $\pi \epsilon-\pi \tau \eta-\kappa \omega ́ s ; \dot{a} \rho \omega \gamma$-ós (helper) beside áp $\gamma \gamma-\omega$ (I help). From these examples we gather an equation $\eta: \omega:: \epsilon: 0$.

Also where there is no parallel first step to $\omega$, we must hold it to be in the position of a second step, e.g. $\tau \rho \hat{\sigma} \gamma-\omega$ beside

 $\dot{a} \kappa-\omega \kappa-\dot{\eta}$ (point), $\sqrt{ } \dot{a} \kappa$, cf. $\grave{\prime \prime} \pi \pi \pi o s$ (equos), origl. ak-vas; $\dot{\omega}$-óv, better
 (ouom, lit. bird-, of a bird), from origl. avi-s, Sk. vi-s (auis); a $\gamma-\omega \gamma-\eta$ ' (leading), ${ }_{a} \gamma-\omega \gamma-o ́ s$ (leader), beside $\dot{a} \gamma-a \gamma-\epsilon \hat{\nu} \nu$, ${ }^{a} \gamma-\epsilon \iota \nu$ (lead); ' $\delta i-\delta \omega-\mu \iota$ beside $\delta i-\delta o-\mu \epsilon \nu, \sqrt{ } \delta o$ (dare) ; $\epsilon \delta-\omega \delta-\dot{\eta}$ (food), $\sqrt{ } \in \delta$, Lat. $e d$, origl. and Sk. ad (eat); $\gamma \nu \omega$-тós (known), $\gamma \iota-\gamma \nu \omega$ - $\sigma \kappa \omega$ (learn, come to know), cf. Lat. (g) nō-tus, (g)nō-sco, $\sqrt{ }$ gna, from gan.

Note.-Dialectically ov occurs for $\omega$, i.e. $\bar{u}$, in isolated instances (a weakening which occurs also in Lat.). $\omega:$ ov ( $\bar{u}):: 0: v(u)$, e.g. Thessal. $\gamma \nu o u ́ \mu a=\gamma \nu \dot{\mu} \mu \eta$ (insight, opinion), $\sqrt{ } \gamma \nu o$, original gna $=$ gan (learn); $-o v \nu=-\omega \nu$, fund. $-\bar{a} m$ in gen. pl., cf. Lat. $-u m$, etc.

## 2. i-scale.

Root-vowel $\iota$. ì- $\mu \in \nu, \grave{\imath}-\theta \iota$, Sk. i-más-i, i-hí, origl. i-masi, i-dhi,

$=$ Sk. and origl. vid-mási, st. Fí $\sigma-\tau o \rho-\left[\mathrm{n}\right.$. sing. ${ }^{i} \sigma-\tau \omega \rho$ and ${ }^{\prime \prime} \sigma-\tau \omega \rho \S 21$. (knower, witness)], for ${ }^{*} F \iota \delta$ - $\tau o \rho-$ - f.f. vid-tar, $\sqrt{ }$ vid (know);
 and element of stem-formation $\tau \iota ; \sigma \chi^{i} \delta-\eta$ (splinter), $\sigma \chi \iota \zeta \omega$ (split) $={ }^{*} \sigma \chi^{i} \delta-y \omega, \sqrt{ } \sigma \chi \iota \delta=$ Sk. kihid, Lat. scid, origl. skid (scindere); $o-\mu \iota \chi-\varepsilon \hat{\imath} \nu, \sqrt{ } \mu \iota \chi=$ Sk. mill, origl. migh (mingere); $\lambda i \chi-\nu o s$ (daintiness), $\lambda c \chi-\mu a ́ \omega, \sqrt{ } \lambda c \chi$, Sk. lih, rih, Lat. lig, origl. righ; $\sigma \tau^{i} \chi$-os (rank), $e_{-}^{-}-\sigma \tau \chi \chi-o \nu, \sqrt{ } \sigma \tau \chi \chi$ (march, tread), Goth. stig, Sk. and origl. stigh; $\tau i-s$, fund. ki-s, Lat. qui-s, Goth. ${ }^{*} h i-s$, pronl. root, origl. $k i$ (dem. and interrog.), etc.

Lengthened $\bar{i}$ is a parallel form to $i$ (often depending on fixed proportion of sound), e.g. Hom. ' $\hat{\epsilon}-o \mu \epsilon \nu$ and ' $\bar{i}$-o $0 \epsilon \nu$ beside ' $\hat{i}-\omega \mu \epsilon \nu$ ( 1 pl . pres. conj.), origl. $i$ - $a$-mas, $\sqrt{ } i$ (ire) ; $i \delta-o s$ (ntr. sweat), $' i \delta-i ́ \omega$ (I sweat), $\sqrt{ } i \delta$, origl. svid, cf. Sk. svid-yāmi ; $\pi \bar{i}-\nu \omega$ ( $\pi i v \nu \epsilon$ ), $\pi i \theta \iota$, beside $\begin{gathered}\epsilon \\ -\pi \imath \imath-o \nu, ~ \\ \\ \pi \iota \\ \text { (drink), cf. Sk. } p i \\ \text { beside } p a \text {. }\end{gathered}$
$i$ raised by steps.

1. $i$ raised to $\epsilon \iota$; e.g. $\epsilon i-\mu \iota$ (go), Sk. $\frac{\hat{e}}{-}-m i$, origl. ai-mi, $\sqrt{ } i$; $\pi \epsilon(\theta-\omega$ (1 sing. pres.), $\sqrt{ } \pi \iota \theta$, so $\lambda \epsilon i \pi \pi-\omega, \sqrt{ } \lambda \iota \pi$; $\lambda \epsilon i ́ \chi-\omega$, origl. raigh-ämi (1 sing. pres.), $\sqrt{ } \lambda \iota \chi$, origl. $\sqrt{ }$ righ ; $\sigma \tau \epsilon \mathcal{\chi} \chi-\omega$, origl.
 outward-form), $\sqrt{ } F \iota \delta$; $\epsilon i \kappa-\omega \nu$ (likeness) beside $\epsilon$ é- $\kappa-\tau о \nu$, $\bar{\epsilon}-i \kappa \tau \eta \nu$, $\sqrt{ } F_{\iota \kappa}$, clearly ( $=$ resemble); $\kappa \epsilon \hat{\imath}-\tau a \iota(3$ sing. pres. med. $)=$ Sk. $s_{e}^{\prime}-t e \bar{e}$, $\sqrt{ } k i$ (lie), etc.
at occurs in the main perhaps only as a lifeless step-formation where the language has lost all sense of the derivation, and hence for the most part no $\iota, \epsilon \iota$, or $o \iota$, is parallel to $a \iota$, e.g. $a \iota \theta-\omega$ (I kindle), $a i \theta-\epsilon \sigma \theta a \iota$ (burn), $a i \theta-\eta \eta_{\rho}, ~ a i \theta-\epsilon ́ \rho o s, ~(a t h e r), ~ a i \theta-o v \sigma a$ (porch), cf. Lat. aed-es, aid-ilis, $\sqrt{ } i \theta=$ Sk. $i d h$, indh (burn), Germ. $i t$, in O.H.G. eit (fire) ; ai-F $\dot{\nu}$, origl. ai-vān-s (time, long time), cf. Lat. $a e-u o-m$, origl. $a i-v a-m$, Sk. $\bar{e}-v a-s$, origl. $a i-v a-s$ (a going), Goth. aiv-s, f.f. $\bar{a} i$-va-s (time, long time), with other step-forms, $\sqrt{ } i$ (go), with sf. van, va (here the language no longer felt the connexion with $i-\mu \epsilon \nu$, $\epsilon i-\mu \iota$, oi $-\mu \sigma s$ ); кal- $\rho o ́-s$ (point of time), cf. Goth. hvei-la (hour, time, Engl. ' while'), origl. kai-rā, origl. $\sqrt{ } k i$.
§ 22. Note.—In medial termns., e.g. $\phi \epsilon ́ \rho o-\mu a l$, ${ }^{*} \phi \epsilon \rho \epsilon-\sigma a l, \phi^{\prime} \rho \epsilon-\tau a l$, $\phi \in ́ \rho o \nu-\tau a l, a l$ is not a step-form, but the product of a contraction from f.f. bharā-mami, bhara-sasi, bhara-tati, bhara-ntanti, v. sub. 'Conjugation.'
2. $i$ raised to ol, e.g. oi- $\mu o s, o^{i}-\mu \eta$ (road, a going), cf. ai-F $\omega$, $\epsilon i-\mu \iota, \stackrel{\imath}{\imath}-\mu \epsilon \nu, \sqrt{ } \iota(\mathrm{go}) ; \pi \epsilon \in-\pi o \iota \theta-a$ beside $\pi \epsilon \ell \theta-\omega, \sqrt{ } \pi \iota \theta(\dot{\epsilon}-\pi \epsilon \in-\pi \iota \theta-$ $\mu \epsilon \nu) ; \lambda \epsilon \in-\lambda o \iota \pi-a, \lambda o \iota \pi-o ́-\varsigma\left(\right.$ left, remaining), beside $\lambda \epsilon i \not \pi-\omega, \epsilon_{\epsilon}-\lambda \iota \pi-o \nu$, $\sqrt{ } \lambda \iota \pi$; Foî $\hat{-}-a$ (know) $=$ Sk. $v^{\frac{e}{e} d-a, ~ w i t h ~ t h e ~ 1 s t, ~ G o t h . ~ r a i t ~ w i t h ~}$

 Sk. vếs-a-s, Lat. uīc-u-s, i.e. *ueic-o-s, with 1st step, $\sqrt{ }$ Fıк=Sk. viç, origl. vik (settle) ; Foiv-o-s (wine), cf. Lat. uin-um, Germ. wein with 1st step; $\lambda o \iota \beta-\eta^{\prime}$ (lib-atio) beside $\lambda \epsilon i \beta-\omega$ (pour), and $\lambda i \beta-o-s$ (drop), $\lambda_{c} \beta$-ás, -á $\delta$-os (moisture), $\sqrt{ } \lambda c \beta$; $\sigma \tau o i ̂ \chi$-os (rank) beside $\sigma \tau \epsilon ' \chi-\omega, \stackrel{\epsilon}{\epsilon}-\sigma \tau \iota \chi-o \nu, \sqrt{ } \sigma \tau \iota \chi$; aipato- $\lambda o \iota \chi-o ́-s$ (blood-licking) beside $\lambda \epsilon i \chi-\omega, \lambda i \chi-\nu 0 \varsigma$; коiт- $\eta$ (bed), коь- $\mu \hat{a} \sigma \theta a \iota$ (sleep), beside $\kappa \epsilon \hat{\imath}-\tau a \iota$, $\sqrt{k i}$, etc.

Note.-In opt. $\phi^{\prime} \rho \rho-o u s$ (etc.) =fund. bhar-ai-s, also in nom. pl. e.g. oi, original sai (tai), oc is the result of a contraction, not a step of a vowel-scale; v. 'Conjugation and Declension.'
§23. 3. u-scale.
Radical v, e.g. $\begin{gathered}\text { é- } \phi u \gamma-o \nu, ~ \phi u \gamma-\eta ́ ~(f u g-a), ~ \\ V \\ \phi \gamma \gamma, \text { Sk. bhuǵ }\end{gathered}$ (bhug-nd́-s, bent), Goth. bug (bend), Lat. fug (only here and in. the Greek with a narrower sense); $\check{u \gamma}$-óv (yoke)=Lat. iug-um, Sk. and origl. $y u g-\alpha ́ m, ~ \sqrt{ } y u g$ (join, iungere); $\epsilon$ - $\rho v \theta-\rho o ́-s$ (red) $=$ Sk. rudh-irá-s, f.f. rudh-ra-s, $\sqrt{ } \dot{\rho} v \theta$, origl. and Sk. $\sqrt{ } r u d h$, Goth. rud (be red), etc.; $\sigma \dot{v}, \tau \dot{v}$ (thou, du), cf. Sk. $t v$-am, Lat. $t u$, Lith. tu, Sclav. ty; $\kappa \lambda \dot{v}-\omega$ (hear), $\sqrt{ } \kappa \lambda v$, Sk. çru, Goth. hlu (Eng. loud, lud=voice), origl. $k r u$; $\dot{\rho} v-\tau \dot{o}-\varsigma$ (llowing), $\sqrt{ } \dot{\rho} v$, Sk. and origl. sru (flow), so $\epsilon \mathfrak{\epsilon} \rho \dot{\rho} \dot{-}-\eta \nu={ }^{*} \hat{\epsilon}-\sigma \rho v-\eta \nu$, Germ. stru (in strōm, stream, with inserted $t$ ) ; фú- $\omega$ (am), фút-ov (being), $\sqrt{ } \phi v$, Sk. $b h u$, Lat. $f u$, origl. bhu (be) ; $\kappa$ ć- $\chi v-\mu a \iota$ (perf.), $\sqrt{ } \chi v$, Goth. $\sqrt{ } g u-t$ (pour) (with a $t$ for further formation) ; ${ }_{\epsilon} \sigma-\sigma v-\mu a \iota$, (pf.), $\sigma \dot{v}-\tau о$ (aor.), $\sqrt{ } \sigma \nu$ (rush) ; $\dot{\omega} \kappa-\dot{v}-\varsigma=$ Sk. $\bar{a} \varsigma-u ́-s$, origl. $\bar{a} k-u-s$
(sharp) ; $\pi \lambda a \tau-\dot{v}-\varsigma$, Sk. prthús, origl. prat-u-s (broad), sf. $u ; \S 23$. $\breve{a} \sigma-\tau v$ (city) $=$ Sk. $\tau a ̂ ́ s-t u$ (house) ; $\beta o \eta-\tau \dot{v}-s$ (shout), $\mu a ́ \rho-\tau v s$ (witness), etc., with sf. - $\tau v$, Sk., Lat., origl. tu. The lengthening of $v$ to $\bar{v}$ is not uncommon, e.g. ‘ $\hat{v} \delta \omega \rho$, cf. Sk. $u d-a-m$, $u d-a k a$-m, Lat. unda, with inserted nasal, Sk. $\sqrt{ } u d$ (be wet); $\kappa \lambda \hat{v}-\theta \iota$ (imper. aor.) $=$ Sk. $̧ ̧ u l-d h i$, origl. kru-dhi, cf. $\kappa \in ́-\kappa \lambda \check{u}-\theta \iota$, $\kappa \lambda \breve{\nu}-\tau o ́ s, \sqrt{ } \kappa \lambda \nu$, origl. $k r u$ (hear) ; $\pi \epsilon \in-\pi \nu \bar{u}-\mu a \iota, \pi \epsilon-\pi \nu \bar{u}-\mu \notin \nu o s$ (prudent), $\sqrt{ } \pi \nu v$ (blow) ; $\xi \hat{v}-\omega, \sqrt{ } \xi_{\nu}$ (shave) ; is and $\sigma \hat{\nu} \varsigma$ (swine), cf. Lat. $s \bar{u} s$, Sk. $s \bar{u}-k a r a-, ~ O . H . G . ~ s u, ~ \sqrt{ } s u ; \delta \rho \hat{v}-s$ (tree), Goth. triu (arbor). We cannot decide with any certainty where origl. $a u$ stands as a lengthening for a root-vowel, and where it stands for a step of a vowel-scale. In the last-mentioned examples perhaps originally a step-form was in existence.

Note 1.-The older sound $u t$ has been kept in Boiôt. ( $\tau o v ́=\sigma \dot{v}$, $\kappa \circ$ úves $=\kappa v ́ v \epsilon \varsigma$, etc.), and in diphth. av. The later $v=\ddot{u}$ occurs proportionately early, however. The same transition of sound occurs also in other languages. Lat. una became Fr. une, pronounced $\bar{u} n$.

Note 2.-In Greek as well as in Umbr., $b$ occurs as a weaker representative form of $v$. In mod. Gk. it is well known that $v$ has universally become $i$. So $\phi \hat{i}-\tau v$-s (father, begetter), $\phi \bar{i}-\tau \dot{v}-\omega$ (beget) $=$ Lat. $f u-t u-o, \sqrt{ } \phi v$, original $b h u$; $\delta \rho i-o v$, also $\delta \rho i-o s$ (forest), and $\delta \rho \hat{\rho}-\mathrm{s}$ (tree), cf. Sk. dru-, masc. n. wood, m. tree),
 p. 647 sqq.

Step-formation of $u$.
§ 24.

 (fame), origl. krav-as, $\sqrt{ } \kappa \lambda \nu ; \pi \lambda \epsilon \in-\omega$ (sail) $=$ Sk. and origl.
 and origl. sráv- $\bar{a} m i, \sqrt{ } \dot{\rho} v$, origl. and Sk. $\sqrt{ } s r u$ (flow) ; $\pi \nu \in \hat{v}-\mu a$ (breath), $\pi \nu \epsilon \dot{u}-\sigma \omega, \pi \nu \epsilon \in F-\omega$ (blow), $\sqrt{ } \pi \nu v$; $\sigma \epsilon \dot{v}-\omega$ (rush), $\sqrt{ } \sigma v$; $\chi^{\prime} \mathcal{\epsilon}-\omega$ (pour), $\sqrt{ } \chi^{v} ; \xi^{\prime} \mathcal{F}-\omega$ (I scrape), $\sqrt{ } \xi^{v} ; Z \epsilon \dot{v}-s$ (nom. propr. God), for ${ }^{*} \delta y \in v-\varsigma$, in Sk. with 2nd step $d y \bar{a} u-s$ (heaven), in the other cases from $\sqrt{ } d i v, \sqrt{ } \delta_{\iota} F=d y u, * \delta y v, \zeta_{\nu}$, etc.
$a v$ is here too a lifeless step-formation, e.g. $a \hat{v}$ - $\omega$ for ${ }^{*} a v j \sigma-\omega$
 (see Lat. 'Vowels'), Sk. ốs-āmi, origl. aus-āmi, $\sqrt{ } u s$ s, origl. us; $a u ̉ \gamma-\eta$ (glance), $\sqrt{ } \hat{v} \gamma, \mathrm{cf}$. Sk. óǵgas (force); $a \dot{u} \xi-a ́ v-\omega$, i.e. *aủ $\gamma-\sigma a \nu \omega$ (make to grow), cf. Lat. aug-eo, $\sqrt{ } u g$ (which occurs pure in Lith.).
2. Second step ov occurs seldom, espec. when $u$ is medial (no ${ }^{*} \pi \epsilon-\phi o v \gamma-a=$ Goth. $b a u g$, $={ }^{*} b u$-bāuga, like $\lambda$ é $\lambda o \iota \pi a$ ), while we find it compensated for by the first step, yet cf. $\epsilon i \lambda \eta \eta^{\lambda} o v \theta a$ (Hom.) from $\sqrt{ } \dot{\epsilon} \lambda \nu \theta$, cf. ${ }_{\eta} \lambda \nu \theta o \nu$ and $\bar{\epsilon} \lambda \epsilon \dot{v}(\theta) \sigma o \mu a \iota$ [origl. $\sqrt{ } \dot{\epsilon} \lambda=$ $\epsilon \rho$, origl. ar (go), in ${ }_{\epsilon} \rho-\chi \neq \mu a \iota$ (come, go), f.f. er-skomai, further
 to which is added the frequent accompaniment of a verb-stem $\theta$ ( v . sub. 'Formation of Present-stem'); the secondary $\sqrt{ } \mathrm{E} \lambda \nu \theta$ so formed sts. was treated as if the $\sqrt{ }$ vowel was really $v$ (exx. in text), sts. is merely equivalent to an auxiliary vowel (§29), which moreover may disappear, $\grave{\eta} \lambda \theta o \nu]$; à-кódou $\theta_{o s}$ (follower), and $\kappa \epsilon ́ \lambda \epsilon u \theta-o s$ (way) ; $\dot{\rho} o u ́ \sigma-\iota o s$ (reddish), for ${ }^{*} \dot{\rho} o v \theta l o s$ (or perhaps
 (red) ; $\sigma \pi o v \delta-\eta$ (haste) beside $\sigma \pi \epsilon \epsilon^{\prime} \delta-\omega$ (hasten); $\lambda 0 \hat{0} \sigma \sigma o \nu=$ * $\lambda о v \kappa-y o \nu$ (white pith of deal), cf. $\lambda \epsilon v \kappa$-ós (white), ả $\mu \phi \iota-\lambda v v_{\kappa}-\eta$

 $\dot{\rho} \in \hat{v}-\mu a, \sqrt{ } \dot{\rho} v ; \chi{ }^{\circ} F-\dot{\eta}$ (outpouring) beside $\chi^{\epsilon} \mathcal{E}-\omega, \sqrt{ } \chi \nu ; \pi \lambda{ }^{\prime} F-o s$ (voyage) beside $\pi \lambda \epsilon \epsilon F-\omega, \sqrt{ } \pi \lambda v$; $\theta o ́ F-o s$ (swift) beside $\theta_{\epsilon}^{\prime} F-\omega$, $\sqrt{ } \theta v$, Sk. and origl. $d h u$; $\xi o F-i ' s(c h i s e l), ~ \xi o ́ F-a \nu o \nu(c a r v e d-w o r k), ~$ beside $\xi^{\prime} \mathcal{F}-\omega, \sqrt{ } \xi v ; \sigma o ́ F-o s$ (quick motion), $\sigma o \hat{v}-\mu a \iota={ }^{*} \sigma o F-o \mu a \iota$ (Trag. haste), beside $\sigma \epsilon \dot{v}-\omega, \sqrt{ } \sigma v$.

In separate instances also $a v(\bar{a} v)$ is a second step fr. $u$, e.g. $\nu a \hat{v} s$ (nauis) (i.e. $\nu \bar{a} \hat{u} s$ on acct. of $\nu \eta \hat{\nu} \varsigma)=$ Sk. $n \bar{u} u-s$, Iôn. $\nu \eta F$-ós, Dôr. $\nu \vec{a} F-o ́ s$, Sk. $n \bar{a} v$-ás, point to $\sqrt{ } n u$.
$\omega v$ is only Iôn. $=a v$, e.g. $\theta \omega \hat{v}-\mu a$ (wonder) $=\theta a \hat{v}-\mu a, \theta_{\epsilon}^{\prime} F a$, $\theta_{\epsilon} F{ }^{\prime}$-o $\mu a l$ (show, gaze), point to $\sqrt{ } \theta v$.
$\omega$ also occurs sts. as second step from v, e.g. $\zeta \omega$ - $\mu$ ós (broth), cf. $\zeta_{v}^{\prime}-\mu \eta$ (yeast), Sk. $y \bar{u}-\varepsilon^{\circ} \alpha-m$, Lat. $i \bar{u}-s$, similarly belonging to
$\sqrt{ } y u$, Gk. $\zeta_{v}$ (with which $\zeta^{\prime}-\omega$ (cook) for * $\zeta_{\epsilon \sigma-\omega \text {, }}$ cf. $\epsilon-\zeta \epsilon \sigma-\mu a l, ~ § 24$. $\zeta \epsilon \sigma-\tau \delta^{\prime}-\varsigma$, has no connexion, cf. O.H.G. $\sqrt{ } \mathrm{jas}$, cook); $\zeta \omega$ - $\nu \nu \nu \mu \iota$ (gird), $\sqrt{ } \xi v$, origl. $y u$ (join) ; $\chi^{\dot{\omega}-\nu \nu \nu \mu \iota, ~} \sqrt{ } \chi \nu, \chi^{\epsilon} \omega$ (pour). If we compare $\pi \lambda \dot{\omega}-\omega$ for $\pi \lambda \dot{\omega} F \omega$, Iôn. parallel-form to $\pi \lambda \epsilon \in F-\omega$, Dôr. $\beta \hat{\omega} \varsigma=\beta o v ̂ s=S k . g a ̄ u s$, and Iôn. $\omega v=a v$, hence we infer in Greek a step-formn. $\bar{o} u$, $o v=$ origl. $\bar{a} u$, $\tilde{a} v$, where the 2 nd element has become assimilated to the first, so that only $\overline{\bar{o}}, \omega$ ( $=\omega 0$, oul) remains.

Note 1.-Cases such as oúpajó-s (heaven) beside Sk. váruna-s (name of a deity) ; où $\lambda-\eta$ (scar) beside Lat. uolnus, Sk. vranam and vranas (wound) ; єủpú-s (wide) beside Sk. urú-s for *varú-s, show $o v, \epsilon v$, in place of the expected $F o, F \epsilon$. The explanation of this is difficult; perhaps it is to be considered less as a transposition of $F o, F \epsilon$, to $o v, \epsilon v$, than a shortening fr. original $v a$ to $u$ and a step-formation from the latter.

Note 2.-There are three roots $\theta v$ in Gk.: 1. $\theta \dot{v} \omega$, hasten; 2. $\theta \dot{v} \omega$, offer ; 3. in $\theta a \hat{v} \mu a$, $\theta$ éao $\alpha a l$, gaze.

Note 3.-All vowel-sounds which do not appear in the vowelscales are therefore unoriginal products of the sound-laws (especially of contraction after the elision of consonants).

The laws laid down in ordinary Greek grammars, i.e. the laws of contraction, etc., may be passed over as already understood.

At first sight we are struck by the frequently occurring hiatus which arises from elision of spirants $y, s, v$, and their vocalisation, and which is not by any means invariably obviated by contraction; thus arise forms such as Homêric $\delta \eta i o ́ \omega \in \varepsilon$, five vowels (together), 3 pl. opt. from $\delta \eta \iota o ́ \omega$ (slay), fr. $\delta \eta$ 'ıos (hostile); $\delta \dot{\eta} \iota o s$ evidently $={ }^{*} \delta \eta \sigma \iota o s=$ Sk. $d a \bar{s} y a-s$ (hostile), adjectival form in $y a$, fr. dà́sa-s (demon, slave, originally 'foe'), whence *dāsya-$-y \bar{a}-m i\left(={ }^{*} \delta \eta \sigma \iota o-y \omega-\mu l\right.$, whence $\left.\delta \eta i o ́ \omega\right)$, of which 3 pl. f.f. $d \bar{a} s-y a-$ yai-nt, in Gk. with superfluous unoriginal $\epsilon$ before personal termination, *dāsya-yai-ant as f.f. $=\delta \eta \iota o-o l-\epsilon \nu$, and in that case with $\omega=a i$, in consequence of an unoriginal lengthening of $o c$ to $\omega$, comes $\delta \eta \iota o ́ \omega \in \nu$. (Acc. to Aufrecht in Kuhn's Zeitschrift, vii. 312,
 accordingly of $\delta \tilde{\prime} i o s, \delta \eta \iota o ́ \omega \epsilon \nu={ }^{*} d \bar{a} r y a-s,{ }^{*} d \bar{a} r y a-y a i-a n t$.) Diphth. $a, \eta, \omega$, are only secondary products of contraction.

Whilst the termination (except a few instances, e.g. partial shortening of $\bar{a}$ to $\breve{a}$ in fem. and the like, cf. § 20) does not yet exercise a destructive influence on the vowels,-and also the vowels of syllables which follow medially upon one another (excepting the working of the $\iota$ of $\sigma \iota$ on the vowel of the preceding syllable) have no essential influence upon one another,-we perceive a variation of the older vowel-system, caused by consonantal influence,-a variation of considerable importance and characteristic of the language.

Important above all are the changes in consequence of the Greek distaste for the original and frequent Indo-European spirants $y, v, s ; y$ and $v$ become $\iota$ and $v, y$ also becomes $\epsilon ; v$ and $y$ as $\iota$ and $v$ change position from a following to a preceding syllable; $y, v$, and $s$, further fall out from between two vowels. After the disappearance and softening of consonants, frequent vowellengthening takes place. A consonantal sound in the beginning of a word is not unfrequently accompanied by an introductory vowel-sound, and besides occurs the so-called vowel-insertion between two consonants.
§26a. Introduction of $i$ into a preceding syllable in case of termn. - $\sigma \iota$. e.g. (1.) loc. dat. pl. $\tau a \hat{\imath} \sigma \iota$, Iôn. $\tau \hat{\eta} \sigma \iota$, thence $\tau a \hat{\imath} s$, fr. * ${ }^{*} \bar{a} s i$ (pronoml. st. ta raised to ta $\bar{a}$, and loc. termn. $\mathrm{pl} . s i)$, and also $\tau o \hat{\imath} \sigma \iota$, тồs, fr. *to-si, *tā-si (although another explanation offers itself here, v. sub. 'Declension'). (2.) 2 sing. ind. and conj. act., e.g. $\phi \in ́ \rho \epsilon \epsilon \rho$ (indic.), fr. ${ }^{*} \phi \epsilon \rho \epsilon \iota \sigma \iota$, ${ }^{*} \phi \in \rho \epsilon-\sigma \iota$, f.f. bhara-si; $\phi \epsilon ́ \rho \eta \mathrm{~s}$ (conj.), fr. ${ }^{*} \phi \epsilon \rho \eta \sigma \iota,{ }^{*} \phi \epsilon \rho \eta \iota \sigma \iota,{ }^{*} \phi \epsilon \rho \eta \sigma \iota$, f.f. bharā-si.
$\S 26 \mathrm{~b}$. Vocalisation and transposition of $y$ and $v$.

1. $y$ changes to $\iota$ and $u$ to $v$, e.g. original stem-formative particle $y a=\mathrm{Gr} . \omega^{\prime}$; $\pi a ́ \tau \rho-\iota o-s$ (paternal), cf. patr-ius, st. $\pi a \tau \notin \rho-$, cf. Sk. pitr-ya-s, origl. patar-ya-s; ä $\gamma-\iota-$-s (holy), cf. Sk. yaǵ-ya-s (to revere) ; compar. suff. - $\iota 0 \nu$, origl. -yans, e.g. $\dot{\eta} \delta-i \omega \nu$, st.
 for ${ }^{*} \dot{\epsilon} \lambda a \chi y \omega \nu$, f.f. lagh-yäns ( $\epsilon \lambda \lambda a \chi-v-s$, small, f.f. lagh-u-s), in the latter of which instt. $y$ as such has disappeared; pres.-st.-suff. origl. ya, e.g. i $i \delta-i-\omega$ (sweat), f.f. svid-yāmi, $\delta a-i \omega$ (kindle), fr. $d a-y a \bar{a} i$, cf. $\kappa \rho a ́ \zeta \omega$ (howl), for ${ }^{*} \kappa \rho a \gamma-y \omega$, with same suff. which here has retained $y$; in Dôr. fut. form. - $\sigma^{\prime} \omega$ for ${ }^{*} \sigma y \omega$, origl. syāmi ; in gen. sing. masc. neut. of $a$-stem, origl. -asya (Gr. with loss of $\sigma$, o七o), e.g. ì $\pi \pi o-\iota o$ fr. ${ }^{*} i \kappa F o \sigma-y o=$ Sk. áçvasya, origl. akva$s y a$; optat. particle $\iota \eta$, origl. and Sk. ya, e.g. єi$\eta \nu$ for $*$ è $\sigma-y \eta-\mu=$ origl. as $-y a-m$, with $s$ lost between two vowels; perf. part. act. fem. $v i a$ fr. origl. $-v a n t-y \bar{a},-v a n s-y \bar{a}$, from the latter form with elision of an came ${ }^{*}$ - $v s y \bar{a}$, hence $-u s y \bar{a}=G \mathrm{Gk} .{ }^{*} v \sigma \iota a=v \iota a ; \delta v o, \delta v{ }^{\prime} \omega$ $=* \delta F \omega$, cf. $\delta \omega \delta \epsilon \kappa \alpha a$ fr. ${ }^{*} \delta F \omega \delta \epsilon \kappa a$, Sk. and origl. $d v a$.

Note.-Esp. in Lesbo-Aiolic $v$ between two vowels is preferred to be $=v$, e.g. $\chi^{\epsilon-v^{\prime}-\omega=} \chi^{\prime} F \omega$ (pour), $\sqrt{ } \chi^{\nu}$; so $\pi \nu \epsilon \hat{v}^{\prime} \cdot \omega=$ ${ }^{*} \pi \nu \epsilon \in F \omega$ (breathe), $\sqrt{ } \pi \nu v ; \theta \epsilon v \dot{\prime} \omega=\theta^{\prime} F \omega$ (haste), $\sqrt{ } \theta v$, etc.
2. Further, $\epsilon$ occurs sts. undeniably for $y$ (not however for $v, F$ ) especially after consonants; in the cases from $y$ there remains only the accompanying vowel-sound itself, as a short and indeterminate vowel which is nearly $=\epsilon$, e.g. $\epsilon=y$ in fut. forms, $\pi \lambda \epsilon v \sigma o \hat{v} \mu a \iota, \phi \epsilon v \xi_{0} \hat{v} \mu a \iota=\sigma \epsilon ́ \sigma \mu a \iota,{ }^{*} \sigma y o \mu a \iota$, fund. f. -syãmai; further

 $\sigma \tau \epsilon \rho \rho o ́ s$, f.f. *$\sigma \tau \epsilon \rho y o \varsigma$, staryas, fem. $\sigma \tau \epsilon \hat{\iota} \rho a$, stary $\bar{a}$; Epic $\eta_{\nu} \nu \rho-\epsilon$ $\eta$ $=\dot{a} \nu \delta \rho-i ́ a$ (manliness), f.f. of suff. is $y \bar{a}$ (st. $\dot{\alpha} \nu \epsilon \hat{\epsilon} \rho-, \dot{a} \nu \delta \rho-$ ), n. sing. à $\nu \eta{ }^{\prime} \rho$ (man).

Note 1.-In cases of declens., e.g. $\pi \boldsymbol{\pi}_{\boldsymbol{\prime} \lambda \epsilon \omega \varsigma, ~} \epsilon$ is not $=y$, but there was a step-raising of $\iota$ to $\epsilon \iota$, and the representative $y$ was lost; e.g. $\pi o ́ \lambda \epsilon \omega \varsigma=\pi o ́ \lambda \epsilon o \varsigma$, fr. ${ }^{*} \pi o \lambda \epsilon y-o \varsigma$, st. $\pi o \lambda \iota$ (city), f.f. parai-as, st. pari.

Note 2.-Original $v$ also does not change to $c$. In poetry perhaps the metrical forms such as $\pi \lambda \epsilon i \epsilon \epsilon \nu$ for $\pi \lambda \epsilon \epsilon^{\prime} \epsilon \iota$ (sail), $\sqrt{ } \pi \lambda v$, raised to $\pi \lambda \epsilon v, \pi \lambda \epsilon F$, may be traced to a present st. in $y a$, which the Gk. has strangely liked, thus $\pi \lambda \epsilon i \omega={ }^{*} \pi \lambda \epsilon F-y \omega$, while $\pi \lambda \epsilon ́ \omega=\pi \lambda \epsilon \epsilon F \omega$; $\nu \epsilon \hat{i o s}$ beside $\nu$ '́fos (new), $\nu \epsilon \omega^{\prime}{ }^{\prime}$ s beside $\nu \epsilon$ Fós
§26b. (fallow), brings us to a f.f. navyas, which clearly occurs in Lith. nau-yas, Goth. niuyis, st. niuya-(new). From such cases $\epsilon \iota$ may have become a more widespread representative of $\epsilon$ by analogy. In $\pi \nu o \eta^{\prime}$ for $\pi \nu o \eta$, we find $y a$-stems, whilst $\pi \nu \circ F \eta^{\prime}(\sqrt{ } \pi \nu v)$ has suff. $a, \pi \nu o \iota \eta={ }^{*} \pi \nu o F \iota \eta={ }^{*} \pi \nu o F y \eta$, suff. $y a$.
 $\tau \epsilon o{ }^{\prime}=\tau \epsilon$ Fós, Lat. touos, tuus, f.f. *tevos (yet $\sigma o ́ s$, fr. $\sigma$ Fos $={ }^{*} \tau$ Fos, not raised from $\sqrt{ } \tau v$ ); through the Latin the Italograec f.-forms are made clear. In forms like $\dot{\eta} \delta \epsilon i a$, fem. of $\dot{\eta} \delta \dot{\delta} \rho$ (sweet), there is a clear step-raising, thus f.f. is $\dot{\eta} \delta \epsilon F-\iota a=s v \bar{a}-d a v-y \bar{u}$, diverging from the unraised Sk. scād $d \imath^{\prime}$, fr. *scüdryā.

Note 4.-G. Curt. Gr. Et. ${ }^{2}$ p. 500 sqq., treats of $o$, $\omega$, as representatives of original $v$. This occurs on the whole but seldom, and mostly in words of uncertain etymology, e.g. סoá $\nu$ (Alkman), for * $\delta F a \nu$, ${ }^{*} \delta F \eta \nu, \delta \eta^{\prime} \nu$ (long while), and these must stand for ${ }^{*} \delta_{\iota} F a-\nu$, ${ }^{*} \delta_{\iota} F \eta-\nu$, acc. of a st. ${ }^{*} \delta_{\iota} F a-=$ Lat. ${ }^{*} d i u e-$, in die-s $=$ *dive-s (day, for meaning cf. Lat. diu, long).
3. When $y$ and $v$ stand after $\nu, \rho$, they regularly occur as $\iota$ and $v$ before the consonants : in Aiolic dialects, however, assimilation takes place to the preceding consonant: this assimilation occurs in the case of $\lambda$ in the other dialects, transposition in the case of $\lambda$ is merely the exception. The origin of the transposition we must hold to be this, that at first, whilst $y$ and $v$ were yet in existence, an $i$ and $u$ arose by assimilation in the foregoing syllable (as in Zend), and that long afterwards the $y, v$, disappeared.
y; e.g. ктєív (kill), Aiolic $\kappa \tau \epsilon ́ \nu \nu \omega$, for ${ }^{*} \kappa \tau \epsilon \iota \nu y \omega$, fr. ${ }^{*} \kappa \tau \epsilon \nu y \omega$; $\mu_{\epsilon}^{\prime} \lambda^{\prime} a \nu a$ (fem. fr. stem $\mu_{\epsilon}^{\prime} \lambda a \nu$ - black), fr. ${ }^{*} \mu \epsilon \lambda a \nu y a ; ~ \chi \epsilon \epsilon \rho \omega \nu$ (worse), Aiol. $\chi \dot{\epsilon} \rho \rho \rho \rho \nu$, for ${ }^{*} \chi \epsilon \iota \rho-y \omega \nu$, fr. ${ }^{*} \chi \epsilon \rho y \omega \nu$; $\phi \theta \epsilon i \rho \omega$ (destroy), Aiol. $\phi \theta^{\prime} \epsilon \rho \rho \omega$, for ${ }^{*} \phi \theta \epsilon \rho y \omega$; $\kappa \lambda i ̂ \nu \omega$ (lay), Aiol. $\kappa \lambda i \nu \nu \omega$, for ${ }^{*} \kappa \lambda \iota \nu y \omega$; $\kappa \rho \frac{1}{\imath} \nu \omega$ (sift), Aiol. $\kappa \rho i \nu \nu \omega$, for ${ }^{*} \kappa \rho \iota \nu y \omega$; $\pi \lambda \frac{1}{\nu} \nu \omega$ (wash), for ${ }^{*} \pi \lambda \nu \iota \nu \omega,{ }^{*} \pi \lambda \nu \iota \nu y \omega,{ }^{*} \pi \lambda v \nu y \omega$, contrn. of $\iota$ and $v \iota$ to - and $\bar{u}$.

In the case of $\lambda y$ the assimln. occurs outside the Aiolic dial., $\dot{o}^{\phi} \epsilon i \lambda \omega$, however, for *ò $\dot{\phi} \epsilon \lambda y \omega$, Hom. $\dot{o}^{\phi} \epsilon^{\prime} \lambda \lambda \omega$ (ought).

Note 1.—After $\nu, \rho, \lambda$, original $y$ very often $=\iota$, e.g. $\chi \rho o ́ \nu-\iota 0-\varsigma$,
 original suff．$y a$ ．
Note 2．－For epenthesis of $y$ beside other consonants，we have good instances in $\mu \epsilon \zeta \zeta \omega \nu$（greater）for ${ }^{*} \mu \epsilon \tau \gamma-y \omega \nu$ ，fr． ${ }^{*} \mu \epsilon \gamma-y \omega \nu, \mu \epsilon \gamma-$ with compar．suff．original－yans ；$\zeta=\gamma y$ ，con－ sequently this is a clear case of genuine epenthesis；крєio $\sigma \omega \omega$ （stronger，better）for ${ }^{*} \kappa \rho \epsilon \iota \tau-y \omega \nu$ ，fr．${ }^{*} \kappa \rho \epsilon \tau-y \omega \nu$（ $\kappa \rho \epsilon ́ \sigma \sigma \sigma \omega \nu$ pre－ served in diall．）；$\sigma \sigma=\tau y$（v．post．）formed just like $\mu \epsilon i \zeta \omega \nu$ ；$\pi \epsilon i \kappa \omega$ （beside $\pi \epsilon \kappa \kappa$ ，comb）for ${ }^{*} \pi \epsilon \kappa y \omega$ ，which by the laws of sound （ $\kappa y=\sigma \sigma$ ）must coincide with $\pi \epsilon \in \sigma \sigma \omega$（cook）in form ；st．$\gamma v v a \iota \kappa-$ （ $\gamma$ vaıкós，gen．fr．$\gamma v \nu \nu^{\prime}$, woman）for ${ }^{*} \gamma v \nu a \kappa \iota$ ，cf．фu入aкí＇（female－ guard）；st．ai $\gamma$－（n．sing．$a^{\prime \prime} \xi$ for $a i \gamma-\varsigma$ ，goat）for ${ }^{*} \dot{a} \downarrow \iota-$ ，cf．Sk．ag ${ }^{\prime}$－s （stag），$a g^{\prime} \bar{a}$（goat）（Curt．Gr．Et．${ }^{2}$ p．608）．It cannot be denied that $\pi \epsilon i \kappa \omega$ for ${ }^{*} \pi \epsilon \kappa-y \omega$ is very doubtful phonetically．
 үóvFa，үóvFatos，st．үóvv（knee）；ov̉入os，Ion．＝ö入os（all），fr． ö $\lambda$ Fos，cf．Sk．sárva－s（every，all），Lat．saluo－s，sollus（Fest．totus）， fr．${ }^{*}$ soluo－s ；$\pi a \hat{\nu} \rho o-s$（small，few）fr．${ }^{*} \pi a \rho F o-s$ ，cf．Lat．paruo－s； $\nu \epsilon \hat{\rho} \rho o-\nu$（sinew）fr．${ }^{*} \nu \epsilon \rho F o-\nu$ ，cf．Lat．neruo－s．

In consequence of the evanescence of $y, v, s$ ，vowel－§ 27. accumulation and contraction occur frequently．

Thus $s$ disappears，e．g．in $\phi$＇́ $\rho!\eta$ fr．${ }^{*} \phi ' \epsilon ́ \rho \epsilon \sigma a \iota ~(2 ~ s i n g . ~ p r e s . ~$ med．fr．$\phi \in ́ \rho \omega$ ，bear），Sk．bhárasè ；$\mu \notin \nu o v s$（gen．sing．fr．$\mu \in ́ v o s$, might）fr．${ }^{*} \mu \epsilon \nu \epsilon \sigma o s$, Sk．mánas－as ；єiך（1 sing．pres．opt．of $\dot{\epsilon} \sigma-$ ，esse）fr．${ }^{*} \dot{\epsilon} \sigma-y \eta \nu$ ，f．f．as－yā－m；єiто́ $\mu \eta \nu$ fr．${ }^{*} \epsilon \in-\sigma \epsilon \pi-o \mu \eta \nu$ ， $\sqrt{ } \dot{\epsilon} \pi$（follow），i．e．$\sigma \epsilon \pi$ ，Sk．saḱ，Lat．seq，in $\epsilon \notin \pi o \mu a \iota$ ；$\epsilon i \rho \pi o \nu$ fr． ${ }^{*} \epsilon-\sigma \epsilon \rho \pi-o v, \sqrt{ } \sigma \epsilon \rho \pi$（crawl），Sk．sarp，Lat．serp－o；$\pi \epsilon \pi o \iota \theta v i ̂ a ~(f e m . ~$ part．pf．act．）fr．－vola，and the latter fr．$v(a n) t y \bar{a}$ ，etc．
$F$ disappears in $\epsilon i \rho \gamma a \sigma a ́ \mu \eta \nu$（ $F \epsilon \rho \gamma a ́ \zeta o \mu a \iota$ ，work）fr．${ }^{*} \epsilon$－$F \epsilon \rho \gamma-$ $a \sigma a \mu \eta \nu$ ；$\epsilon i \pi o \nu, \epsilon i \pi \epsilon i \nu$ ，older ${ }^{\epsilon}-\epsilon \iota \pi o \nu$ ，fr．${ }^{*} \epsilon-\mathcal{\epsilon} \epsilon-F \epsilon \pi-o \nu=$ f．f． a－va－vak－am，redupl．aor．of $\sqrt{ } F \epsilon \pi$（speak），Sk．vaḱ，Lat．uoc， f．f．$v a k$ ，etc．

Loss of $y$ is common above all in the stems whence arise the contr．vbs．in $\epsilon^{\prime} \omega,{ }^{\prime} \omega$ ，${ }^{\circ} \omega$ ，fr．${ }^{*} \epsilon y \omega,{ }^{*} a y \omega$ ，${ }^{*} o y \omega=$ Sk．and origl． －ayămi，e．g．фор⿳⺈，фор＇َ́（bear）＝Sk．bhāráyāmi，etc．

Note．－The sound－laws by which concurring vowels are regulated in different dialects do not belong in this place；
$\S 27$. because they extend to explain the Greek forms alone. The fundamental-forms, however, in the commonest and most important cases, conform to the rules laid down in the construction of stems and words.

The forms peculiar to the Greek, e.g. óoóa, ó óáas, by assimilation for ó óá $\omega$, ó oáєєs; $\delta \rho \dot{\omega} \omega \sigma \iota$ beside $\delta \rho a ́ o v \sigma \iota, \delta \rho \hat{\omega} \sigma \iota$, etc., frequently offer difficulties in their explanation.

After the evanescence and medial and final loss of consonants, there often occurs a compensatory lengthening.

1. $n$ lost before $s$, followed by lengthening of preceding

 st. $\lambda$ лко-, wolf) $={ }^{*} \lambda \nu \kappa о-\nu \varsigma$, cf. Goth. vulfa-ns; Krêtan $\tau o ́-\nu \varsigma=\tau o u ́ s$ (acc. pl. st. тo- demonstr.), f.f. $t a-n s, t a-m s$.
$\epsilon$ to $\epsilon \iota-$ e.g. $\tau \ell \theta \epsilon i$ ( n . sing. m. part. pres. act. fr. $\tau \ell \theta \eta-\mu \iota$, place, $\sqrt{ } \theta \epsilon)=$ Krêtan $\tau \iota \theta \epsilon \nu_{\rho}$ fr. ${ }^{*} \tau \iota \theta \epsilon \nu \tau-\varsigma ; \chi a \rho i \epsilon \epsilon \varsigma$ (n. sing. masc. conn. c. $\chi$ á $\rho \iota$, grace) $={ }^{*} \chi a \rho \iota-F \epsilon \nu \tau-\varsigma$ (but fem. $\chi a \rho i \epsilon \sigma \sigma a=$ ${ }^{*} \chi a \rho \iota-F \epsilon \tau y a$, without $\nu$, cf. Sk. sf. -vant, fem. -vatī=vatyā, likewise with loss of $n$ ), etc.
$a$ to $\bar{a}-\mathrm{e} . \mathrm{g} . i \sigma \tau \bar{a}{ }^{\prime}$ (n. sing. m. part. pres. act. i' $\sigma \tau \eta-\mu \iota$, place, $\sqrt{ } \sigma \tau a)={ }^{*}{ }_{i} \sigma \tau a \nu \mathrm{sf}$. ${ }^{*}{ }^{\text {i }} \boldsymbol{\sigma} \tau a \nu \tau-\varsigma$, etc.
$v$ to $\bar{v}-\mathrm{e} . \mathrm{g}$. $\delta \epsilon \iota \kappa \nu \bar{\nu} \mathrm{s}$ ( $\delta \epsilon i \kappa \nu v-\mu \iota$, show) $={ }^{*} \delta \epsilon \iota \kappa \nu v \nu \varsigma$ fr. ${ }^{*} \delta \epsilon \iota \kappa \nu v \nu-\tau \varsigma$, etc. Similarly $\epsilon i \mu l(\mathrm{am})$ for ${ }^{*} \dot{\epsilon} \sigma-\mu \iota$, by compensatory lengthening (cf. Aiol. $\dot{\epsilon} \mu \mu i$ by assimiln.), Sk. and f.f. ás-mi; ó $\rho \in \iota \nu o ́ s$ (mountainous) for ${ }^{*} \dot{\rho} \rho \epsilon \sigma-\nu 0 \varsigma$, Aiol. ò $\rho \epsilon \nu-\nu$ ós (fr. ò $\rho o \varsigma$, mountain, Iôn. oů $\rho o \varsigma$, therefore older ${ }^{*} \dot{\rho} \rho-F o s, \sqrt{ } \dot{o} \rho$, or-iri, exsurgere), st. oj $\rho \in \varsigma-$, with sf. $-\nu 0$-, etc.
2. Moreover medial compensation is found in the formn. of 1 aor. after the loss of $\sigma$, preceded by $\lambda, \mu, \nu$, e.g. ëvє $\not \mu a$ ( $\nu \epsilon ́ \mu \omega$, distribute) for ${ }^{*} \dot{\epsilon} \nu \epsilon \mu-\sigma a$, cf. Aiol. $\epsilon$ - $\nu \in ́ \epsilon \mu \mu-a \tau o$, by assimiln. ;
 ( $\sigma \tau \notin \hat{\lambda} \lambda \omega$ for ${ }^{*} \sigma \tau \epsilon \lambda y \omega$, send) for ${ }^{*} \epsilon \sigma \sigma \tau \epsilon \lambda-\sigma a$, Aiol. representation of compensation, $\frac{\ell}{\epsilon} \sigma \tau \epsilon \lambda \lambda a$, etc.
3. Compensation by lengthening is frequently found in nom. sing. masc. of consonantal stems to compensate for lost
final s or $\tau \varsigma$, e.g. $\pi o \iota \mu \eta \eta^{\prime}($ shepherd) for * $\pi o \iota \mu \epsilon \nu-\varsigma$, cf. Sk. rà́ǵa $\bar{a} \S 28$. for *rägan-s, Lat. homo for *homon-s, Goth. guma (man), i.e. *guma for*guman-s; $\mu \eta \eta^{\prime} \eta \rho$ (mater) for ${ }^{*} \mu \eta \tau \epsilon \rho-\varsigma$, cf. Sk. mātă for ${ }^{*}$ mätar-s; $\pi a \tau \eta \eta^{\prime}($ father ) for * $\pi a \tau \epsilon \rho-\varsigma$, cf. Sk. pitṑ for *pitar-s, Old Lat. patēr for *pater-s, Goth. fadar, i.e. *fadār, for *fadar-s; є $\dot{\jmath} \mu \epsilon \nu \eta{ }^{*} s$ (wellmeaning) for ${ }^{*}-\mu \epsilon \nu \epsilon \sigma-s$, cf. Sk. sumanās for ${ }^{*}$-manas-s; $\phi \epsilon ́ \rho \omega \nu$
 for ${ }^{*} \pi \epsilon \pi о \iota \theta-F o-\tau s$.

Vowel insertion and addition.

1. Vowel insertion occurs in Gk. in the same way as in Oscan and O.H.G., only less regularly. Acc. to G. Curtius, Gr. Et. ${ }^{2}$ 656, sqq., this change takes place only in the neighbourhood of $r, l$, and nasals, so that it clearly arises from the vowel-sounds contained in these consonants. $a$ and $\epsilon$ occur most frequently, $o$ and $\iota$ are rarer, $v$ rarest, as vowels attached to these consonantal sounds: e.g. ò- $\rho$ é $\gamma-\omega$ (reach, stretch), $\sqrt{\text { Voj } \rho \in \gamma \text { fr. ojpy, cf. Sk. arǵ }}$
 (fathom), where clearly ò $\rho \in \gamma$, ò $\rho \iota \gamma$, ò $\rho o \gamma=\dot{o} \rho \gamma$, origl. $\arg ; \tau a \rho a ́ \sigma \sigma \omega$ $={ }^{*} \tau a \rho a \chi-y \omega$ (make uneven, disturb), beside $\tau \epsilon \in-\tau \rho \eta \chi-a$ (perf.) and $\tau \rho a \chi$ - ${ }^{\prime} \rho$ (rough, uneven), $\sqrt{ } \tau \rho a \chi$, therefore; ả入 $\epsilon \gamma-\epsilon \iota \nu o{ }^{\prime} s$ (painful) beside ä $\lambda \gamma-o s$ (pain); $\delta o \lambda \iota \chi$-ós (long) $=$ Sk. dirgh-ás, $\sqrt{ }$ dargh, beside $\epsilon \nu-\delta \epsilon \lambda \epsilon \chi-\eta$ 's (unbroken, uninterrupted), fr. same root; $\ddot{\eta} \lambda u \theta-o \nu$ beside $\tilde{\eta} \lambda \theta-o \nu$ (v. supr. § 24) ; $\chi a ́ \lambda a \zeta ̧ a ~(h a i l), ~ i . e . ~ * \chi a \lambda a \delta y a, ~$ cf. Skl. grad-ü, Lat. grand-o, Sk. hräd-unı̄ (storm); кодєк-ávoৎ, $\kappa о \lambda о к-a ́ \nu о s ~(l a n k), ~ к о д о б \sigma o ́ s ~(c o l o s s u s) ~ f o r ~ * к о \lambda о к-у о \varsigma, ~ c f . ~ S k . ~$ $k r c ̧-a$-s (lank), $\sqrt{ } k a r c ̧$ (make lean), Lat. crac-entes (graciles), origl. $\sqrt{ }$ krak, kark; корís, pl. кодí-єs (dust, nits), cf. O.H.G. hniz, Bohem. hnid-a. Even long vowels clearly arise in this way, e.g. $\epsilon \rho \omega \delta$-cós (heron), Lat. ard-ea.

Note.-But $\epsilon$ is no auxiliary vowel in such forms as $\dot{\eta} \delta \epsilon i a$, i.e. ${ }^{*} \dot{\eta} \delta \epsilon F-\iota a$ (v. supr. § $26 \mathrm{~b} .2, \mathrm{n} .2$ ): and also in $\bar{\epsilon} \pi \epsilon \epsilon \epsilon \sigma \sigma \iota$ fr. ${ }^{*} \epsilon \pi \epsilon \epsilon \sigma \epsilon-\sigma \sigma \iota$,
 dog, g. $\kappa v \nu$-ós), and other loc. pls. in consonantal stems. These are probably constructed on the analogies of the $\iota$ - and $v$-stems, cf. $\pi o ́ \lambda \epsilon-\sigma \iota$, st. $\pi o ́ \lambda \iota-$ (state), $\gamma \lambda \nu \kappa \in ́-\sigma \iota$, st. $\gamma \lambda \nu \kappa u ́$ - (sweet), as
§29. doubtless in other languages consonantal stems have often become allied to vowel stems, especially to the $i$-stem (e.g. Lat. pedi-bus, st. ped-). [Curt. has suggested doubts which I do not understand, especially on account of the Hêrakl. $\pi \rho a \sigma \sigma o ́ \nu \tau-a \sigma \sigma \iota$; he maintains a helping-vowel in these cases.] Less still do futs. of verb-stems in $\lambda, \mu, \nu, \rho$, belong here, e.g. $\tau \epsilon \nu \hat{\omega}$ fr. ${ }^{*} \tau \epsilon \nu \epsilon \sigma \omega$, ${ }^{*} \tau \epsilon \nu \epsilon \omega ; \beta a \lambda \hat{\omega}$ fr. ${ }^{*} \beta a \lambda \epsilon \sigma \omega,{ }^{*} \beta a \lambda \epsilon \omega$. In these cases we come upon the verb-stem $-\epsilon \sigma \omega$, original $a s y \bar{a} m i$, fut. of $\sqrt{ } a s$ (esse) ( $\nabla$. sub. ' Conjugation').

## 2. Vowel addition (prefix).

This phenomenon of sound also is to be referred to the slight development of the vocal-sound before the following consonants. Acc. to G. Curtius (Gr. Et. ${ }^{2}$ p. 649, etc.) prefixed-vowels are very rare before simple momentary sounds; they never occur before $\pi, \pi, \phi$, but on the contrary, most frequently before more than one consonant, before liquids, and before nasals. Exx. a) before two consonants, $\grave{a}-\sigma \tau \eta \rho$ (star), cf. Latin stella for *sterula, Goth. stairnō, Sk. st. star-; ó-фpú-s (brow), Sk. bhrū-s, O.H.G. brāwa, Skl. brŭuで; Lesb. Aiol. ä- $\sigma \phi \epsilon, ~ a ̆-\sigma \phi \iota=\sigma \phi \epsilon ́, \sigma \phi i$, origl. st. sca; ${ }^{2}-\chi{ }^{\theta}{ }^{\prime}$ s beside $\chi^{\theta \epsilon ́ s}$ (yesterday), Sk. hyas, etc.
b) before $\lambda, \mu, \nu, \rho ; \epsilon^{-} \lambda a \chi^{\prime}{ }^{\prime} s$ (small), Sk. laghūs, Lat. leui-s, fr. *legu-is; $\epsilon-\mu \epsilon ́, ~ \epsilon ̇-\mu o i ́, ~ b e s i d e ~ \mu \epsilon ́, ~ \mu o i ́, ~ o r i g l . ~ s t . ~ m a ~(p r o n . ~ I ~$ pers.) ; $\grave{o}-\mu \iota \chi^{\prime} \omega$ (mingo), $\dot{o}-\mu^{\prime} \chi \chi-\lambda \eta$ (mist), origl. $\sqrt{ }$ might, cf. Sk. mih (mingere), Lat. mig, mi-n-go, etc.; $\dot{\alpha}-\nu \eta \eta^{\prime}(m a n)$, Sk. st.
 $\delta \iota-\eta \nu \epsilon \kappa-\eta \eta^{\prime}$ (thorough), for $\nu \epsilon \kappa$, cf. O. Bulg. nes-ti, Lith. nèsz- $t i$
 návan, etc.; ő- $\nu v \xi$ (nail), st. ỏvvð-, Sk. nakha-s, nakha-m, O.H.G. nagel; ö-voua, name, cf. Lat. (g)nömen, Sk. nāman-, Goth. naman-, where in the Gk. the o did not arise until the origl. initial $g$ had disappeared, è-pvtpós (red)=Sk. rudhirás, Lat. ruber, fund.-fm. rudh-ra-s, $\sqrt{ }$ rudh; $\epsilon \in-\rho \epsilon \beta o s$ ( n . lower-world, gloom), Sk. raǵas (gloom), Goth. rikis (dimness); द̇- $\rho \in$ ú $\gamma-\epsilon \sigma \theta a \iota$ (belch), cf. Lat. ructare for rug-tare, etc.
c) before origl. $v$; ć- $^{\prime} \epsilon \in \gamma-\epsilon \iota \nu$ beside F'́ $\rho \gamma-\epsilon \iota \nu$ (keep in ), cf. Sk. varǵ (keep off) ; Є̇-Fє́ $\rho \sigma \eta$ (Il. xxiii. 598), Krêt. ă-Fє $\rho \sigma a$ beside
 217) beside єi้коб८ (twenty), Boiôt. Fíкaтı, Sk. viççáti, Lat. uiginti; the initial was origly. $d v$ ( $d v i=t w o$ ), the $\epsilon$ was not prefixed until the $d$ had disappeared (cf. ö-voua); and more frequently in the case of $F$.
d) before other consonants; $\dot{o}-\delta o u ́ s ~(t o o t h), ~ s t . ~ o b-\delta o \nu \tau-, ~ c f . ~$ Lat. st. dent-, Sk. st. dant- and danta-, Goth. tunthut ; in this word the $o$ arises clearly, I think, from the vowel-sound of $\delta$, and my view is confirmed by the consonance of the $o$ with the $o$ of the second syllable, as well as by the agreement of all the other languages in initial $d$. [白 $\delta$-ovtes in Aiolic should, I think, be separated fr. óoóv $\tau \in s$, and be regarded as a poetical expression ; it is a part. of $\epsilon \delta \omega$ (eat), 'the eating ones,' i.e. ' teeth'; the origl. dant- (tooth) may arise from $\sqrt{ } a d$, $d a$ (eat), but in my opinion da-nt-more probably belongs to $\sqrt{ } d a$, $a d$, 'separate, cut'; cf. Zend st. dā-ta-, 'tooth.'] $\dot{a}-\delta a \gamma-\mu o ́ s$ (itch), $\dot{o}-\delta a ́ \xi \omega, \dot{a} \cdot \delta a \xi \epsilon \epsilon$ (bite, itch), fr. $\sqrt{ } \delta a \kappa$ in $\delta a ́ \kappa-\nu \omega$ (bite), Sk. daç. For other inst. of prefixed-vowel before other mom. consonn., more or less probable, see Curt. Gr. Et. ${ }^{2}$ p. 653.

LATIN.
Table of Sounds in the Latin Language.

| consonants. |  |  |  |  | vowels. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| momentary sounds. |  |  | prolonged sounds. |  | $\left.\frac{a, \bar{a}}{i, \bar{\imath}}\right\} e, \bar{e}, a e$ | $\}^{0} 0$ |
|  | onaspirated. mote sonant | ASPIRATED. mute sonant | nasal. sonant | $\begin{gathered} r-\& l-\text { sovend. } \\ \text { sonant } \end{gathered}$ |  |  |
| Gutt. | $c, q \quad g$ | $h$ | $n$ |  |  |  |
| Pal. |  | $j$ |  |  |  |  |
| Ling. |  |  |  | $r, l$ |  |  |
| Dent. | $t \quad d$ | $s$ | $n$ |  |  |  |
| Lab. | $p \quad b$ | $f \quad v$ | $m$ |  | $u, \bar{u} \quad J$ |  |

§ 30. Note 1.-I have placed $h$ amongst the mute spirants, because it is nowhere pronounced with a vowel-sound except in Sk.

Note 2.-Guttural $n$ has no peculiar character; $n$ is gutt. before gutt. consonn. $c, q, g$ ( $n$ adulterinum), but not after $g$, where, contrary to the German usage, it must be pron. like ordinary dental $n$.

Diphthongs, almost exclusively peculiar to Old. Lat., are ai (ae), au, ei, eu, oi (oe), ou, ui.

## Latin Vowel-system.

The Lat. vowel-system has suffered frequent changes in the course of time. Classical Lat., like Umbrian, shows a distaste for diphthongs, and these have changed to more compact sounds: the old diphthongs are vouched for by Old Lat., and esp. by Oscan. In the above cases the Lat. is insensible to voweldevelopment. A movement of root-vowels in their scales (confined, however, generally to two steps only) is not still shown except in a few roots.

The influence of final sounds, and further of sounds generally on one another (of consonant upon vowel, vowel upon vowel), has reached a high pitch in Lat. Unoriginal shortenings and lengthenings also occur frequently, so that the vowel-system of the Latin has diverged very widely from the original sounds. Besides, Old-Lat. and Osc. (both Italic languages with more origl. vowel-systems) have reached us only in a very fragmentary condition, while Classical Lat. has the characteristics of a written language which became stereotyped under foreign influence, and Umbr. is in the highest degree unoriginal in its vowels. Accordingly, of all Indo-Germ. languages, Lat. offers the greatest difficulties to a scientific investigator.
$a$ is frequently weakened to $u$ and $i$, and passes in a great measure into $e$ and $o$ (later generally to $u$ ), as in Gk.; similarly $\bar{a}$ into $\bar{e}$ and $\bar{o}$, only in Lat. the influence of neighbouring sounds is clearly the reason for vowel-colouring. In consequence of the full and thorough conformity of the Lat. with
the Greek vowel-scales, we are probably entitled to treat $\bar{o}$ in § 31 .
Latin also as a vowel of the second step.
The $i$ - and $u$-scales were in the oldest form of the language exactly like the Greek, especially in the distinction of ai and $a u$ from $e i$ and $e u$. In the $u$-scale the second step takes throughout the place of the first, whilst $e$ before $u(v)$ passes into $o$, according to Lat. sound-laws (vid. § 34) [as in Gk. the converse takes place]. The later language, however, has preserved only $a u$ of the old diphthongs; yet even this diphthong shows a marked tendency to become a simple sound in certain cases.

Latin vowel-scales (Old Lat. sounds distinguished by upright characters):

|  | $W$ Weakening. Fund.-vowel. | 1st Step. | 2nd Step. |  |
| :--- | :---: | :---: | :---: | :---: |
| 1. $a$-scale loss. | $i, u$ | $e, o, a$ | $o, \bar{e}, \bar{a}$ | $\bar{o}$ |
| 2. | $i$-scale | $i$ | ei $\bar{\imath} \bar{e}$, ai $a e$ | oi oe $\bar{u}$ |
| 3. $u$-scale | $u$ | eu $a u \bar{o}$ | ou $\bar{u}$ |  |

In Class. Lat. eu no longer exists as a vowel-step, but has become ou (i.e. $\bar{u}$ ).

The change from diphth. to monophth. is capable of simple physiological explanation (assimilation of both sounds, each to the other, e.g. $e i$ to $\bar{e}, a i$ to $a e, o i$ to $o e, a u$ to $\bar{o}$, or of one to the other, as $e i$ to $\bar{i}$, ou to $\bar{u}$ ), the change from $o i$, oe to $\bar{u}$, is caused by the common passing of $o$ into $u$. (change-scale $o i, u i, \bar{u}$; possibly also $o e, u e, \bar{u})$.

Examples.
§ 32.

1. $a$-scale.

Weakening. 1. Loss of radical $a$, e.g. sum, sumus, sunt, siēm, etc., for ${ }^{*} e s-u m$ fund.-fm. as-mi, ${ }^{*} e s-u m u s ~ f . f . ~ a s-m a s i, ~ * e s-u n t ~ f . f . ~$ as-anti, *es-iēm f.f. as-yām ( $\sqrt{ }$ es, to be, cf. Gk.) ; gigno (produce, cf. $\gamma i-\gamma \nu 0-\mu a \iota$ ), fr. ${ }^{*} g i-g e n-o, \sqrt{ }$ gen (cf. gen-ui, gen-us), origl. gan; especially in the second member.of compounds is this loss frequent, as in malo fr. ${ }^{*}$ maulo, and this again fr. ${ }^{*}$ mage-uol-o
§ 32. (magis uolo), and in like cases (v. 'Sound-laws,' §42) : sf. -br-um (in part at least fr. ${ }^{*} b e r-u m$ ), $\sqrt{ }$ ber, origl. blar (ferre), so that here we have a compound, not a stem-formative sf.; the same remark applies to -gnus fr. ${ }^{*}$-genus ( $\sqrt{ }$ gen, gi-gn-ere), e.g. mali-gn-us (ill-disposed, malus, evil), and others, and -gium in iur-gium (lawsuit) for ${ }^{*} i u r-i g i u m$, cf. rem-ig-ium (rowing), $\sqrt{ } a g$ (agere), etc.

In stem-formative suffixes, loss of origl. $a$ occurs, as in the kindred languages, e.g. patr-is, older ${ }^{*}$ patr-us, ${ }^{*}$ patr-os, for pater--os, st. pater, f.f. patar-as (gen. sing.), and in many other cases.
2. Weakening of $a$ to $i$ is very frequent, esp. in the second member of a compound, e.g. ac-cipio (receive) beside capio (take); per-ficio (complete) beside facio (make); as-sid-eo (sit by), $\sqrt{ }$ sad, Lat. sed; me-min-i (bring to mind), $\sqrt{ }$ man ; co-gni-tus (known), $\sqrt{ } g n a$, fr. gan; in-si-tus (implanted), $\sqrt{ } s a$, etc.; moreover in stem- and word-formative particles, e.g. ueh-is, ueh-it ( 2,3 , sing. pres., $\sqrt{ }$ ueh, carry), for ${ }^{*} u e h-i s i$, ${ }^{*} u e h-i t i$, origl. vagh-asi, vagh-ati; nō-min-is (gen. sing. nōmen, name), origl. gnä-man-as, etc.

It occurs even in the accentuated syllable of the word (as in Germ.), e.g. in-ter (between), Umbr. an-ter, compar. of pronoml. st. an, cf. Sk. an-tár, án-tara-s (inter, interior), Gk. ê $\nu$ - $\tau \in \rho a ;$ in(neg.), Umbr. an-, Sk. an-, Gk. à $\nu$-; igni-s (fire), Sk. agni-s; quin-que (five), f.f. kankan, Sk. pánikan.

In the reduplication-syll. of pres. stems fr. roots in root-vowel $a$, this weakening takes place regularly, e.g. gi-gno (beget) fr. *gi-gen-o, f.f. ga-gan-ämi, cf. Gk. $\gamma i-\gamma \nu$-opal, $\sqrt{ }$ gan; ser-o (sow) $={ }^{*}$ siso ( $i$ changed to $e$ on acct. of the $r$ ), f.f. $s a-s \bar{a}-m i, \sqrt{ } s a$; $s i-s t-o$ (set), f.f. sta-stā-mi, $\sqrt{ } s t a$; sīdo (set myself) fr. ${ }^{* s i-s d o, ~}$ ${ }^{*} s i$-sed-o, f.f. sa-sad-āmi, $\sqrt{ }$ sad.

Note.-The lengthening of $e$ weakened from origl. $a$ into $\bar{\imath}$ (ei) is hardly susceptible of proof: scrībo (write) beside $\gamma \rho a ́ \phi \omega$, since both words are generally akin, we must perhaps assume to be a case of $a$-scale passing into $i$-scale, as often in Sclavo-

Teutonic: in cases such as uiri-tim (man by man) fr. st. uiro- § 32. (uir, man), the analogy of other forms (verbal stems) is followed (cf. tribu-tim, etc.).
3. Weakening of $a$ to $u$ is common, esp. in stem- and wordformative elements, but also in roots, through the influence of certain consonants. $i$ is clearly the furthest weakening from $a$, for $u$ through intermediate $\ddot{u}$ (" medius quidam inter $i$ et $u$ sonus-pinguius quam $i$, exilius quam $u$-sonum $y$ Graecae uidetur habere" Gramm. ; imp. Claudius Caesar ordered the character $\vdash$ to be used for this sound) often changes to $i$, whilst older forms in $u$ exist beside later ones in $i ; u$ is also an unimportant representative of weakening from $a$ through $o$, the older lang. very often retaining $o$ where later $u$ occurs. The vowel-scale of change from $a$ to $i$ is therefore evidently: $a, o$, $u, \ddot{u}, i$. Thus, e.g. a f.f. ap-tama-s becomes *op-tomo-s, op-tumu-s, op-tümu-s, op-timu-s (best), Ital. ottimo ; dakama-s, * decomo-s, decumu-s, decimu-s (tenth), Ital. decimo; beside cap-io (take), man-cup-ium (property; Plaut.), oc-cup-are (seize), in-cip-ere (begin), man-cip-ium ; con-cut-io (shake violently) beside quat-io (shake), in-sul-sus (unsalted) beside salsus (salted), etc. $u$ is frequent as a merely later change fr. older o (cf. Gk., where $o$ remains), especially in word-formative elements, e.g. nom. acc. sing. masc. neut. of origl. $a$-stem $-u-s$ fr. Old-Lat. $-0-s$, Gk. $0 . s$, origl. $-a-s$; $-u-m$, Old-Lat. $-o-m$, Gk. $-o-\nu$, origl. $-a-m$, e.g. $d a-t u-s$ (given) fr. da-to-s, Gk. $\delta o-\tau o ́-s, ~ o r i g l . ~ d a-t a-s ; ~ a c c . ~$ $d a-t u-m$ fr. $d a-t o-m$, Gk. $\delta o-\tau o ́-\nu$, origl. da-ta-m. Lat. os, $u s$, generally represents origl. final as, e.g. gen-us (race), earlier gen-os= $\gamma^{\prime} \varphi$-os, Sk. ǵán-as, origl. gan-as; op-us (work), Old-Lat. $o p-o s$, Sk. and origl. áp-as ; -bus (sf. dat. abl. pl.), earlier -bos for -byos, Sk. bhyas; ferunt (they bear), Old-Lat. fer-ont, fer-onti, Gk. $\phi^{\prime} \rho$-ovtı ( $\phi$ é $\rho$-ovol), Sk. and origl. bhár-anti; also in pres. part. o clearly is the form of the earlier lang., cf. e-unt-em (him who goes), i.e. e-ont-em, where beside $e, o$ has become $u$, whilst $e$ regularly occurs; uol-unt-arius (willing)'
§32. points to a once-existing *uolont-, *uolunt-, beside usual uolent(willing), etc.

After consonantal $u$, o remains, e.g. wolt (later uult, he will), Sk. and origl. $\sqrt{ }$ var; loquontur (loquuntur, they speak) ; quom (quum, conj. 'when,' 'since,' cf. quon-iam), f.f. kam; quo-d (which), f.f. $k a-t$ (but is-tu-d, f.f. ta-t) ; nouo-s, new (nouus), Sk. and f.f. náva-s, etc.

Note.-Through the older o-forms, Latin approaches near to Greek.
§ 33. The root-vowel of the $a$-scale, origl. $a$ is represented by-

1. $a$ preserved in a very few cases, appearing by preference before $g, c$, e.g. ac-us (needle), ac-ies (point), ac-erbus (sour), $\sqrt{ } a c$, Sk. $a c ̧$, origl. $\sqrt{ } a k$; $a g-o$ (drive), ${ }^{\prime} \gamma-\omega$, Sk. $a^{\prime} g-\bar{a} m i, \sqrt{ } a g$; mag-is (more), mag-nus (great), $\mu^{\prime} \gamma-a s$, Sk. st. mah-ánt- (n. sing. masc. mah-án), Goth. mik-ils, $\sqrt{ }$ mag, Sk. mah fr. magh; frag-ilis (breakable), frag-or (crash), fra-n-go (break), Goth. $\sqrt{ }$ brak (pres. brik-a, pf. brak); ang-uis (snake), Sk. áh-is, Gk. $\epsilon^{\prime} \chi$ - $\iota$, Germ. unk; ans-er (goose) for *hans-er, Germ. gans, Sk. hâs-ás, f.f. ghans- ; al-ius (other), ä $\lambda \lambda o s={ }^{*} \dot{d} \lambda-y o s$, Goth. al-is; ap-iscor (get), ap-tus, cf. Sk. $\bar{a} p-n \bar{o}-m i$ ( 1 sing. pres. ind. adipiscor) $\sqrt{ }$ ap; sta-tus (placed), Gk. $\sigma \tau a-\tau o ́ s, ~ f . f . ~ s t a-t a s, ~ \sqrt{ }$ sta ; sa-tus (sown), $\sqrt{ } s a$; da-tus (given), da-tor (giver), Gk. סo-тós, $\delta o-\tau \eta \prime \rho, \sqrt{ } d a$, etc.
2. Origl. $a$ appears as $o$, especially in roots before and after $r$, and further in stem- and word-formative elements.

After $v$, as uom-o (spue), Gk. $F_{\epsilon} \mu-\epsilon \in \omega$, Sk. vám-āmi; uol-o (will), uol-t, uol-im, later uult, uel-im, cf. Sk. vár-āmi (vr-ṇómi, vr-ṇắmi), $\sqrt{ }$ var; uoc-are (call), Sk. $\sqrt{ }$ rak', Gk. Fє $\pi$, origl. vak; uort-o (turn), later uert-0, cf. Sk. várt-atē (3 sg. pres. med. uertitur, est), $\sqrt{ }$ vart ; uo-s (you), uoster (your), later uester, cf. Sk. ras (uos, uobis) ; uolu-ere (twirl), Goth. valv-yan (uoluere); cf. quatuor (four) for *quatuors, *quatuores, beside $\tau \in ́ \sigma \sigma a \rho \epsilon \varsigma=$ ${ }^{*} \tau \epsilon \tau F a \rho \epsilon \varsigma$, f.f. prob. katvāras; even uocuus (empty) in inscrr. for uacuus.

Origl. sva is regularly so in Lat., prob. fr. suo for sue, origl.
$s s a$, by the above rules; $u$ falls out, as in te (thee), se (himself), § 33. etc., for ${ }^{*} t u e,{ }^{*}$ sue, e.g. socer (father-in-law) fr. ${ }^{*}$ suocer, ${ }^{*}$ suecer, Gk. éкvoós for * $\sigma$ Fєкvроs, Sk. scáçuras (written çváçuras), Goth. svaîhra, cf. socrus (mother-in-law), Sk. sváçrūs (written çváçrūs) ; sorōrem (sister, acco.), Sk. svásäram, f.f. svastāram; sop-or, somnus
 (I sleep) ; son-us (sound), Sk. sván-as.

Before $v$, e.g. ou-is (sheep), Gk. öFis, Sk. ár-is, Lith. $a v$-is; uou-os, later nou-us (new), Gk. $\nu \in ́$ 'f-os, Sk. náv-as; nou-em (nine), Gk. $\epsilon^{\boldsymbol{e}} \boldsymbol{\nu}-\nu \hat{c} F a$, Sk. náv-an.

In other combinations, e.g. mor-ior (die), origl. and Sk. $\sqrt{ }$ mar (mori) ; dom-are (tame), Gk. $\sqrt{ } \delta a \mu$ (é- $\delta a \mu$-ov), Sk. dam, Goth. tam, H.G. zam ; op-us (work), Old-Lat. op-os, Sk. áp-as; loq-uor
 (mighty), po-tiri (become master of), cf. Gk. $\pi o^{\prime}-\sigma \iota s$ (lord), Sk. and origl. pá-tis (master) [perh. in these instances the lab. $m$, $p$, and the lab. vowel which in Lat. accompanies $l$, are the causes of $\theta$ representing $a$ ]; coq-uere (cook), Gk. $\sqrt{ } \pi \epsilon \pi$, Sk. pak, Lith. kep, etc., origl. kak.

In terminal particles (stem- and word-formative) 0 is remarkably regular before $s$ and $m$ (as in Gk.) ; for later weakening of $o$ to $u, \mathrm{v}$. sup. $\S \S 32,3$ ) ; e.g. suff. -to in n. sing. m. and acc. masc. and neut. -to-s, -to-m, Gk. -тo-s, - $\tau 0-\nu$, Sk. -ta-s, -ta-m, e.g. in-clu-to-s (famed), acc. clu-to-m, cf. Gk. $\kappa \lambda \nu-\tau o ́-s, \kappa \lambda \nu-\tau o ́-\nu$, Sk. çru-tá-s, çru-tá-m, origl. kru-ta-s, kru-ta-m; neut. termn. -os, later us, e.g. gen-os (gen-us, race), Gk. y'́v-os, Sk. ǵán-as, origl. gan-as, so also Ven-os (prop. n. fem., -os authenticated); Lat. pl. -bos (-bus), Sk. -bhyas, etc.
3. a passes into $e$ very frequently, without assignable reason, in neighbouring sounds: e.g. fer-o (bear), $\sqrt{ }$ fer, Gk. $\phi \in ́ \rho-\omega$, Sk. and origl. bhár-àmi, $\sqrt{ } b h a r ; ~ e s-t$ (he is), $\sqrt{ } e s$, Gk. $\mathfrak{\epsilon} \sigma-\tau i$, Sk. and f.f. ás-ti, $\sqrt{ }$ as ; sed-eo (sit), $\sqrt{ }$ sed, Sk. and origl. sad; gen-us (race), Old-Lat. gen-os, $\sqrt{ }$ gen, $\sqrt{ }$ Gk. $\gamma^{\prime} \nu$-os, Sk. ğán-as, origl. gan-as, $\sqrt{ }$ gan ; ueh-it (he carries), $\sqrt{ } u c h$, Sk. cáh-ati, f.f.
§ 33. vagh-ati, $\sqrt{ }$ vagh; pecu- (cattle), Sk. st. paçú- (n. sing. masc. paçí-s), f.f. stem paku- ; eq-uos (horse), $\sqrt{ } e c, \mathrm{Gk} . ~ і ̈ \pi \pi о \varsigma=* i \kappa-F o s, ~$ Sk. áş-vas, $\sqrt{ } a ̧ ̧, ~ f . f . ~ a k-v a s, ~ \sqrt{ } a k ; ~ d e c-e m ~(t e n), ~ G k . ~ \delta e ́ к a, ~ S k . ~$ dáçan-, f.f. dakan-; septem, Gk. é $\pi \tau \alpha ́$ (seven), Sk. and f.f. saptán-; dent-em (tooth, acc.), ò-סóvt-a, Sk. dánt-am; men-te-m (mind, acc.), f.f. man-ti-m, $\sqrt{ }$ man; fer-ent-em (bearing, acc.), $\phi \epsilon ́ \rho-o \nu \tau-a$, Sk. and f.f. bhár-ant-am; the origl. sound-combn. ant also becomes ont, unt, in Lat., e.g. fer-unt (they bear) fr. *fer-onti, Sk. and origl. bhár-ant-i, e-unt-em (going, acc.; cf. § 32), beside fer-ent-em ; st. pa-ter- (father), mā-ter- (mother), origl. pa--tar-, mā-lar-; (g)n̄̄-men (name), Sk. năá-man-, f.f. gnã-man, etc.
$e$ is often an evident weakening from a, e.g. per-fec-tus (made thoroughly) beside fac-tus (made), etc.
$e$ has proceeded from $o$ in cases such as uert-o, uester, etc., fr. older uorto, voster, f.f. vart- $\overline{-}-m i$, Sk. and origl. $\sqrt{ }$ vart, Goth. varth; uos-ter, cf. Sk. vas (uos, uobis) (cf. § 33). Accordingly $e$ comes after $a$ and $o$ as a lighter vowel.
§34. Step-formation of a.

1. Corresponding to $e$ we find $o$ as the equivalent heavier vowel, and $o$ sometimes occurs as a step-formn. fr. $e=a$ (cf. Gk. and Sclav.); thus in these cases $o=\bar{a} ; e: 0=a: \bar{a}$, e.g. mon-eo (warn), i.e. $m \bar{n} n$-āyami, caus. vb. fr. origl. $\sqrt{ }$ man (think, thus simply = make to think), beside mens (mind) for *ments, *men-ti-s, f.f. man-ti-s (sf. ti), fr. $\sqrt{ }$ man, cf. me-min-i (I remember), later with weakening of $e$ to $i$; noc-eo (hurt), f.f. $n \bar{a} k$-ayämi, caus. vb. fr. origl. $\sqrt{ } n a k$, Sk. $\sqrt{ } n a c ̧$ (die) (so simply 'make to die'), nex, nec-is (death), per-nic-ies (ruin), nec-are (kill), cf. $\nu \epsilon \in \kappa-\nu \varsigma, \nu \epsilon \kappa$ - $\rho o ́ s$ (corpse) ; tog-a (wrapper) beside teg-o (cover), $\sqrt{ } \operatorname{tag}$ (H.G. tak), prob. for stag, cf. $\sigma \tau$ '́ $\gamma-\omega$, Sk. sthág-àmi (cover), in Lith. steg-iù (cover) stands beside stóg g-as (tectum); socius (comrade) beside seq-ui (go with), ad-sec-la (escort); doc-co (teach), caus. f.f. dāk-ayāmi, beside di-dic-i, disco (learn) for *dic-sco, prob. for ${ }^{*} d i-d a c-s c o$, . cf. $\delta \iota-\delta a \dot{a}(\kappa)-\sigma \kappa \omega$ (teach) beside $\delta \iota \delta a ́ \xi \omega$, i.e. $\delta \iota \delta a ́ \kappa-\sigma \omega, \delta \delta \delta a \chi-\eta$ (teaching), $\sqrt{ }$ dak (not dic, as in
dic-0, $\delta \epsilon i \kappa-\nu v \mu($, which must be kept distinct) ; proc-us (wooer) § 34. beside prec-ari (beg); for-s (chance), for-dus (pregnant), beside fero (bear), $\sqrt{ }$ fer, origl. $\sqrt{ }$ bhar.

When $o$ is short, the step-formations can take place also before two consonants, e.g. pond-us ( n . weight) beside pend-ĕre (weigh) ; ex-torr-is (exile), torr-eo (roast) $=$ *tors-eo, cf. tos-tus (p. part. pass. torreo) for *tors-tus, beside terra for ${ }^{*}$ ters- $a$ (the 'dry land' in contrast to the 'water'), $\sqrt{ }$ tars, Goth. thars (in thairsan, roast, thaúrsyan, thirst, vb.), Sk. tar's (thirst). Beside $a$, o occurs in scob-s (sawdust), scob-ina (rasp), and scăb-o (scratch); port-io (share) beside part-em (pars, part), int-pert-io (give, share).
2. $\bar{e}$ is not common, e.g. tēg-ula (tile) beside tég-o and tog-a; rēg-em (rex, king), cf. Sk. rāǵ-am, ráǵg-ănam beside rĕg-o (rule); lēg-em (lex, law), col-lēg-a (comrade in office) beside lĕg-o (pick out, read), sēd-es (seat) beside sěd-eo (sit), $\sqrt{ }$ sad; sē-men (seed) beside să-tus, so chiefly as a step-formn. of $e ; \bar{e}$ corresponds to origl. $\bar{a}$ in $p l \bar{e}-n u s$ (full), f.f. prā-nas, $\sqrt{ } p r a, ~ p a r ~(f i l l) ; ~ \overline{e d}-i$, cf.
 (half), Gk. $\dot{\eta} \mu \iota-$, Sk. sāmi-, O.H.G. sämi-; siēm, siēt (1, 3, opt. fr. es, be), cf. $\epsilon^{\prime \prime} \eta \nu$, $\epsilon^{\prime \prime} \eta$, Sk. syām, syät, origl. as-yā-m, as-yā-t, in which cases perh. $i$ has had an assimilating influence.
3. As $\bar{e}$ is to $\bar{e}$, so is $\bar{a}$ to $a$ in the sound-scale, which, therefore, occurs most often before guttural consonants, e.g. $\bar{a} c-e r, \bar{a} c$-ris (sharp), beside ăc-ies (point); plāc-are (appease) beside plăc-ēre (please) ; p $\bar{a} c-e m$ (pax, peace), thence $p \bar{a} c$-are (to pacify), beside păc-isci (bargain) ; māc-ero (soften) beside măc-er (thin) : amb-āg-es (roundabout-way), cf. amb-̌̌g-ere (be in doubt), fr. $\sqrt{ } a g$ in $a ̆ g-o$ (drive, lead), Gk. ${ }^{\prime} \gamma-\omega$, Sk. $a^{\prime} g$ - $-\bar{a} m i$, origl. $a g-\bar{a} m i$; st. con-tāg-io- (con-täg-iu-m, contact), and further formed from it the commoner con-t $\bar{a} g-i \bar{o} n$ - (n. sing. con-t $\bar{a} g-i o$ ), fr. $\sqrt{ }$ tag in tango (touch), tac-tu-s (past part. pass.) for ${ }^{*} t a g-t u s$, cf. con-tingo (touch, hit) ; st. suf-frāg-io (suffrāg-ium, origly. 'sherd'; vote) beside fräg-or (crash), $\sqrt{ }$ frag, cf. fra-n-go (break), in-fri-n-g-o
§34. (break into); sāg-ire (perceive), sāg-us (sooth-sayer), sāg-a (witch) beside săg-ax (knowing) ; pāg-ina (page, leaf), com-pāg-i(compages, union), com-pāg-in- (compago), fr. $\sqrt{ } p a g$ in $p a-n-g-o$ (fix), cf. com-ping-o (fix together) ; uād-o (go) beside uăd-o(uadum, ford) ; lāb-i (glide) beside lăb-are (totter) ; dā, dā-s, beside $d a ̆-t u s, \sqrt{ } d a$ (give); $f a \bar{a}-r i$ (speak), $f \bar{a}-m a$ (fame), $f a \bar{a}$-cundus (eloquent), beside fä-teri (own to), origl. $\sqrt{ } b h a ;$ mä-ter (mother), Sk. mä-tar-, $\sqrt{ } m a ;$ frä-ter (brother), Sk. bhrā-tar-, $\sqrt{ } b h r a$, transposed fr. bhar.

The fem. of the $a$-st. had origly. in the Lat. also long $a$, e.g. nou- $\bar{a}, ~ c o c-t \bar{a}$, origl. nav- $\bar{a}, k a k-t \bar{a}$, cf. Sk. náv- $\bar{a},{ }^{*} p a k-t \bar{a}$ (this form does not happen to occur, but is replaced by an entirely different

 this $\bar{a}$ have been preserved in Latin.
4. Not unfrequently $\bar{o}$ is a step-formation from $a$, especially beside $o=a$, and where $a$ is a root-termn., further in stemformative elements, e.g. per-sōn-a (mask) beside sŏn-us (sound), sön-are (sound), Sk. and origl. $\sqrt{ }$ svan; sōp-io (put to sleep), i.e. Sk. and origl. scāp-áyāmi, causat. verb, beside sŏp-or (sleep), Lat. $\sqrt{ }$ sop, Sk. and origl. svap; ū̄c-em (uox, voice) $=$ Sk. $v^{\prime} \hat{a}_{k}^{\prime}-a m$, Gk. Fót-a, origl. $v a \bar{l} k-a m$ beside uŏc-o (call), origl. $\sqrt{ } v a k$ (speak); $\bar{o} c$-ior (swifter), comp. fr. lost adj. corresponding to Gk. $\omega \kappa-\dot{v}-\mathrm{s}$, Sk. $\bar{a} \varsigma-\dot{u}-s$ (swift) (perh. sounded *oquis), origl. $\sqrt{ } a k$; dō-num (gift), Sk. and f.f. $d \bar{a}-n a-m, d \bar{o}-t e-m$, n. $d \bar{o} s(d o w r y,=d \bar{o}-t i-s)$, f.f. $d \bar{a}-t i-m$ beside dă-tus, $\sqrt{ } d a ;$ gnō-sco (nō-sco, learn), gnō-tus (known, cf. $\gamma \iota-\gamma \nu \omega$ - $\sigma \kappa \omega, \gamma \nu \omega-\tau o ́ s)$, gnō-men (name) beside (g) nöta (mark), co-gni-tus (known), $\sqrt{ }$ gna, fr. gan (as later forms show); pōd-ex beside $p e \bar{e} d-o$ and $p \bar{e} d-i c o$, Sk. and origl. $\sqrt{ } p a r d, G k . \pi \epsilon \rho \delta$, H.G. farz ; da-tōr-em (giver, acc.), Sk. dā-tấr-am, Gk. $\delta o-\tau \hat{\eta} \rho-a$, origl. suff. tar, here raised to tār; quö-rum fr. st. quo- (rel. interrog.), origl. $k a$, etc.
5. $\bar{u}$ as=origl. $\bar{a}$ can only be considered a later parallel form from $\bar{o}$, since $o$ has frequently become $u$; probably it does not
occur within the root. Hence the suff. -tūro-, fem. -tūra-, e.g. § 34. $d a-t \bar{u} r-u s$ (about to give), rup-tūr-a (breach), Lat. formns. from stems in -tōr, origl. -tar, da-tōr-, rup-tōr-, origl. da-tār-, rup-tār- ; the suff. of gen. pl. -um, -rum (prob. for $-\bar{u} m,-r \bar{u} m$, cf. Bücheler, Grundriss der Lat. Decl., p. 40) stands for earlier $-\bar{o} m$, $-\mathrm{ro} m$ ( $b o u-o m$ even in Verg.), Gk. $-\omega \nu$, in ${ }^{*}-\omega \nu$, Sk. and origl. $-\bar{a} m$, -sām, e.g. (is)tarum=Gk. ${ }^{*} \tau a \dot{\omega} \nu$, i.e. $\tau \hat{\omega} \nu$, Sk. tắsäm; $v \bar{c} c-u m=\mathrm{Gk} . F_{o \pi-}-\bar{\omega} \nu$, $\mathrm{Sk} . v \bar{a} k \hat{k}-\bar{a} m$.
2. $i$-scale.
§ 35.
In this, as in the $u$-scale, there is a lack of roots which present all three steps at once. In the $i$-scale, I know only the $\sqrt{ }$ fid in fùdes (faith), per-fìd-us (faithless) beside con-fìd-o (trust), i.e. feid-o (di-feid-ens is vouched for) and foid-os (foedus, treaty) : even in roots which appear in two steps, e.g. $\sqrt{ }$ dic (Gk. $\delta \iota \kappa$, Sk. diç, etc.), in in-dǐc-o (point at), causi-dǐc-us (advocate) beside deic-o, dīc-o (say); and $\sqrt{ } i$ (go) in $\ddot{\imath}$-tum beside $e i-s, e i-t, e i-t u r=\bar{\imath} s, \bar{\imath} t$, $\bar{t} t u r$ (cf. $\epsilon i \mu l$, go, Sk. $\bar{e}-m i$ ), there is a step wanting.

The fundamental vowel $i$ occurs, e.g. in dic-are (dedicate),
 $\sqrt{ } i$ (go) ; uid-eo (see), cf. Sk. vid-más, Gk. Fî- $\mu \epsilon \nu$, Goth. vit-um, $\sqrt{ }$ vid ; sci-n-d-o (slit), scissus=*scid-tus (slitten), cf. Sansk. $\not k h i-n-\dot{a}-d-m i, \sigma \chi i \zeta \omega={ }^{*} \sigma \chi \downarrow \delta-y \omega$, Goth. $\sqrt{ }$ skid in skaid-an, $\sqrt{ }$ scid; $\sqrt{ }$ mig, origl. migh, Gk. $\mu \iota \chi$, in mi-n- $g-0$, mic-tus for ${ }^{*}$ mig-tus (past part. pass.) ; $\sqrt{ }$ lig in li-n-g-o (lick), origl. righ, Gk. $\lambda c \chi$; qui-s (who?), cf. Goth. his (dem.), Lith. szi-s, f.f. ki-s, $\sqrt{ } q u i=$ $k i$. In stem-formative elements, e.g. ou-i-s (sheep), Gk. öF-u-s, Sk. áv-i-s, Lith. av-i-s, $\sqrt{ } u$, av, with suff. $i, i$ is often lost in consequence of its position at the end of a word, e.g. men-s for men-tis, men-ts, f.f. man-tis, or dulled to e, as men-tem, cf. sqq.

This genuine $i$ is dulled to $e$ according to definite laws, e.g. $i n$-dex, in-dic-is (pointer), $\sqrt{ }$ dic ; ig-ne-m (fire, acc.) for older $i g-n i-m$, Sk. agni-m, Lith. ùgni. , The earlier forms of this acc. occur not uncommonly, as naui-m (ship, acc.) beside naue-m and
§ 35. others. Also mare for ${ }^{*}$ mari, cf. mar-i-a (in similar cases final $i$ is lost); so also in naue-bos, tempestate-bus (inscrr.), origl. $i$ has passed into $e$, stems nāui-, tempestāt $i$ -

Note.-Thus here $e$ is the newer, $i$ the origl. and hence older sound; whilst in the case of the more usual $i$ weakened from $a$, when it is interchanged in the earlier lang. with $e$, the latter is the earlier sound. The language, however, no longer felt the difference of derivation, and both $i$-sounds were treated alike. Perh. unorigl. lengthening of $i$ to $\bar{i}$ should not be separated from step-formn. of $i$ (to $e i$ ).

First step: ei ( $\overline{,}, \bar{e}) ;{ }^{*}$ deiu-os, dìu-os (godlike, deiuae, deiuinus, occur), Sk. dēvá-s, f.f. daiva-s, $\sqrt{ }$ div (shine) ; deic-o, dīco (say), f.f. daik-ämi, $\sqrt{ }$ dic; ei-tur, $\bar{i}$-tur (' it is gone,' impers.), $\sqrt{ } i$; feid-o, fidd-o (trust), $\sqrt{ }$ fid ; ueiuo-s, uīuo-s (alive), cf. Sk. ǵìvá-s, Lith. gýcas, $\sqrt{ } g i$, redupl. gig, uig, giu, uiu ( $u$ for $g$, through intermed. gu (vid. sub. "Consonn."), ueic-us, uīc-us (hamlet), Sk. rè́ças, Sk. Foikos; uinum (wine), i.e. ueinom, Goth. vein, Gk. Foivos; clearly $\bar{i} d$-us, eid-us (a fixed day in the month, origly. the day on which the moon shines, the bright day ; Corss. Krit. Beitr. 261), $\sqrt{ } i d$, origl. and Sk. $\sqrt{ } i d h$ (vid. sub. ai, ae).

Deus (god) is weakened fr. *dèus, *dēuos, *deiuos, and is thus a parallel-fin. to dìuos, to which deiuinus points; so ěo (go) is clearly for ${ }^{*} \bar{e} 0,{ }^{*} \bar{e} y o$, f.f. *aiy-āmi for *aiämi, with splitting up of $i$ into iy; uen-dēmia (inscrr.) =uin-dēmia (vintage).

In word-formative elements, $\bar{e}$ beside $e i, \bar{i}$, is common, later generally the rule, e.g. omneis, omnīs, omnes, etc.
ai, ae, occur here and there as in Gk., e.g. aid-e $(m)$, aed-es (house, hearth), aid-īlis (overseer of buildings), aes-tās (summer heat) for ${ }^{*} a e d-t a s$, cf. Gk. $a_{i}^{*} \theta-\omega$, $a^{\imath} \theta-o v \sigma a$, $a i \theta-\eta \rho \rho$, Sk. $\sqrt{ } i d h$ (kindle); ae-uo-m, old ai-uo-m (aye, long time) (except in gend.) = Sk. étv-a-s (course), cf. ai-F'́v, $\sqrt{ }{ }^{i}$ (go), origl. suff. va; maes-tus (sorrowful), maer-eo (grieve, intr.) beside mis-er (wretched); aem-ulus (vying) beside im-itari (imitate); laeuos (left-), cf.入aıFós; scaeuos (left-), cf. $\sigma \kappa a \iota F$ ós; caecus (blind), cf. Goth. haiks (one-eyed, blind).

Second step is oi, oe, $\bar{u}$; e.g. foid-ere, n. ${ }^{*}$ foid-os (foed-us, § 35. treaty), $\sqrt{ }$ fid ; $\bar{u} b e r$ (fruitful), early Lat. ${ }^{*} o i b-r i-s$, f.f. $\bar{a} i d h-r i-s$, cf. Sk. $\bar{e} d h$-atē (he grows), hence $\sqrt{ } i d h, \bar{u} b e r$ (neut. subst. fruitfulness), early Lat. perh. ${ }^{*}$ oib-es, f.f. aidh-as, fr. same root; *oinos, oino (m), occurs, oenus, ūnus (one), cf. Goth. ains; comoinem, comūnem (common, acc.), cf. Goth. gamains; so we find loidos, loedos, lūdus (game) ; oitier, oetier, ūtier (use), etc.

Note.-For oe we find $\bar{e}$ written by mistake (cf. Fleckeisen, 5 th Art. aus einem Hilfsbüchlein für Lat. Rechtschreibung, Frankf. 1861, p. 22), e.g. ob-ēdire for ob-oedire, cf. audire, $n$-ёnum $=n$-оепит (non).
3. $u$-scale.

Very much obliterated in Lat. Exx. are very rare: we can bring forward only lüc-erna (lamp), Gk. $\sqrt{ } \lambda v \kappa$, Sk. ruk, f.f. ruk, beside Leuc-esie (Carm. Sal.), Louc-ina (nom. pr.), lūcem (light, acc.), lū (c)-men (light), lou(c)-men; dŭc-em (leader) beside douc-ere, dūc-ere (lead) ; rŭb-er (red), f.f. rudh-ra-s, beside rüf-us (red), f.f. r̄̄udh-as; pro-nŭb-us (marriage-making), in-nŭb-us (unwedded), beside $n u \bar{u} b-o$ (marry- of the woman); rūp-es (rock, cliff) fr. $\sqrt{ } r u p$, in $r u-m-p-o$ (break); trüd-o (thrust) beside trŭd-i-s (thrusting-pole).

The fund. vowel $u$, e.g. in rup-tus (broken), ru-m-p-o (break), cf. Sk. lu-m-p-ámi, $\sqrt{ } l u p$, origl. $\sqrt{ } r u p ; ~ u s-t u-s ~(b u r n t), ~$ $\sqrt{ } u s$, Sk. $\sqrt{ } u s{ }_{s}^{l} ; t u-t u d-i$ fr. pres. $t u-n-d-o$ (thump), cf. Sk. tud-ámi, $\sqrt{ } t u d$; rub-er(red), for ${ }^{*} r u f-e r,{ }^{*} r u f-r o-s, \sqrt{ } r u f=\dot{\rho} v \theta$, Sk. and origl.
 fu-turus (about to be), cf. фu-тóv, origl. and Sk. $\sqrt{ } b h u$ (in Sk. lengthened $b h \bar{u}$ ). In stem-formn. (not in stem-formative particles), e.g. pec-u (cattle, pl. pecu-a), cf. Goth. faitu, O.H.G. vihu, Sk. paçú-s.

This genuine $u$ was also weakened to $i$ (ii) [like that which arose from $a$, cf. § 32], e.g. lub-et, lib-et (it pleases), Sk. and origl. $\sqrt{ } l u b h$ (desire), Goth. lub (in lub-ō, beloved, liub-s, love; ga-laubs, dear) ; cli-ens (hearer), $\sqrt{ } c l u, \sqrt{ } \kappa \lambda v$, origl. $k r u$ (hear);
§ 36. *manu-bus, and hence mani-bus (manu-s, hand), $u$ is noticeably preserved in many cases; fructi-fer, corni-ger, fr. *fructu-fer, *cornu-ger (fruit-bearing, horn-carrying).

Note 1.-Genuine $u$ does not change to $o$ except in fŏ-re fr. fü-se, $\sqrt{ } f u$.

Note 2.- $\bar{u}$ as lengthening from $\check{u}$ is prob. not to be separated fr. $\bar{u}=o u, 1$ st and 2nd step-formn. of $u$. In $t \bar{u}$ (thou), we have an unorigl. lengthening, f.f. is tư, for in Sk. $t v$-am, Gk. $\tau u u^{\prime}, \sigma u$, Goth. thu, Scl. ty, there is no step-formn. We cannot decide between lengthening and step-formation in cases like $s \bar{u}-s$ (boar), $\dot{v} s$, O.H.G. $s \bar{u} ; m \bar{u} s$ (mouse), $\mu \hat{v} s$, O.H.G. $m \bar{u} s$, etc., where Gk. vouches for the hypothesis of the lengthening.

The first step-formn. (acc. to analogy of all Indo-Eur. langg.) -sounded of course precisely as in Gk.-was eu; but it was lost very early, since the only remaining instance of this archaic step-formn. is in Leuc-esius (n. prop.), cf. $\lambda \in v \kappa$-ós (white), also Loucetius, Lucetius; f.f. is prob. ${ }^{*}$ Leuc-ent-ios, a further formn. fr. a particp. st. *leuc-ent- (as Prudent-ius fr. prudent-), of a pres. ${ }^{*} l e u c-o, \sqrt{ } l u c$, as $\phi \in u ́ \gamma-\omega$ fr. $\sqrt{ } \phi u \gamma$. In consequence of the soundlaw mentioned $\S 33$, (e before $u$, $v$, changed to $o$ ), there will arise fr. $e u$ an ou, coinciding with 2nd step, and later becoming $\bar{u}$. Hence from dūc-o (lead), douco, we must infer an older *deuco, f.f. $d a u k-a ̄ m i, \sqrt{ } d u k$ (because pres. stt. of this kind were formed by
 $-\bar{a} m i$, f.f. aus- $\bar{a} m i, \sqrt{ }$ us; in roots which end in $u$ we find ov for ${ }^{*} e v=$ eu, e.g. *plou-ont, thence pluu-ont, plu-ont (they rain); *plou-ont, however, is for ${ }^{*}$ pleu-onti, cf. Gk. $\pi \lambda \epsilon \dot{\epsilon} F-o \nu \tau \iota$ ( $\pi \lambda \hat{c}$-ova $)$, f.f. plav-anti; so flu-ont $=$ flou-ont, fr. ${ }^{*}$ fleu-onti, and other similar pres. fms.; ious, iour-is ( $i \bar{u} s, i \bar{u} r-i s$, right), is for *iou-os, *iou-es-is, and formed like ${ }^{*}$ gen-os, ${ }^{*}$ gen-es-is (gen-us, gen-eris), fr. $\sqrt{ }$ iu (iungere), by the first step, as is usual in this kind of noun st., ${ }^{*} i o u$-os is thus for ${ }^{*}$ ieu-os, formed fr. $\sqrt{ } i u$ like $\kappa \lambda \epsilon ́ F-o s$ fr. $\sqrt{ } \kappa \lambda \nu$, and corresponding Sk. çráv-as fr. $\sqrt{ } \varsigma \varsigma r u$; $i \bar{u} s, i u ̄ r-i s$ (broth) $=$ *iou-s, *iour-is, *iou-os, *iou-es-os, *ieu-os, *ieu-es-os, f.f. yav-as, yav-as-as, fr. another $\sqrt{ } y u, G k$. $\sqrt{ } \zeta_{u}$ (in $\zeta^{v}-\mu \eta$, yeast), cf. Scl.
$i u$-cha (broth) ; pūs ( $p \bar{u} r-i s$, matter) $={ }^{*}$ pous, ${ }^{*}$ pou-os, ${ }^{*}$ peu-os, f.f. § 36. $p a v-a s$, Sk. and origl. $\sqrt{ } p u$ (be foul), cf. Goth. fu-ls, perh. $f \bar{u}-l s$, O.H.G. fū-l, N.H.G. fau-l, f.f. pau-ra-s, Lith. pú-ti (be foul). Also Iou-em $=$ Diouem (acc. n. pr.) must be referred to ${ }^{*}$ dyev-em, and clearly $I \bar{u}-$-piter stands for ${ }^{*} d y \bar{u}-$-piter, ${ }^{*}$ dyout-piter, and the latter for ${ }^{*} d y e u-$ piter, st. dyeu-= $=\zeta v$-, which is merely a soundvariation fr. dyeu, $\sqrt{ } d y u=d i v$ (shine, as noun-st. 'heaven' and 'god of heaven'; Sk. nom. dyā-us (2nd step) does not correspond with the Lat.): here the 1 st step is much commoner than the 2nd, so that Lat. $\bar{u}$ must generally be referred hither as $=$ Old-Lat. ou.

Note.-neu, seu=neue, *seue, do not belong here strictly, any more than ne-uter, ne-utiquam (also nutiquam like nullus).
$a u$, as in Gk., is a first step long since unused, and in Lat. the only diphth. retained, and not yet given up (it occurs still in Ital. and in more isolated cases in other Latin lang.), although even in early times it was weakened, esp. in popular dialects, to the sound $\bar{o}$; further au is contr. into $\bar{u}$ (prob. through intermed. $\bar{o}$ ), e.g. raud-us, rōd-us, rūd-us (crumb of earth), $\sqrt{ }$ rud, elsewh. rub, ruf, $\sqrt{ } r u d h$ (be red). Exx. of au: aur-ōra (dawn), f.f. prob. aus- $\bar{a} s \bar{a}$, $\sqrt{ } u s$ in $\bar{u} r-o, u s-t u s$, cf. Sk. st. uš-ás- (aurora), without step-formn. in root and suff. (the latter occurs in certain cases only); aug-eo (I increase), cf. av̈ $\xi \omega$, $a u ̉ \xi a ́ \nu \omega$, prob. fr. ${ }^{*} a \dot{\jmath} \gamma-\sigma \omega,{ }^{*} a \dot{\jmath} \gamma-\sigma a \nu \omega$, Lith. áug-u (I wax), $\sqrt{ } u g$; the above-mentioned raud-us (neut. pl. raud-era), $\sqrt{ }$ rud, Sk. $\checkmark$ rudh, Gk. $\sqrt{ } \dot{\rho} v \theta$, etc.

Note-au can also arise through a secondary process, e.g. nautta (sailor), auceps (bird-catcher), gaudeo (am glad), fr. näu-i-ta, *au-i-ceps, * $y \bar{a} u-i-d e o$, etc.

The second step of $u$, viz. old Lat. ou, later $\bar{u}$, is equally wanting with the 1st step, and it is only by the aid of the cognate langg. that we can detect whether ou, $\bar{u}$, represent origl. $a u$ or $\bar{a} u$ : the latter is certain only in rare instances, e.g. rūf-us (red) $=$ Kelt. rúad, Goth. raud-s, f.f. rāudh-as; clearly
$\S 36$. here belongs $\bar{u} b e r$ (udder), on acct. of Gk. ous $\theta a \rho$, f.f. of both $\bar{a} u d h a r$, though Sk. ùdhas, O.H.G ütar (H.G. euter), show other degrees of the scale: perh. also lūc-em, Louc-ina, lū (c)men, $\sqrt{ }$ luk, origl. $\sqrt{ }$ ruk.

Note.- $\bar{u}$, ou, are here and there secondary products through falling-out of sounds, as e.g. *councti, cuncti (all together), fr. co-iuncti; noundinum (S.C. de Bacc.), nündinum, fr. *nouendinum, cf. nundinae (period of 9 days), prūdens fr. pro-uidens.

## Vowel Sound-laws.

Accurate statement of the extraordinarily variable vowel sound-laws of the Lat. must be left to the special-grammar of the lang. : a general view only can be given here.

Hiatus. In case of vowels coming into contact with one another, hiatus is often obviated by means of contraction. This occurs regularly, when the first vowel is $a$, thus amo ( 1 sing.) fr. *amao, amas (2 sing.), fr. *amais, f.f. of termn. -ayāmi, -ayasi; amarunt (3 pl. pf.) fr. ama(u)erunt; equae and equā fr. equāi (d. sing) ; diē, fidè, fr. diēei, fidēi, etc. Other exx. are found in sīs fr. siēs, sīt, earlier seit, fr. siēt, f.f. syāt; tib̄̄, tibei, fr. tibie, f.f. of termn. -bhya (m) ; so too in uōbeis, uōbīs, f.f. of termn. bhya ( m ) s ; senatüs (gen. sing.) fr. sena-tuis (-tuos), senatu (d. sing.) fr. senatui, cögo fr. ${ }^{*} c o-i g o$, equo (d. sing.) fr. equöi, etc. Both vowels, however, remain in many cases, esp. $u$ and $i$ with its kindred $e$ make no hiatus with follg. vowels, e.g. fui, lues, fluunt (fluont); the noun-termns. -io, -ia, -ies; fieri, tenuia (tenvia), eunt, eo, meae. In combination even co-actus, de-esse, co-optare, but also medially, boo (boare), etc. Hiatus in the middle of a word is almost always brought about by loss of consonn., e.g. fluunt fr. flouont, boo fr. bouo, etc. The laws of hiatus in Lat. need a further and more accurate settlement.
$\S 38$. Assimilation exercises a wide-spread influence; vowel assimilates vowel, both forwards and backwards, and also in case of indirect contact of vowels (passing over consonn.), causing both
partial and complete similarity; and the same effects are produced § 38 . by consonants upon vowels (relationship between particular con-sonantal- and vowel-sounds). And, moreover, by this means immediate contact betw. like vowels is avoided, and dissimilation takes place.
Thus aureolus, gladiolus, even vinolentus, etc., stand for *aureulus, ${ }^{*}$ gladiulus, *vinulentus, fr. aureu-s, gladiu-s, uinu-m, cf. longulus, turbulentus; duritie-s beside duriti-a, etc.; cf. siēm, siēs, siēt, with Sk. syām, syās, syāt. In these and similar cases we see an assimilating influence of foregoing vowels on those follg.; consequently $o$ is nearer to $e$ and $i$ than $u$, and $e$ more akin to $i$ than $a$.

A reflexive assimiln. passing over cons. occurs, e.g. in ex-ul but exil-ium, facul-tas but facil-is, sta-bulum but sta-bilis; mihi, tibi, but Umbr. mehe, tefe; bene but bonus.

For relation between $o$ and $u$, vide $\S 33,2 ; u$ has a special affinity for labials, and above all $m$ and $l$. Hence from weakened $a$ we get, not $i$, but $u$, in cases like oc-cup-o, au-cup-ium, bes. capere, con-tubernium (chummage) beside tab-erna (hut), op-tum-us (later only, optimus), etc.; bef. $l$ older o became $u$, e.g. poculum fr. pocolom, consul fr. cosol, epistula fr. $\epsilon \pi \iota \sigma \tau o \lambda \eta$; through this weakening of $a$, before $l+$ cons. we find $u$, not $i$ or $e$ (the regular representative of $i$ before 2 consonn.), e.g. salsus, insulsus, sepelio, sepultus, etc.; further, $u$ has remained before $n+$ cons., e.g. ferunt, homunculus (cf. supr. §32). Throughout, it represents here too an earlier $o$, wh. maintained itself intact in the popular diall., as later inscrr. and Ital. (e.g. sepoltura as early as 558 a.d., cf. Ital. sepolcro, colomna, Ital. colonna) prove.

Even origl. $i$-not weakened fr. $a$-gives way to $u$ in cases like testu-monium (witness) beside testi-s; carnu-fex (flayer) beside st. carni- (n. caro, flesh), and the like; where, nevertheless, the analogy of the commoner cases may have had some influence.
$e$ is retained by preference in final syll. bef. nasals, e.g. septem, cf. émtá, nōmen, Sk. ná̀man-, cornicen, $\sqrt{ }$ can, ouem fr. oui-m, and
$\$ 38$. so in most $i$-stems; in acc. sing. of $a$-stem nevertheless we find o, $u$ (nouo-m, nouu-m); but above all $e$ is found bef. $r$, e.g. camera fr. канápa, operis beside nominis; stetërunt for *steti-sonti, cf. stetis-ti; ueher-is fr. uehis-is, cf. uehit-ur ; peperi for ${ }^{*}$ pepiri, fr. pario, like cecini fr. cano; affero, not ${ }^{*} a f-f i r-0$, wh. we might look for acc. to analogy, comparing such cases as colligo fr. lego.
$r$ has also a preference for $o(=u)$ preceding, e.g. fo-re, fo-rem, fr. $\sqrt{ } f u$ ( $f u$-turus); Lat. ancora fr. Gk. ärкк̄̄pa; but robur, ebur with $u$, perh. on account of preceding $b$.

Further, $e$ occurs bef. two or more consonn. interchangeably with $i$ bef. one cons., e.g. iudex but iudicis; eques-ter for *equet-ter, ${ }^{*}$ equit-ter but equit-em; asellus fr. *asin (u)lus, cf. asinus; consecro, abreptus, etc. (but it remains $i$ bef. $n g$ in attingo, infringo and the like).

The sound-combinations ent, end, and unt, und, are weakened forms, e.g. fer-ent-em beside $e$-unt-em fr. ${ }^{*} e$-ont-em, where the earlier sound $o, u$, has been kept in consequence of dissimiln., beside $e$, uolunt-arius; faciendus and faciundus, both fr. ${ }^{*}$ faciondus, remain in 'sacris faciundis,' 'iure dicundo,' and the like. After $u, e$ is invariable: tu-endus, restitu-endus. $a$ is throughout the origl. vowel in these cases.
$i$ has a special affinity to $n$ and dentals, and is the commonest weakening fr. a, e.g. $\mu \eta \chi$ av $\eta^{\prime}$ but māchina; nominis, hominis, cecini, fr. stems gnäman-, ghaman-, ka-kan-, etc.

By dissimiln. is prevented the combn. of two like vowels, e.g. ueri-tas fr. ueru-s, but pie-tas (piut-s), ebrie-tas (ebriu-s), etc., not ${ }^{*}$ pii-tas, etc.; equit-is (eques) but abiët-is, ariët-is, pariet-is (abies, aries, paries); diuinus, diuo-s, but aliēnus (aliu-s); lēui-gare (leuis) but uarie-gare (uariu-s), etc. The first vowel is changed in meiio fr. ${ }^{*} m i g$-yo, ${ }^{*} m \bar{\imath} i o: ~ e i, ~ d e i$, are older and more correct than $i i$, dii, etc. Through dissimiln. o kept ground longer after $u, v$, e.g. equos, equom, nouom, mortuos, etc.
§ 39. Through loss of consonants vowel-change takes place, viz. 1. Compensatory lengthening; 2. Contraction.

1. Compensatory lengthening, e.g. pēs, ariēs= ${ }^{*} p e \check{d} d-s, \S 39$. ariët-s; a regular shortening has here taken place later (§ 41), e.g. pedĕs fr. pedēs=*pedët-s, patër fr. patēr $={ }^{*}$ patër-s; ferēns $={ }^{*}$ ferĕnt-s (cf. $\left.\phi \in ́ \rho \omega \nu=\phi \epsilon \rho 0 \nu \tau-s\right)$; sāl (salt)=săl-s (gen. săl-is), cf. ${ }^{2} \lambda \varsigma$, etc.; esp. often through loss of nasal bef. $s$, e.g. acc. pl. of $a$-st. $-\bar{o} s(n o u-\bar{o} s)=-o n s$ (f.f. nav-ans); in compar. -iōr, -iōrem, fr. -yans, -yansam, etc.; further, pōno (place) $=^{*}$ pos-no (cf. pos-ui), quini (by fives) =quĭncni, exāmen (swarm) =exăg-men (ăgo); thus $g$ falls out esp. bef. $y$, e.g. mäior (greater) $={ }^{*}$ mă $g$-ior, cf. mag-nus
 $={ }^{*} m \bar{\imath} i o={ }^{*} m \check{l g}{ }_{v} 0$, etc.
2. Contraction (vid. supr. §37), e.g. amārunt, amāsti, nōrunt, amō (fr. *amao), docēs, audī̀ (fr. *doce-is, *audi-is); noū̄s =* $n o u o-i s$, *noua-is fr. *nouo-bios, ${ }^{*}$ noua-bios (v. Decl.), etc. In redupl. perff. this case is very clear, e.g. fêci fr. ${ }^{*} f e ́ f i c i$, cf. cecini, likew. iēci, frëgi, etc.

Note.-Cases like inuītare (invite)=*uicitare, $\sqrt{ }$ uöc ; conuïtium (wrangle) $={ }^{*}$ conū̄citium $\sqrt{ }$ uöc; suspìtio (suspicion) $={ }^{*}$ suspicitio, etc. (on the last ex. cf. Fleckeisen, Rhein Museum, viii. 227; on the other side Corssen, Kritik. Beitr. s. 12 sqq., who writes suspīcio, conuīcium, and derives them accordingly, but assigns inuïtare to an ambig. Sk. $\sqrt{ }$ vi). Cf. § 77, 1. a. sub fin.

Weakening (lightening of vowels by change of quality $\S 40$. with and without shortening) is very common in Lat., and throughout not exclusively confined to unaccentuate sylls., whence probably too the analogy of this weakening arose (cf. supr. $\S 32,2$; on the question cf. G. Curtius, das dreisilbengesezt der Gk. u. Lat. betonung, in Kuhn's Zeitschrift, ix. 321 sqq.). Esp. regular is the occurrence of weakg. in sylls. of wordformation; in composition and in reduplication, but also in root sylls. Nevertheless, that the weakening did not invariably occur in the second member of a compound is proved by exx. such as com-paro, per-agro, per-actus, etc. (Corss. Kuhn's Zeitschr. xi. 370). Through weakening
§40. a becomes $e$; fall-o fe-fell-i, parc-o pe-perc-i, fac-tus per-fec-tus, etc.
$a$ becomes $u$; cap-io, oc-cup-o; here belongs the $u$ of the unaccentuated final sylls., e.g. da-tu-s f.f. da-ta-s; early Lat. oper-us, Sk. and f.f. apas-as, etc.: the change fr. $a$ to $u$ is through intermed. $o$.
$a$ becomes $i$; e.g. fac-io con-fic-io, pa-ter Iupi-ter, cad-o, ce-cid-i, can-o, ce-cin-i, etc.; the change must be through intermed. e. e occurs for $i$ acc. to the above-stated rule, in cases like tubi-cen, pe-per-i, oper-is for *opis-is (opos-os f.f. apas-as), etc. Cf. § 38.
$\bar{a}$ becomes $\bar{e}$; hãl-o an-hēl-o.
ae becomes $\bar{\imath}$; quaer-o in-quīr-o, caed-o ce-cīd-i con-cīd-o, aequos $i n$-ìquos, etc.
au becomes $\bar{o}, \bar{u}$; caus-a ac-cūs-o, fauc-es suf-fóc-o, plaud-o ex-plöd-o, etc.

Even long vowels and diphths. became $\check{\imath}(\breve{e})$ by more marked shortening, e.g. gnō-tus co-gnï-tus, iouro (iūro), pe-iëro, de-iëro (-yëro for *-yiro, with $e$ for $i$ bef. $r$, cf. § 38).

Before secondary suffixes, and as 1 st member of compds., stems in $0, u$, weaken their stem-termns. before consonn. to $i$, e.g. duri-tas, duri-ties, st. duro- (durus); corni-culum, corni-cen, corni-ger, st. cornu-, etc.

Bef. vowels $u$ remains, e.g. fructu-arius fructu-osus, st. fructu-; it also keeps ground bef. labials, e.g. locu-ples, quadru-pes, quadru-plex.
§41. Also shortening of vowels in unacc. final sylls. prevails very widely.

Thus $\breve{a}$ in fem. is origl. $\bar{a}$ (Sk. $\bar{a}, \eta$ ), hence kept long sometimes in earlier Latin; $e$, in abl. sing. of $i$-st. and of conson. stems, following their analogy, is origl. -ait, thence -aid, -cid, $-\bar{e} d, \bar{\imath} d$, later -ei, $-\bar{e},-\bar{\imath}$ (so patrē, tit. Scip. Barb.); $\bar{e}$ of the vb . sometimes appears short, e.g. cauĕ, iubě; ̌ in mihǔ, tibŭ, ubŭ, etc., is fr. earlier $\bar{i}$, ei through shortening, milhei, tibei, ubei, occur not seldom : final $\bar{o}$ always represents origl. ò, e.g. hom $\bar{o}={ }^{*} h o m o n-s$;
$a g o ̄ ~ c f . ~ a ̈ \gamma \omega, ~ f . f . ~ a g-a ̈ m i, ~ n e x t ~ s t e p ~ a g-\bar{a}$ by loss of $m i$; egō cf. $\S 41$. éjé; in these cases the nasal may have caused the dulling of $\bar{a}$ to $\bar{o} ; d u o, a m b o, o c t o, ~ c f . ~ \delta u ́ \omega, ~ a ̈ \mu \phi \omega, ~ \grave{o} \kappa \tau \omega$.

Shortening occurs regularly bef. final $t$; amă- $t$ for $-\bar{a} t=-a i t$, -aat fr. -ayati, cf. amā-mus; so -et, -it, in the derived vbs. and in opt. fr. - $\bar{t}$, -it, earlier -eit : also -it in pf. was sounded -eit in earlier times, and the like.

Similarly bef. other consonn., e.g. -is of opt. (fecerts) for and beside -īs (fecerīs); pa-tër fr. pa-tēr (cf. $\left.\pi a-\tau \eta{ }^{\prime} \rho\right)$ for ${ }^{*} p a-t e r s ;-o r r$ in nom. sing. fr. -ōr, e.g. censōr (tit. Scip.) fr. ${ }^{*}$ cens-tor-s, and many more such.

Evaporation in unacc. sylls. brings us to total loss, final and $\S 42$. medial loss of vowels (\$32).

Final loss of vowels is partly of late date only, e.g. animal for and beside animale, dic for and bes. dice, hoc for and bes. hoce, ut for and bes. uti; partly older, e.g. uehis for *uehisi, f.f. vaghasi; est, uehit, for *esti, *uehiti, f.f. asti, vaghati (tremonti has remained, Bergk. index lect. Marburg, 1847-8), etc.

Medial loss of weakly-accented vowels is esp. common in Lat., and occurs (1.) bef. vowels, e.g. minor, minus, for ${ }^{*}$ minior, *minius; nullus for ne-ullus, etc.; cases can be produced where no contraction has taken place, e.g. un-öculus (uno-oculus), sem-ănimus (semi-animus), nŭtiquam (ne-utiquam). (2.) bef. consonn., the commonest case, e.g. alumnus, uertumnus, for *alumenus, *uertımenus, suff. $=$ Gk. - $\mu \in \nu 0-$, Sk. -māna-; stella for *sterla fr. *sterula; puella for *puerla fr. ${ }^{*} p u e r u l a ; ~ m i s e l l u s ~ f o r ~ * m i s e r l u s ~ f r . ~$ ${ }^{*}$ miserulus; patrem for ${ }^{*}$ pater-em, st. pater-; rettuli fr. ${ }^{*}$ re-tetuli; reppuli fr. ${ }^{*}$ re-pepuli; repperi fr. ${ }^{*}$ re-peperi, and so on. Thus the loss of medial rowels is chiefly approved betw. like consonn. (as in Mid.H.G., Zeitschr. x. 160). Unacc. $i$ may altogether disappear, e.g. dixti fr. dixisti, ualde fr. ualide, gaudeo fr. *gauideo (cf. gauisus), etc.

Of special importance in treatment of declension is the medial loss of origl. $a$ and $i$, i.e. $o$ or $u$ and $i$ before the $s$ of nom. sing.
§ 42. Thus arises puer, etc., fr. *puers, which comes fr. puero-s, puerus (in existence), uir fr. *uirs, *uiros, acer (§ 43) fr. acris, etc. This is noticeably regular after $r$ with short syll. precedg.; hence quatuor stands for ${ }^{*} q u a t u o r s,{ }^{*}$ quatuores, cf. $\tau \in ́ \sigma \sigma a \rho \in \varsigma, \mathrm{Sk}$. kiatcáras; after the vowel had been lost, the $s$ also fell off from the $r$. Such forms as famul (Enn. Ann.) are obsol.; it stands for ${ }^{*}$ famuls fr. famulos, damnas for *damnats fr. damnatos; alis for alios (vouched for more than once) ; Sallustis, Clodis (Inscrr.) for Sallustios, Clodios, etc.; alid for *aliod, aliud.

Loss of $i$ in $i$-st. is remarkably common, whereby its Lat. nom. has become thoroughly confused with that of conson. stems, thus e.g. primas for older primatis, gens fr. *gents and this fr. ${ }^{*}$ gen-ti-s, mors for ${ }^{*}$ morts fr. ${ }^{*}$ mor-ti-s, fr. $\sqrt{ }$ gen, origl. gan (gignere), and $\sqrt{m o r}$, origl. mar (mori), f.f. therefore gan-ti-s, mar-ti-s, and the like. Further acer for and bes. acris, uigil fr. uigilis, etc.

Note.-The occasional omission of vowels in the text of Inscrr. which could not take place in the spoken lang. (e.g. dcumius, fect, uixt for Decumius, fecit, uixit) has been pointed out by Ritschl. (Rhein. Mus. n. Folge xvi. p. 601 sqq.; xvii. p. 144 sqq.).
§43. Insertion of a helping-vowel likewise sometimes occurs in Lat., e.g. $s-u-m$ fr. ${ }^{*} e s-m i$, ${ }^{*} e s-u-m i$, origl. as-mi; $s-u-m u s$ fr. *es-mus, *es-u-mus, origl. as-masi; uol-u-mus fr. *uol-mus, f.f. varmasi, cf. uol-t, f.f. var-ti; teg-u-mentum (hence teg-i-mentum) bes. teg-mentum, and the like belong likewise here; $u$ is here the helping-vowel on account of $m$ following, cf. drach-u-ma (Plaut.) fr. $\delta \rho a \chi-\mu \eta^{\prime}$, since in general a similar vowel-insertion was admitted in foreign words, as e.g. tech-i-na (Plaut.) from $\tau \in \notin \chi \eta$, etc.

Bef. $r, e=i$ (§ 38), e.g. um-e-rus (shoulder) bes. Sk. à́sa-s for *amsa-s, rub-e-r (red) for *rubr fr. ${ }^{*} r u b r s,{ }^{*} r u b-r o-s=\frac{\epsilon}{\epsilon}-\rho v \theta-\rho o ́-s$, Sk. also with helping-vowel rudh-i-rá-s, origl. rudh-ra-s; gener (son-in-law) for ${ }^{*} g e n-r(o-s)$, cf. $\gamma а \mu \beta$ oós for ${ }^{*} \gamma a \mu-\rho o ́-s ; ~ a g e r ~$ (field) for ${ }^{*} a g-r(0-s)$, Gk. à $\gamma-\rho o ́-s$; caper (he-goat) for ${ }^{*}$ cap-r ( $0-s$ ), a form like кát- $\rho-$ os (boar), etc.

The common helping-vowel $i$ may generally be regarded as $\S 43$. a weakening of an older $u$ or $e$ : it occurs rather irregularly (cf. Ritschl. Rh. M. n. F. 1862, 607 sqq.) in e.g. mor-i-turus bes. mor-tuos, or-i-turus bes. or-tus, etc. After the analogy of consonl. roots this $i$ is found also in the case of roots ending in a vowel, e.g. ru-i-turus, di-ru-i-tus bes. diru-tus, tu-i-tus bes. tu-tus, etc.

## B. CONSONANTS.

## §44. CONSONANTS OF THE INDO-EUROPEAN ORIGINAL LANGUAGE.

The consonn. in Indo-Eur. are specially distinguished from the vowels, setting aside their physiological conditions, in that they are fixed and invariable in roots (we may pass over the changes which they undergo in consequence of sound-laws that are always secondary), but cannot, like vowels, raise themselves in a definite scale of gradation. Whilst the nine origl. vowelsounds of the Indo-Eur. can be reduced to three fundamental vowels, the consonn. are collectively independent of one another. Whilst the vowels by means of their step-formation according to meaning thereby serve for the expression of relation, consonn. are merely elements of expression of meaning; no relationship is expressed in Indo-Eur. by the use of root-consonn.

The Indo-Eur. origl. lang. has fifteen consonn., which in $\S 1$ are classed according to their physiological conditions, viz. three momentary mutes, three mom. sonants, three mom. son. aspirates, three spirants, and three so-called liquids, i.e. two nasals and $r$. The existence of $b$ (mom. son. labial) in the origl. lang. cannot be authenticated by any perfectly certain example: but it is highly probable that it did exist, as the origl. element of the frequent aspirate $b h$. The number of origl. consonn. is also much greater than that of the vowels (prob. $3 \times 3$, but certainly $2 \times 3$ existed).

The aspirates, as double sounds, seem to be foreign to the most original condition of the lang., and to have developed only in later times: but they certainly existed before the first splitting-up of the origl. lang., for they are found in the three divisions of the Indo-Eur., or at least they can be detected;
that is, they occur in Aryan and in S.-European; in N.-Euro- § 44. pean likewise they must once have existed: the Teutonic has them, it is true, like the other northern langg., changed to sonants, but the origl. sonants are distinguished from them by becoming tenues.

Consonantal sound-laws had not arisen so early as the origl. lang. ; consonn. can be placed anywhere, and in any combination which the organism of the lang. required, because these combinations (e.g. vāk-bhis inst. pl. fr. st. vāk, voice) were not yet so close that those consonn. which are brought together by word-formation exercised any influence on one another (thus e.g. in $v \bar{a} k$-bhis the influence of $b h$ on $k$ produces as early as Sk. the fm. väg-bhis: $k$ has here changed bef. sonant $b h$ into its corresponding son. $g$ : on the improbability of origl. interchange of $i$, $u$, with $y, v, \mathbf{c f} . \S 3$ ).

## Examples.

Momentary mute unaspirated consonants.

1. $k$. ka-s (who), ka (-que, and), katvār-as (four), kankan (five), $k a r d$ (heart), $\sqrt{ } k a k$ (cook), $\sqrt{ } k a$ and $a k$ (be sharp, quick), $\sqrt{ } k i$ (lie), $\sqrt{ } k r u$ (hear), kru-ta-s (heard), kvan-s (dog), $\sqrt{ }$ skid (cut), $\sqrt{ }$ vak (speak), $\sqrt{ } d a k$ (bite), $\sqrt{ } d i k$ (show), $\sqrt{ }$ ruk (light), ak-man-s (stone, heaven), dakan (ten), varka-s (wolf); sf. -ka, etc.
2. $t$. ta- $t$ (that), tu (thou), $\sqrt{ }$ ta, tan (stretch), tri (three), $\sqrt{ }$ sta (stand), stag (cover), $\sqrt{ }$ pat (fly, fall), $\sqrt{ }$ prat (broad), $\sqrt{ }$ vart (turn); common in stem- and word-formative particles, e.g. sf. -ta (pf. pt. pass.), bhara-ti (fer-t), ragh-is-ta-s (é $\lambda a ́ \chi \iota \sigma \tau o s)$, etc.
3. $p$. $\sqrt{ } p a$ (drink), $\sqrt{ } p a$ (protect, rule), thence $p a-t i-s$ (lord) and pa-tar-s (father), par (fill), hence parl-s (many) and par-na-s (full), $\sqrt{ }$ pad (go) as noun-st. n. sing. pad-s (foot), pratu-s ( $\pi \lambda a \tau u ́-s$ ), $\sqrt{ }$ pru (flow), prav-ati (he flows), $\sqrt{ }$ spak (see, look), $\sqrt{ }$ sarp (creep, serpere), $\sqrt{ }$ tap (burn, heat), $\sqrt{ }$ svap (sleep) thence svap-na-s (sleep, n.), etc.
§46. Momentary sonant unaspirated consonants.
4. $g$. $\sqrt{ } g a$ (go), 1 sing. pres. ga-gã-mi, $\sqrt{ } g a$, gan (be born), $\sqrt{ }$ gan (know), $\sqrt{ }$ ag (agere), ag-ni-s (ig-ni-s), $\sqrt{ }$ grabh (grasp), $\sqrt{ } y u-g$ (iungere), thence yug-am (yoke, iug-um), etc.
5. $d$. $\sqrt{ } d a$ (dare), 1 sing. pres. $d a-d \bar{a}-m i, \sqrt{ } d a k$ (bite), $\sqrt{ } d a m$ (tame, domare), dama-s (domus), $\sqrt{ }$ dik (show), $\sqrt{ } \operatorname{div}$ (shine), st. $d v a-$ (two), $\sqrt{ } a d$ (eat), $\sqrt{ }$ sad (sit), $\sqrt{ }$ vid (uidere), 1 sing. pres. raid-mi, etc.
6. b. I know of no certain example of this sound.

Note.-The Teutonic and Gk. forms of those words that show $b$ in the Aryan and S.-European langg. point partly to $b h$, e.g. Sk. $\sqrt{ }$ bandh (bind), but Goth. band, f.f. therefore bhandh, Gk. $\sqrt{ } \pi \epsilon \nu \theta$ for ${ }^{*} \phi \epsilon \nu \theta, \pi \epsilon \nu \theta-\epsilon \rho o ́ s$ (affinis), $\pi \epsilon \imath \sigma \mu a$ for ${ }^{*} \pi \epsilon \nu \theta-\mu a$ (cable); Sk. bāhús (fore-arm), Gk. $\pi \hat{\eta} \chi^{\nu \varsigma}$ for ${ }^{*} \phi \eta \chi \nu \varsigma, ~ N .-E u r . ~ b \bar{g} g r$, O.H.G. puoc, origl. initial-sound bh; Sk. $\sqrt{ } b u d h$ (know), Gk. $\sqrt{ } \pi v \theta$ ( $\pi v \nu \zeta$ द́vo $\mu a \iota$ ) for ${ }^{*} \phi v \theta$, Goth. bud, not ${ }^{*} p u d$, as might be expected fr origl. $b$ (moreover the Goth. root, notwithstanding the difference of function, is identical with $b u d h, \pi v \theta$ ); if $b$ were origl., the Gk. fms. would be ${ }^{*} \beta e \nu \theta,{ }^{*} \beta \eta \chi \nu \varsigma,{ }^{*} \beta v \theta$. These three roots have a final asp., which was the effect of the disappearance of an origl. asp. at the beginning in Aryan and Gk. (this conjecture has been ably confirmed by Grassmann, Zeitschr. xii. 110). In other instt. we lack decisive representatives in N.European, e.g. Bpaxús, breuis, Sclav. brŭzŭ; Sk. Vlab, lamb (labi, delabi; 3 sing. pres. lámbatē), Lat. lab. (läb-itur), etc.; ка́vvaßıs (hemp), Norse hanpr, O.Bulg. konoplya, a doubtful and borrowed form. Grassm. Zeitschr. xii. 122 sqq. shows it to be likely that $b$ did not exist in Indo--Eur., at least at the beginning of a word. Nor have I found any certain exx., ap. Bickell Zeitschr. xiv. 425 sqq., of the origl. existence of lab. son. in Indo.-Eur.
§47. Momentary sonant aspirated consonants.

1. gh. $\sqrt{ }$ ghar, ghra (burn, shine; be green, yellow), ghans-s (m. f. goose), $\sqrt{ }$ stigh (step), $\sqrt{ }$ agh, angh (be tight), $\sqrt{ }$ ragh (uehere), $\sqrt{ }$ migh (mingo), $\sqrt{ }$ righ (lick), dargha-s (long), etc.
2. $d h . \sqrt{ } d h a$ (set, make), 1 sing. pres. dha-dhāmi, $\sqrt{ }$ dham (blow), $\sqrt{ }$ idh (burn), $\sqrt{ }$ rudh (be, become red) thence rudhra-s and rāudha-s (red), madhu (honey, mead), madhya-s (medius), etc.
3. $b h . \sqrt{ } b h a$ (shine, speak), $\sqrt{ } b h a r$ (bear, ferre), 1 sing. pres. $\S 47$. $b h a r-\bar{a} m i, \sqrt{ } b h u$ (be, become), 1 sing. pres. bhav-āmi, $\sqrt{ } b h u g$ (bend, flee), bhrā-tar-s (brother), $\sqrt{ }$ grabh (grasp), nabha-s (neut. nubes), -bhi common case-sf. $b h$ is not very common in st.formative particles.

## Spirants.

1. $y . y a-s$ (which), $y u g a-m$ (yoke, iugu-m), $\sqrt{ } y u g, y u$ (iungere); very common in st.-formative particles, e.g. madh-ya-s (medius), as-y $\bar{a}-t$ (sit, siēt), bhāra-y $\bar{a}-m i(\phi o \rho \epsilon ́ \omega)$, compar. sf. -yans (prob. also -yant); also in word-formative sff., e.g. -bhyam, -bhyams, sf. of dat. sing. pl. -sya, sf. of gen. sing. masc. of $a$-st., etc. As a medial sound, $y$ is akin to $i$, cf. $\S 3$.
2. s. $\sqrt{ }$ sad (sit), saptan (seven), $\sqrt{ }$ su (sow), thence su-nu-s (son), $\sqrt{ }$ sru (flow), $\sqrt{ }$ svid (sweat), $\sqrt{ }$ sta (stand), $\sqrt{ }$ star (strew), $\sqrt{ }$ smar (remember), $\sqrt{ }$ as, pres. as-mi (sum), $\sqrt{ }$ us (urere), $\sqrt{ }$ vas (dwell, clothe oneself), $\sqrt{ }$ tars (torrere, thirst), sua-star-s (sister); common in word-formative partt., e.g. akva-s (equos), nom. sg. masc., akrā-sas, nom. pl. masc., etc.; also in st. forms, e.g. man-as (mind), etc.
3. $v . \sqrt{ } v a$ (flow), $\sqrt{ }$ vam (uomere), $\sqrt{ }$ vak (speak), thence $v \bar{a} k-s$ (voice), $\sqrt{ }$ vagh (carry, uehere), 1 sing. pres. vagh-āmi, $\sqrt{ }$ var (will), $\sqrt{ }$ vart (turn, uertere), aui-s (ouis), $\sqrt{ }$ vid (see, know), naua-s (new, nouos); in stem-formative partt., e.g. sf. -vant, Sk. -vant, -vans, Gk. -Fєvt, -Fot; rarer in word-formative partt., e.g. loc. pl. -sva, etc.; $v$ as a medial sound is akin to $u$, vid. § 3 .

## Nasals.

1. n. $n a$, an- (negation), $\sqrt{ } n a k$ (die), thence nak-ti-s (night), nava-s (nouos), $n \bar{a} u-s$, gen. năr-as (nauis), $\sqrt{ }$ gan (be born, know), st. ana- (dem. pron.); $n$ is common in st.-and word-formative partt., e.g. par-na-s (plenus; past part. pass.), ak-man-s (stone), gnā-man (name), bhara-nti (ferunt), etc.
§ 49. 2. m. $\quad \sqrt{ } m a$, ma-n (measure, think), thence ma-na-s (mind) and $m \bar{a}$-tar-s (mother), $\sqrt{ }$ mar (mori), $\sqrt{ }$ smar (remember), $\sqrt{ }$ vam (uomere); common in word-formative partt., e.g. varka-m (acc. sg.), ai-mi, i-masi (eo, imus, 1 sg . pl. pres.), etc.; in st-formative partt., e.g. ghar-ma-s (heat), gnā-man (name).
$\S 50 . \quad r . \sqrt{ }$ rak (shriek), $\sqrt{ }$ ruk (light), $\sqrt{ }$ rik (liquere), $\sqrt{ }$ righ (lick), $\sqrt{ }$ rudh (rubere), raghu-s (light, adj.), $\sqrt{ } k r u$ (hear), $\sqrt{ }$ bhar (ferre), $\sqrt{ }$ ar (oriri, ire; arare), $\sqrt{ } \operatorname{par}$ (fill); also in stem-formative partt., e.g. sf. tar, bhrä-tar-, mä-tar-, and the like, but not in wordformative sff.

The physiologically-arranged table of Sk. consonn. is in § 4, where also their pronunciation is considered. Whilst the vowel system of Sk. is generally original, its conson. system is mixed in many ways with later elements. Hence arises that large number of conson.-sounds which is unparalleled in other Indo-Eur. langg.

The origl. sounds in Sk. are the mom. mutes and sonants, and the sonant aspp. all of gutt., dent., and lab. quality, thus, $k, t, p$; $g, d, b(?) ; g h, d h, b h$; further the spirants $y, s, v$, and also $n, m, r$. Thus Sk. still possesses the consonn. of the IndoEur. origl. lang. entire. All the rest, nineteen in number, have arisen in pure Aryan words from these fifteen origl. consonn., and are to be treated as parallel fms. of them, which have been called forth according to generally perceptible sound-laws, and through the influence of the non-Indo-Eur. langg. spoken by Dravidian (Dekhanic) peoples who were pressed back by the Aryans, and were the earlier inhabitants of the peninsula of Further India, just as neighbouring langg. very often acquire sounds from one another.

The origin of the so-called Sk. lingual mom. consonn. and ling. nasal ( $t, d, t h, d h, n$ ) is due to the latter influence, therefore these sounds are peculiar to Indian, and are unknown in this form to other Indo-Eur. langg. Within the Indian these
sounds gain a still wider sway in the course of the development $\S 51$. of the lang. (in the Präkrits). In Aryan words they are variations of their corresponding dentals.

Further the palat. mom. sounds and their nasal are all unorigl. ( $k^{\prime}, \dot{g}, k^{\prime} h, g^{\prime} h, n^{\prime}$ ); they have arisen from the corresponding gutturals; and so is the pal. mute spirant $\epsilon$, which is a variation fr. $k$. The law acc. to which the gutt. partly pass into palatals, partly remain, is hitherto unexplained in particular cases (however, that the change of gutt. into palat. did not occur till late, is implied by the circumstance that the gutt. were reduplicated by means of the corresponding palatals).

Unorigl. also are all the tenues aspp. ( $k h, t h, p h$; in the case of $k^{\prime} h$ and $t h$ the unoriginality is sufficiently clear from the nature of the unasp. sound), whose origin is in known cases mainly caused by foregoing $s(k h, k h=s k, s t h=s t)$.

Unorigl. also is $h$, which mostly represents $g h$, sometimes also other aspp.; $\varepsilon$ occurs partly acc. to definite sound-laws, partly without perceptible reason for $s$; ${ }_{\circ}^{\circ}$ (visarga) is an altogether late variation of $s$, and confined almost entirely to the termination.

The gutt. and palat. nasals stand only bef. mom. consonn. of their own quality, by which therefore they are conditioned; the nasalisation of the vowels ( ${ }^{-}$) is likewise dependent on the follg. conson.; it occurs bef. $s$ and $h$ (bef. other consonn. it is often merely a way of writing nasal consonn.).
$l$ bes. $r$, is as in other langg., unorigl. ; it obviously increases in the course of the development of Sk.

Besides the sound-laws already explained, Sk. has numerous laws for medial sounds, but esp. for termn. (these laws however do not belong here, but rather to Sk. special grammar), through which the conson.-syst. of Sk. became considerably removed from the basis of the origl. lang.

The representation of gutt. by palatals occurs only bef. vowels and sonant mom. prolonged sounds, not bef. mom. consonn., mute conson.-prolonged-sounds, and in termin. Yet here also
§51. occur palatals by no means acc. to fixed sound-laws (e.g. $y z-y \frac{\partial^{\prime}}{g}-a$ iunxi, bes. yóg $g-a-s$ iunctio), so that it seems that the lang. has availed itself of the change of gutt. into palatals (originally merely physiological), in order to express differences of relation.

## Examples.

§52. Origl. mom. mute unaspirated consonn.

1. Origl. $k=$ Sk. $k, k_{k}^{\prime}, k h, k h, \varsigma, p$.

Sk. $k=o r i g l . k$, e.g. in $k a-s$ (who), $\sqrt{ } k a r$ (make), kimi-s (worm), vrika-s (wolf), st.-formative sf. -ka, e.g. dhārmi-ka-s (right, fr. dharmá-s, duty), etc.

Sk. $k=$ origl. $k, k^{\prime} a-k \dot{a} r a$ (feci), $k a$ - is the relic of the most origl. reduplicated supposed $\sqrt{ } k a r ; k \prime a$ (-que, and), kiatvár-as (quatuor); $\sqrt{ } r u k k^{\prime}$ (shine), $\sqrt{ } v a k{ }^{\prime}$ (speak), whence $\begin{array}{rl} \\ k & k \\ k & -m i \\ \text { (I speak), }\end{array}$ $v{ }^{\prime} \frac{1}{k} k^{\prime}$-am (uocem, speech); $k^{\prime}$ stands for $k$ esp. in $\sqrt{ }$ termn., etc.

Note.-Bef. mom. sounds and $s$ the gutt. remains, e.g. vák-ti (he speaks), vák-ši (thou speakest, $s$ for $s$ after $k$, v. § 55, 2), vag-dhi (speak), $g$ for $k$ acc. to sound-laws, v. post., etc.
$k h$ and $k^{\prime} h$ occur for origl. $k$ after $s$; this $s$ more often than not is lost in case of $s k h$, in case of $k^{\prime} h$ always. [For aspirating force of s, v. Kuhn, Zeitschr. iii. p. 321 sqq., 426 sqq. Cf. also Ascoli, Zeitschr. xvi. p. 442 sqq.]

Sk. $k h=$ origl. sk, e.g. khańga-s (limping), cf. O.H.G. hinch-an, hink-an, $\sqrt{ } h a n k$, likewise without initial $s$, but Gk. $\sigma \kappa a ́ \zeta \omega(\operatorname{limp})$, $\sqrt{ } \sigma \kappa a \gamma=$ Sk. khaǵ, f.f. skag; kháǵa-s (stirrer), cf. Ang.-Sax. scac-an, Norse skak-a (shake); khak (spring forth), ef. Sclav. skak-ati (spring).

Note.-Most words in $k h$ cannot, or at least not certainly, be reduced to their f.f.

Sk. $k_{h} h=$ origl. sk, e.g. $\sqrt{k} h i d$ (split), Zend çkid, Lat. scid, f.f. skid; k'hāyắa (cover), cf. Gk. $\sigma \kappa \iota a ́$; gák'́hhäni, f.f. gaskāmi (the redupln. of $k^{\prime} h$ to $k^{\prime} k^{\prime} h$ is regularly written so after a short vowel), and in similarly fmd. pres. stt.
 infin., $\sqrt{ }$ prak'h, f.f. prob. prask, with unorigl. s; cf. Lat. prec (precor), proc (procax), Lith. prasz, Sclav. pros, Germ. frah (fraihnan), Sk. praç-ná-s (prayer) for ${ }^{*}$ prak-na-s; but e.g. prak-šyáti fut. with $k$ acc. to usual rule.
$\varsigma=o r i g l . ~ k ; ~ \sqrt{ } \varsigma^{i}$ ( $\left.\varsigma^{\bar{e}} \mathrm{t} \bar{e}=\kappa \in i ̂ \tau a l\right) ; ~ \varsigma a$ and $a_{\varsigma}$ (acuere), pres. (a) $̧$-yáti, $̧ \bar{a}-t a ́-s, c i-t a ́-s ~(a c u t u s), ~ w h e n c e ~ a l s o ~ a ́ c ̧ m a n-~(n . ~ a ́ c ̧ m a ̃, ~$ stone); $\sqrt{ }$ çru (hear); çvan-, n. çräa (hound); $\sqrt{ }$ diç (show) ; $\sqrt{ } d a c ̧ ~$ (bite); dáçan- (ten), etc. $\varsigma$ is a favourite sound esp. bef. liq. consonn. and $v$; further in $\sqrt{ }$ termns., in place of $k$; it is however not uncommon at the beginning of roots.

In verb stt. $k$ remains bef. $s$, though $\varsigma$ was produced from it in other circumstances, e.g. $\dot{a}-d i k-s ̌ a t ~(\epsilon ้-\delta \epsilon \iota \kappa-\sigma \epsilon$, after $k, \delta$ stands for $s, v$. post.), so in certain noun stt., e.g. dik-šú, loc. pl. fr. st. diç- (n. sg. dik for ${ }^{*} d i k-s$, gen. diç-ás, quarter of the compass), dat. pl. dig-bhyás acc. to sound-laws (v. post.) for ${ }^{*}$ dik-bhyas. Other noun. stt. let their $\varsigma$, however, interchange with $t$, $d$, unoriginally. Bef. $t, t h$, $\varsigma$ becomes $\check{s}$, which $t$, th, then become lingual, e.g. $\sqrt{ }$ dars (Gk. $\delta \epsilon \rho \kappa$, see), but $d r s ̌-t a d-s$ (past part. pass.) for ${ }^{*} d r c ̧-t a-s$, f.f. dark-ta-s.

Sk. $p=$ origl. $k$ occurs only sporadically. This change fr. $k$ to $p$ is seen in all Indo-Eur. langg. except Lat. and Erse; e.g. $\sqrt{ } p a k^{\prime}$ (cook) for origl. kak. Whilst Lat. $\sqrt{ } c o c$ preserves both gutt., which evidently arose fr. redupln. of origl. $\sqrt{ } k a$, Gk. has in $\pi \epsilon \pi$ permitted labials to arise in both cases, Sk. $p a k^{\prime}$ and Scl. pek have only changed the initial, and Lith. kep contrariwise the final. This ex. is specially full of information, and points unmistakably to the originality of the $k$, hence the $\checkmark \mathrm{fm}$. is in these cases kak. Further pánkian- (five) for *iankan; $\sqrt{ } \operatorname{sap}$ (sequi, Vēdic) seems to be a bye-fm. of $\operatorname{sak}$ (sequi), f.f. $s a k$, so that in this root also two variations fr. origl. $k$ are to be seen; st. $a p$ - (water) must stand bes. Lat. $a q-u a$, Goth. $a h-v a$ (river), for origl. $a k$-, Lith. ùpe shows likewise the change fr. $k$ to $p$, f.f. of $\dot{u} p e$ is thus * $a k-y \bar{a}$, and the root of this word is probably
$\S 52 . a k$ (be swift). [On the change of origl. $k$ to $p, w h$. often does not appear till late in certain words, while in others $k$ remains, cf. Beitr. iii. 283 sqq.]

Note.-In the words $h r d$-, hrd-aya-m (heart), $h=$ origl. $k$, clearly through intermed. kh; origl. $k$ is attested by cord-is, $\kappa а \rho \delta$-ía hairt-ō, Lith. szird-is, Scl. srüd-žce. In $\sqrt{ }$ guh (hide, 3 sg. pres. $g \dot{u} h-a t i, g u ́ h-\bar{a}$, cairn) $g$ is softened fr. $k$, f.f. of root therefore is $k u d h$, as Gk. $\kappa \epsilon \dot{v} \theta-\omega$ (hide), Lat. cus-tos for ${ }^{*} c u d-t o s$, Ang.-Sax. hyd-an, prove.

## 2. Origl. $t=$ Sk. $t$, $t$.

Sk. $t=$ origl. $t$, e.g. ta-t (that), origl. id.; tr-am (thou); $\sqrt{ } t a$, tan, 1 sg. pres. ta-nốmi (stretch); pát-ati ( 3 sg . pres.), $\sqrt{ }$ pat (fly, fall) ; várt-ate (3 sg. pres. med), $\sqrt{ }$ vart (uertere); sf. of past part. pass., e.g in yuk-td́d-s ( $\sqrt{ } y u g$, yuǵ, iungere), cf. iunc-tu-s, $\zeta_{\epsilon \cup \kappa-\tau o ́-s ; ~ s f . ~}^{t i}$ of 3 pers. vb., e.g. 3 sg. bhára-ti, 3 pl. bhára-nti, cf. $\phi \dot{\epsilon} \rho \epsilon-(\tau) \iota$, $\phi \in ́ \rho o-\nu \tau \iota$, fer-t, feru-nt, Goth. bairi-th, baira-nd, etc.

Sk. $t h=o r i g l . ~ t$, esp. after $s$, e.g. $\sqrt{ }$ stha (stand), e.g. sthi-tás, origl. sta-ta-s (status) ; $\sqrt{ }$ sthag (cover), cf. Gk. $\sigma \tau \epsilon \gamma$, Lith. steg; superl. sf. -isṭtha, e.g. lágh-ǐ̀tha-s, cf. $\epsilon$ - $\lambda$ á $\chi$ totos (here th has become $t h$ acc. to sound-laws after ${ }_{s}$ ). Sometimes $t h$ stands for $t$ without being caused by preceding $s$, thus tha, termn. 2 sg. pf., e.g. babhár-tha (thou hast borne) could hardly have had an $s$ inserted bef. it; as a $\sqrt{ }$ termn. in $\sqrt{ }$ prath (be wide, broad), 3 sg. pràth-atē, prth-ús ( $\pi \lambda a \pi u^{\prime}$ ); $\sqrt{ }$ math, manth (move), 1 sg . pres. math-námi, mánth-āmi, where origl. st must not be assumed.

Note 1.-The unoriginality of th is shown by the fact that it does not appear at the beginning of words (except in the few onomatopoëtic or unused and unorigl. words given in Lexx.).

Note 2.-It appears that after $k$ (in those cases where $t$ though part of a sf. was not felt to be such) this $t$ passed into $s$; $s$ however in these instances becomes $\kappa$ (v. post. § 55, 2), e.g.
 st. tál'san- (carpenter) $=\tau$ '́ктоv-; $\sqrt{ }$ k'šan (slay) further fmn. fr.
 dwellers-around, $\kappa \tau i-\zeta \omega$, build), etc. Contrariwise, e.g. uktá-s
(said), past part. pass.; vák-ti, 3 sg. pres. $\sqrt{ } v a k$, origl. vak (say, § 52. speak) ; st. çak-tár- (fut. part.), çak-táo (past part.), $\sqrt{ }$ çak (know, be able), etc.
3. Origl. $p=$ Sk. $p, p h$.

Sk. $p=o r i g l . p$, e.g. $\sqrt{ } p a$ (drink, protect), whence pá-ti-s (lord), pi-tár- n.sg. pi-tá (father); $\sqrt{ }$ par (fill), 3 sg. pres. pi-par-ti, whence $p \bar{u} r-n a ́-s$ for ${ }^{*} p a r-n a-s$ (plenus); $\sqrt{ }$ spaç (see, spy) in spaç-a-s (spy), vi-spaštá-s (perspicuos) for ${ }^{*} r i-s p a c ̧-t a-s$ (past part. pass.) ; $\sqrt{ }$ tap, 3 sg. pres. táp-ati (heat, burn); $\sqrt{ }$ sarp, 3 sg. pres. sárp-ati (serpere, ire), etc.

Sk. $p h=$ origl. $p$, esp. after $s$, e.g. sphatī (alum), sphātika-s (crystal), cf. German spat; $\sqrt{ }$ sphur, 3 sg. pres. sphur-áti (shake, in Vēd. the root means 'strike, push'), clearly fr. ${ }^{*}$ sphar, cf. $\sigma \pi a i \rho \omega, \vec{a}-\sigma \pi a l \rho \omega$, O.H.G. sporo (spur), spor (track) ; phêna-s (foam), cf. Scl. péna, Lith. pëna-s (milk); Lat. spūma, provided it comes fr. ${ }^{*} s p o i-m a$, would here also point to $s p$, in $p h e \bar{e}-n a-s$ etc. we must therefore assume a root spi, etc. For the rest, $p h$ is not frequent in initio.

The aspiration of tenues after $s$ is not, however, by any means universal, as is shown by the common combinations $s k$ (skánd-ati, scandit), st (str-nà $\bar{a} t i$, sternit), $s p$ (sprç-áti, touches).

Origl. mom. sonant unasp. consonn.

1. Origl. $g=$ Sk. $g, \dot{g}(h)$.

Sk. $g=$ origl. $g$, e.g. $\sqrt{ } g a$ (go) in ${ }^{\prime} a^{\prime}-g \bar{a}-t i, g \prime i-g a \bar{a}-t i, 3$ sg. pres., ga-tá-s (past part. pres.), á-gā-t (3 sg. aor.); yugá-m (iugum); grabh, grah (seize), etc.

Sk. $g^{\prime}=$ origl. $g$, e.g. $g_{i}^{\prime}-g \bar{a}-m i(\beta i \beta \eta \mu c), 1$ sg. pres. $\sqrt{ } g a$ (go); $y u-n a ́-g ́-m i, 1$ sg. pres. $\sqrt{ } y u g^{\prime}$ (iungere), ef. parallel $y u g-\dot{a}-m$ with $g$ preserved; $\sqrt{ }$ ǵan (gignere), e.g. ǵán-as=Lat. gen-us,
 $\sqrt{ }{ }^{\prime} n^{\prime} a$ fr. ǵan, origl. gan, etc.

Note.-Bef. $t$ in many cases we find not the gutt. but an unorigl. š, e.g. srš-t $\grave{a}-s$, past part. pass. $\sqrt{ }$ sarǵ (do) ; máars-tic, 3 sg. pres. $\sqrt{ }$ marg (cleanse, wash away). Sometimes also $g$ is interchanged with $d$ and $t$, acc. to the quality of the following sounds.
§ 53. In more cases in Sk. $h(=g h)$ stands where Gk. and the other langg. point to origl. $g$, so that in Sk. we must assume an unorigl. aspiration, e.g. st. mah-ánt-, i.e. *magh-ant- (big), but parallel to it maǵ-mán- (strong), cf. Gk. $\mu^{\prime} \gamma-a s, \mu \in ́ \gamma-\iota \sigma \tau o \varsigma$, Goth. mik-ils (big), Lat. mag-nus; indeed beside it stands Sk. $\sqrt{ }$ mak $=m a g h$ (to wax), which exactly corresponds to Goth. $\sqrt{ } \mathrm{mag}$ (can, be able);
 and (dens) genu-inus; ahám, i.e. ${ }^{*}$ agham=é $\gamma \dot{\omega}$, Goth. ik, Lat. ego; gha, ha=Gk. $-\gamma \epsilon$, Dôr. $-\gamma a$, Goth. $-k$ (in $m i-k={ }^{*} \mu \epsilon-\gamma \epsilon$ ). In all these cases Gk. $\gamma=$ Goth. $k$ are in favour of origl. $g$.
2. Origl. $d=$ Sk. $d$, e.g. $\sqrt{ } d a$ (dare), 3 sg. pres. med. $d a ́-d a-t e \bar{e}$, 2 sg . imper. med. epic $d a \dot{-}-d a-s v a, 1 \mathrm{sg}$. pres. act. $d a \dot{a}-d \bar{a}-m i$; $\sqrt{ }$ dam (domare), e.g. dam- $\dot{\alpha}-s$, dám-ana-s (domans, coercens), 3 sg . pres. dā$m-y \hat{a}-t i ; \sqrt{ }$ vid (uidere), e.g. 1 sg. pres. véd-mi, 1,3 , sg. pf. $v^{e} d-a=F o \hat{\imath} \delta a$, Fô̂ $\delta \in \sqrt{ }$ sad (sidere, considere), e.g. 3 aor. sg. $\dot{a}-s a d-a t$, etc.

Note.- $d$ in $p \bar{z} d$ (press) and nìd $\dot{a}$ - seems to have arisen from $s d$, namely in case of $p \bar{\imath} d$, which is proved unoriginal through $\bar{i}$ and $d$, comes fr. ${ }^{*} p i s d,{ }^{*} p i-s a d=a p i-s a d$, cf. $\pi \iota \epsilon \in \zeta \omega={ }^{*} \pi \iota-\sigma \epsilon \delta y \omega=$ * $\dot{\epsilon} \pi \iota-\sigma \in \delta-y \omega$; bes. nād $d \dot{a}-s, n \bar{d} d \dot{d}-m$, stands Lat. nèdu-s, which may very likely be for *nisdus (cf. iu(s)-dex, i(s)dem; v. sub Lat. 'consonn.'), to which Teutonic nest points ; *nisda-s would then have arisen from *ni-sada-s, and mean "down-sitting," unless it belong to $\sqrt{ }$ nas, on which point v. Curt. Gr. Et. ${ }^{2}$ no. 432, p. 282.

3 . Sk. $b$ (cf. $\S 46,3$ ), which may be held unorigl., occurs, e.g. in bala-m (force), with which is usually classed O. Bulg. bolij (greater) ; Vlab, lamb (labi), 3 sg. pres. lámb-até, Lat. lab.
§54. Origl. mom. sonant asp. consonn.

1. Origl. $g h=$ Sk. $g h, h$.

Sk. $g h=$ origl. $g h$, e.g. $\sqrt{ }$ agh in agh-ám (ill, sin, origl. prob. anguish) $; \sqrt{ }$ stigh $=\sigma \tau \iota \chi$ (step), 3 sg. pres. stigh-nuté $; m e \bar{e} g h-\alpha \dot{\alpha}-s$ (clouds), cf. $\sqrt{ }$ mih , sub ' $h$ ' $=g h ;$ dirg $h a ́-s$ (long) $=\delta o \lambda \iota \chi o ́-\varsigma$, etc.

Sk. $h=$ origl. $g h$; e.g. hâsá-s (goose), cf. $\chi \dot{\eta} \nu$, Germ. gans, Lith. $\dot{z} a s i s$, Pol. $g e s ; \sqrt{a} \hat{a} h=a n g h$ in $\hat{a} h-\dot{u}-s$ (snake), $\hat{a} h$-as, $\hat{a} h$-atís (pain) ; $\sqrt{ }$ vah (uehere), 3 sg . pres. váh-ati, for vagh, cf. Goth.
$\sqrt{ }$ vag; $\sqrt{ } \operatorname{mih}$ (pour out, mingere), 3 sg. pres. méh-ati for migh, § 54 . cf. supr. mēghás, Gk. $\sqrt{ } \mu \iota \chi ; \sqrt{ }$ lih (lick), 3 sg . pf. li-lè́-ha, cf. $\lambda \subset \chi$, etc.

Note 1.-In nakha-s, nakha-m (nail, claw), cf. ǒvuХ-os, Scl. nog-ütư, Goth. *nag-l-s, kh stands most strangely where we should have expected $g h$.

Note 2.-g'h occurs rarely, e.g. ǵhasá-s (fish) ; in other IndoEurop. langg. no similar example is yet known; g'h occurs most often in initio in onomatopoëtic words.
2. Origl. $d h=$ Sk. $d h, h$.

Sk. $d h=$ origl. $d h$, e.g. $\sqrt{ } d h a$ (set), 1 pres. $d \dot{a}-d h a ̄-m i$, cf. $\tau i-\theta \eta-\mu l$, Goth. $\sqrt{ } d a: \sqrt{ } i d h$ (kindle), 3 sg. pass. idh-yátē, cf. Gk. $a \imath \theta-\omega ; \sqrt{ } r u d h$ (rubere) in rudh-irás (ruber), cf. Gk. $\dot{\rho} v \theta$, Goth. rud; mádhu (honey, mead, intoxicating drink), cf. $\mu \in ́ \theta \theta v$, etc.

Sk. $h=$ origl. $d h$, e.g. in $h i-t a ́-s$ for ${ }^{*} d h i-t a-s$ fr. ${ }^{*} d h a-t a-s$, past part. pass. $\sqrt{ } d h a$ (set), cf. $\theta_{\epsilon}$-tó-s; $\sqrt{ }$ rah (rah-itá-, forsaken, bereaved; ráh-as, ntr. secret, hidden) for *radh, cf. $\sqrt{ } \lambda a \theta(\lambda a \theta-\epsilon \hat{\nu} \nu$, escape notice; $\lambda \dot{d} \theta-\rho a$, secretly); $\sqrt{ } g u h$ (hide) for ${ }^{*} g u d h$, cf. $\sqrt{ } \kappa u \theta$ ( $\kappa \in \dot{v} \theta-\omega$, hide); -hi for $-d h i$, sf. of 2 sg. imper. act., e.g. pā-hí (tuere), but Vēd. $\varsigma ̧ r u-d h i=\kappa \lambda \hat{\lambda}-\theta \iota$; in Sk. this $-d h i$ occurs after consonn. only, e.g. ad-dhí, $\sqrt{ } a d$ (edere), but $-h i$ after vowels.
3. Origl. $b h=$ Sk. $b h$, rarely $h$.

Sk. $b h=o r i g l . b h$, e.g. $\sqrt{ } b h a r$ (ferre), 1 sg. pres. $b h a ́ r-\bar{a} m i$, cf. Gk. фє́ $\rho$; $\sqrt{ } b h u$ (become, be), 3 sg. pres. bháv-ati, cf. $\phi v$; $b$ hid (findere), 3 sg. pf. bi-bhéd-a, cf. Lat. $\sqrt{ }$ fid; náblas (air, heaven), cf. $\nu \in ́ \neq o s ; \sqrt{ } b h a, 3$ sg. pres. bhắ-ti (gleam), cf. $\phi a$, $\phi a-\nu$, etc.

Sk. $h=$ origl. $b h$, e.g. $\sqrt{ }$ grah, Vēd. still grabh (seize); má-hyam bes. tú-bhyam (dat. sg. pers. pron. 1 and 2), cf. mi-hi bes. ti-bi; $b h$ has disappeared entirely in instr. pl. of $a$-st., e.g. áçväis for *açva-bhis ( v . 'declens.').

In roots which end in aspp. an origl. initial asp. loses the aspiration; e.g. $\sqrt{ } b a n d h$ (bind), 3 s.g. pres. badh-n $n \frac{\bar{a}}{-} t i$, pf. $b a-$ bándh-a for ${ }^{*} b h a n d h, G o t h . ~ b a n d, ~ G k . ~ \pi \epsilon \nu \theta$ for ${ }^{*} \phi \epsilon \nu \theta$; bähú-s
§ 54 . (masc. elbow) for ${ }^{*} b h a ̄ h u-s$, cf. Norse $b \bar{o} g r, ~ G r . ~ \pi \hat{\eta} \chi^{\nu-s}$ for * $\phi \eta \chi^{\nu S}$; $\sqrt{ } b u d h$ (learn, know), 3 sg. pres. budh-yátè, bódh-ati, cf. Goth. $\sqrt{ } b u d, \mathrm{Gk} . \pi v \theta$ for ${ }^{*} \phi u \theta ; \sqrt{ } d r u h$ (hurt), 3 sg. pres. $d r u h-y \dot{a} t i$ for *dhrugh, Zend drug, druǵ, druź, but O.H.G. trug, i.e. earlier $d r u g$, are in favour of initial $d h$. Cf. the reduplication-law (§ 59, 3).

## Consonantal Prolonged Sounds.

§55. Spirants $y, s, v$.

1. Origl. $y=$ Sk. $y$, e.g. pron. $\sqrt{ } y a$ (rel.), n. sg. masc. $y a-s$; $y a$ is further a frequent st.-formative element, e.g. mádh-ya-s= med-iu-s; the same part. fms. the opt., e.g. $s-y \bar{a}-t=s-i \bar{e}-t$; further, as one part of the pres. stem which comes fr. as (esse), and serves to form the fut., e.g. $d \bar{a}-s-y \dot{a}-t i=\delta \dot{\omega} \sigma \epsilon \iota$ fr. $* \delta \omega-\sigma-y \epsilon-\tau \iota$; $y a$ forms derivative vbs., e.g. bhārá-ya-ti, 3 sg. pres. vb. causat. $\sqrt{ } b h a r$ (ferre) $=\phi о \rho \epsilon \hat{\imath}$ fr. ${ }^{*} \phi о \rho \epsilon-y \epsilon-\tau \iota ; \sqrt{ } y u, y u g$ (iungere), cf. Lat. $\sqrt{ }$ iug, whence $y u g a ́-m=$ Lat. iugu-m; yúran-, acc. sg. yúrā̄n-am, cf. Goth. juggs (same meaning), Lat. iuuenis: yákrt (liver), cf. Lat. iecur (id.).

The connexion between $y$ and $i$ is treated in $\S 14,1, \mathrm{~d}$; the splitting up of $y$ to $i y, \bar{z} y$, in $\S 14,1, \mathrm{c}$; change fr. $y$ to $i y, \bar{z} y$, v. $\S 15,2$, b.
2. Origl. $s=$ Sk. $s, s$.

Sk. $s=$ origl. $s$, e.g. $\sqrt{ }$ sad (sedere), e.g. sád-as ntr., sád-ana-m (sedes); sáp-tan-, Vēd. saptán-=septem; $\sqrt{ }$ su (beget, sow), e.g. su-tás, past part. pass. ; $\sqrt{ }$ sru (flow), 3 sg. pres. srár-ati: stásar-, acc. sg. svásār-am (sister) ; $\sqrt{ }$ srid (sweat), 3 sg. pres. svid-yáti; $\sqrt{ }$ star (sternere), 3 sg . pres. str-nááti; $\sqrt{ }$ smar (remember), 3 sg . pres. smár-ati; $\sqrt{ }$ as (esse), 3 sg. pres. ás- $t i$; $\sqrt{ }$ vas (dwell), 3 sg. pres. cás-ati; $\sqrt{ }$ vas (clothe oneself), 3 sg . pres. vas-tè ; in st.and word-formative particles, as mán-as (ntr. mens) $=\mu \dot{\epsilon} \nu-o s ;-s$ is an element of nom. masc. and fem., e.g. vrika-s, pl. vrika-sas (wolf, wolves), etc.

$\sqrt{ }$ tars's (thirst), 3 sg. pres. trš-yáti, cf. Lat. torr-eo $={ }^{*}$ tors-eo, § 55. Germ. durs- $t$; $\varsigma$ also sporadically after $a$, e.g. $\sqrt{ } b h a ̄ s$ (speak), 3 sg . pres. $b h a ̂ s a t e \bar{c}$, further fmn. of $\sqrt{ } b h a=G \mathrm{k} . \phi a$ in $\phi a^{\prime}-\tau \iota-\varsigma$, $\phi a ́-\sigma l-s$ (speech), $\phi \eta-\mu i ́$ (say) ; bes. bhās, 3 sg. pres. bhắsatē (shine, gleam), further fmn. of a similarly sounding $\sqrt{ } b h a=G k$. $\phi a$ in $\phi a i \nu \omega$ (show, make clear) $={ }^{*} \phi a-\nu-y \omega, \phi a ́-\sigma \iota-\varsigma$ (showing); $\delta$ thus stands to $s$ as palatal to gutt.; it is initial in šas sex) only, but cf. Zend $k h a s ̌ r s$, a fm. which renders doubtful the originality of the initial sound of this numeral in the other langg. of our stock.

Origl. $s$ has moreover undergone many more changes in Sk.; these changes, however, did not occur generally till a relatively late period ; $s$ before $t(t h)$ and $p(p h)$ and after $a$ (except in fine) remains fixed; after $k$ and $r$, $s$ stands for $s$; likewise after $i, u$ (and their diphthongs, generally after other vowels, as after $a, \tilde{a}$ ); medially bef. most sounds (bef. all vowels and $y, v, m, t, t h$; $\stackrel{\circ}{\circ}_{\circ}$ and " bef. $s$ do not break this sound-law); fr. st. bhūti-(=фvat-) thus comes loc. pl. bhútiti-šu for *bhūti-su; nē-šyáti (3 sg. fut. $\sqrt{ } n i$, lead) for ${ }^{*}$ nai-syati; $\bar{e}$ éséi, f.f. ai-si (2 sg. pres. $\sqrt{ } i$, go) ; vák-ši (2 sg. pres. $\sqrt{ } v a k$, speak) but át-si for ${ }^{*} a d-s i(2$ sg. pres. $\sqrt{ } a d$, eat) and $t \bar{a}-s u$ (loc. fem. pl. ta, pron. dem.); st. dhánus- (bow), loc. pl. dhánuo ošu or dhánuš-šu for *dhanus-su ; with sf. mant, dhánuš-mant-, n. sg. dhánuš-män (provided with a bow). Betw. $s$ and $s$ there is nevertheless great vacillation (particulars must be relegated to Sk. special. gr.; it is enough to note here that $\stackrel{s}{s}$ $=$ origl. $s$ ).
${ }_{\circ}^{\circ}, r, \varsigma$, occur, like $\delta$, acc. to definite sound-laws, in place of $s$; yet mainly in termn. alone, in which case -as also may pass into $\bar{o}$, and $s$ be lost, e.g. $v r k a_{o}^{0}$ for $v r k a-s$ at end of a sentence, or bef. $k, p$; avir êti for avis êti (ouis it); $r$ occurs for $s$ bef. all sonant sounds unless $a$ or $\bar{a}$ precede; -as, however, bef. sonants becomes $\bar{o}$, and $-\bar{\alpha} s$ becomes $\bar{a}$; this latter also medially, e.g. $\varsigma_{c} \bar{a}-d h i$ for ${ }^{*}{ }_{c} \bar{a} s-d h i, 2$ sg. imper. fr. $\sqrt{ } c^{\prime} \bar{s} s$ (rule), but 3 sg. imper. çás-tu; aviç k'arati (the sheep goes); vrkó bhavat for vrkas abhavat (the wolf was); vrka āstē for vrkas āstē (the wolf sits), etc.
§55. In stems ending in -s these changes take place before case-sff. also which begin with a conson., e.g. st. mánas-, g. mánas-as, without change; but instr. pl. mánōbhis for *manas-bhis, loc. pl. mána ${ }_{-}^{\circ}$-su for mánas-su, which also occurs, dhánur-bhis for *dhanus-bhis, st. dhánus- (bow).
$\check{s}$ bef. $s$ passes into $k$, e.g. $\sqrt{ } d v i s$ (hate), 2 sg. pres. $d v e ̂ ̀ k-s ̌ i=$ for *dieev-si ; also the change to $t, d$ occurs, as in the case of $c$, e.g. dvid-dhí, 2 sg. imper. act. $\sqrt{ }$ dviš for *dviš-dhi. Cf. Sk. grammars.

Note. -In çcáçura-s (father-in-law), çcaçrū-s (mother-in-law), $\varsigma$ stands in initio (by assimiln. to follg. $\varsigma$ ), instead of $s$, cf. Zend qhaçura- i.e. *staçura-, éкvoó-s, Lat. socer, socrus; similarly in st. çúška- (dry) for *suska-, cf. Z. huska-, O.Bulg. suchŭ, f.f. sausa-s, Lith. saúsa-s; $\&$ for $s$ occurs besides in other single cases bef. $v$ and $u$.
3. Origl. $v=$ Sk. $v$, e.g. $\sqrt{ }$ vid (perceive), 3 sg. pres. $v e ̀ t-t i$ for ${ }^{*} v e \bar{d}-t i ; \sqrt{ } v a$ (blow), 3 sg. pres. $v \bar{a}-t i$, cf. Goth. $\sqrt{ } v a ; \sqrt{ } v a h$ (uehere), 3 s.g. pres. váh-ati, cf. Lat. ueh, Goth. vag, Sclav. vez, etc.; $\sqrt{ }$ var (cover), 3 sg. pres. vr-n nóti, whence $\hat{u} r-n \bar{a} \bar{a}$ (wool) for ${ }^{*} v a r-n \bar{a}$, cf. Gk. Fép-tov, Sclav. vlü-na, O.H.G. vol-la, etc.; $\sqrt{ } \mathrm{var}$ (will), cf. Lat. uol (uelle), Goth. val (will), etc.; ávi-s=Lat. oui-s, ò $F_{l-s}$; nára-s=Lat. nouo-s, $\nu \in ́ F_{o-s, ~ e t c . ~}^{\text {e }}$.

On the connexion betw. $v$ and $u, \mathrm{v} . \S 14,1, \mathrm{c}, \mathrm{d}$.
$\S 56$.
Nasals.

1. Origl. $n=$ Sk. $n$, e.g. $n a$, $a n$ - (negation); $\sqrt{ } n a c ̧$ (perish), 3 sg. pres. náçyati, cf. $\nu \in \kappa$; st. nar-, nara-, n. sg. nā for ${ }^{*}$ nars, nara-s ( $\dot{a}-\nu \eta \dot{\eta} \rho$ ) ; nāu-s=vâ̂s; náa -man-=Lat. nō-men-; dánta-s (dens) ; often $n$ is changed into another nasal, e.g. pür-ná-s (plenus, cf. supr. $\bar{u}=a, \S 8$ ), f.f. par-na-s, $n$ for $n$, since $r$ precedes, จ. post.; g'ńā-tás=gnō-tus, origl. fm. of $\sqrt{ } g^{\prime} n a$ is $g a n$, on $n$ for $n$, v. post.; yuńgánti (iungunt), $\sqrt{ } y u g$, with inserted nasal, but $y u \dot{n} k t e ̂, ~ 3 \mathrm{sg}$. med. with $\dot{n}$, since $k$ follows, v. post.; lump-áti= rumpit, has nasal $m$ because $p$ follows; häsá-s, cf. hanser, Germ. gans; $m \dot{a}-s i, 2 \mathrm{sg}$. pres. act., mä-syátē, 3 sg. fut. med. $\sqrt{ }$ man (mean), with " for $n$ acc. to Sk. sound-laws, etc. All these changes must have been wanting in Indo-Eur. origl. lang.,
because clearly either the nasal was not yet within the root, but § 56 . stood after it, acc. to the formative principles of Indo-Eur. ( v . Introduction, 2), and so the fms. in question were still perh. yug-nanti, yug-natai, or else $n$ and $m$ remained unchanged, e.g. man-si, etc.

Bef. case-termns. which begin with consonn., $n$ as a noun-st.termn. disappears, e.g. st. nà́man- (nomen), loc. pl. nấma-su for *näman-su ( ${ }^{*} n a ̈ m a \tilde{a}-s u$ ). This sort of loss of $n$ takes place in other like cases also.
2. Origl. $m=$ Sk. $m$, e.g. $\sqrt{ }$ man (mean, think), whence mán-as (mens) $=\mu$ é $\nu$-os; $m \bar{a}-$-tár $-=m \bar{a}-$ ter $-; \sqrt{ }$ smar (remember), cf. Lat. me-mor with lost s; $\sqrt{ }$ vam, Lat. uom-ere, 3 sg . pres. vám-ati; in st.- and word-formative particles thus sf. man, e.g. $n \frac{1}{a}-m a n-$; $m$ as sign of acc. case, e.g. $\dot{a}$ çva- $m=$ equo-m; -mi, -masi, -mas, $1 \mathrm{sg} . \mathrm{pl}$. e.g. $\bar{e}-m i$, pl. $i-m a ́ s$, earlier $i-m a ́ s i=\epsilon i-\mu l,{ }_{i}-\mu \epsilon \nu$, etc.

The nasals $n, m$ have, as the above exx. show, undergone many variations in Sk. because they always adapt themselves to the quality of the succeeding consonn. Accordingly bef. gutt. mom. $\dot{n}$ only is found; bef. palatals is found $n$, this sound occurs also immediately after $\not k^{\prime}, g$; bef. lingg. and (acc. to distinct soundlaws) where ling. sounds $s, r$, precede in a word, $n$ is found; $n$ has its place bef. dentt. and vowels; $m$ bef. labb. and vowels (these two origl. nasals only are found in the beginning of a word); bef. $s$ and $h,{ }^{-}$is found. Particulars belong to Sk. special-gr.
$r$ - and $l$-sounds.
$r$ was softened to $l$ in many cases at an early date; sometimes the earlier lang. retains $r$ where the later already has $l$.

Sk. $r=$ origl. $r$, e.g. $\sqrt{ }$ ram, 3 sg. pres. rámatē (he is pleased); $\sqrt{ }{ }^{i k^{\prime}}$ (separate), 3 sg. pres. $r i-n \dot{a}-k-t i($ with inserted $n a) ; \sqrt{ } r u k$ (shine), 3 sg. pres. rốk-atē; $\sqrt{ }$ mar (mori), e.g. $m r-t a ́-s$, past part. pass. (mortuos) ; $\sqrt{ } \operatorname{par}$ (fill), 3 sg. pres. pi-par-ti; st. $\sqrt{ } k r p-(f e m$. appearance, beauty), $\sqrt{ }$ karp, cf. corp-us, Z. keref-s; in sff., e.g. rudh-i-rá-s=è- $\rho v \theta-\rho o ́-s ;$ sf. tar, Lat. tor; tra-m, Lat. tru-m, etc.
§ 57. Note.-In termn. $r$ was treated like $s$; at the end of a sentence it becomes ${ }_{\mathrm{o}}{ }^{\circ}$, etc., cf. § 55, 2.

Sk. $l=$ original $r$, e.g. lōk, 3 sg. pres. lốk-atē (see), doubtless akin to $r u k \neq$ (shine), cf. $\lambda \epsilon u \kappa$-ós and $\lambda \epsilon \epsilon^{\prime} \sigma \sigma \omega=$ ${ }^{*} \lambda \epsilon \cup \kappa-y \omega ; ~ \sqrt{ }$ lup (break), 3 sg. pres. lumpáti, cf. Lat. $\sqrt{ }$ rup; $\sqrt{ }$ kalp (be in order), 3 sg. pres. kálpatè, cf. krp; $\sqrt{ }$ lih, $\lambda(\chi$, Lat. lig, Erse lig, Goth. lig, Lith. liz, Scl. liz (lick), but in earliest Indian still rik. Also where the kindred langg. show no $r$, we must yet assume an origl. $r$, because we notice that $l$ is continually spreading, whilst $r$ becomes rarer; if we suppose this process to have been going on continuously in pre-historic times, $r$ will remain as the older by elimination; cf. Zend. Such instances are found in e.g. plu (float), Lat. plu, Gk. $\pi \lambda v$, Scl., Lith. plu, Germ. $f u$ (in $f l u-\xi$, in diall. $f l e u-e$ (wash); here precisely it happens that $l$-so frequently interchanged with $r$ occurs throughout; whilst in Sk. there is still a root pru (go) in existence, which origly. was prob. identical with $p l u$, and must be considered as its earlier fm.
§58. Sketch of some sound-laws important for comparative grammar (so far as they are not contained in foregoing sections).

Between the various ways in which the Indo-Eur. sounds make their appearance in particular Indo-Eur. langg. (i.e. those changes of origl. sounds through which this or that distinct lang. arose from their common fundamental lang., e.g. Sk. $r a ́ k k-a m$, Gk. Fót-a, Lat. vōc-em, fr. f.f. vāk-am), and the variations which the sounds undergo during the separate existence of the lang. thus produced, namely sound-laws, we can draw no sharp line of demarcation. The distinction between sound-representation and sound-law is chronological, and therefore indeterminate, and the exact definition of the date at which a sound-change occurred is generally difficult. For this reason, and also in order not to break up the subject too much, I have often above left the boundary between sound-correspondence
and sound-law ill-defined; moreover, sound-laws-as peculiar to § 58. the separate-life of a lang.-belong here only in so far as they bear upon our knowledge of older word-forms. The numerous laws, e.g. in Sk., which come into play only when words are composed into sentences, may here be mostly omitted, since we are treating of words taken separately.

We find, esp. in written lang., forms of different periods beside each other, e.g. Sk. $y u k$ - tá-s for ${ }^{*} y u g-t a-s, \sqrt{ } y u g$ (iungere), after an earlier mode of formn. than $i s-$ - $t d \dot{d}-s$ for $* i g-t a-s,{ }^{*} i k-t a-s$, f.f. yag-ta-s, $\sqrt{ }$ yaǵ (open, v. § 53, 1, n.) ; here the sound-law by which $\dot{g} t$ becomes st is clearly later than the preservation of the origl. combination $g t$, i.e. $k t$ (bef. $t, k$ must naturally occur for $g$ ).

Generally speaking we may call the Sk. very rich in conson. sound-laws; its conson. system is thus manifoldly unorigl. from this point of view also. Consonn. often exercise influence on one another, not only in the middle of words, but also between the end of one word and the beginning of another when they are combined in a sentence, a process which we can scarcely attribute to the lang. at this early condition; the layingdown of these laws belongs, as we have said, in a great measure elsewhere.

## Medial Sound-laws.

## 1. Assimilation.

a. Medially also sometimes occurs complete assimilation of a preceding to a follg. sound, e.g. bhinna- for *bhid-na-, past part. pass. $\sqrt{ }$ bhid (split); panna- for ${ }^{*}$ pad-na-, likewise fr. $\sqrt{ }$ pad (go, fall), and so often in similar cases.
b. Lightening of conson.-groups by loss of one sound is like-

 compos. $\sqrt{ }$ tud (push) for * $a$-tut-s-ta, and so frequently in case of $s$ betw. two mom. consonn. in like cases.
c. Bef. sonant mom. sounds sonants only, bef. mutes mutes
§ 59. only, are found, e.g. st. vāk' (voice), instr. pl. vāg-bhis; yu-ná-ǵ-mi, 1 sg. pres. $\sqrt{ } y u g$ (iungere), but $2 \mathrm{sg} . y u-n a ́-k$-ši, 3 sg. yu-ná-k-ti for ${ }^{*}$ yunag-si, *yunag-ti (cf. §53, 1); ád-mi, 1 sg. pres. $\sqrt{ }$ ad (edere), but át-si, 2 sg. pres. àt-ti, 3 sg. pres. for *ad-si, *ad-ti, ; bháradbhis, instr. pl. fr. st. bhárant-(ferens) for *bharat-bhis fr. *bharantbhis, etc.

The influence of spirant s on follg. mom. sounds has been already handled under ' $s$.' In the case of the combination of $s$ with a follg. $t$, $t$, the latter becomes assimild. to $s$ because it is a lingual, e.g. superl. sf. origl. is- $t a$; fr. yans, compar. sf. shortened is $+t a$, arises next ${ }^{*}$ is-tha ( $\S 51, \mathrm{sqq}$.), and since after vowels other than $a$, $\bar{a},{ }_{s}$ must occur for $s$, *iv-tha, whereby also th becomes $t h$, so that in Sk. ištha stands for ista, e.g. st. $\bar{a} c ̧-i s t h t h a=Z . ~ a c ̧-i s t a-, ~ G k . ~$ $\omega \kappa-\iota \sigma \tau o-$, origl. $\bar{a} k$-ista- (fr. $\bar{a} c ̧ u ́-$, origl. $\bar{a} k u$-, swift). For the group $\varsigma t$ occurs št , e.g. st. dršṭ́ ${ }^{-}$for ${ }^{*} d r c ̧-t a-$, past part. pass. $\sqrt{ }$ darç, origl. dark (see) ; st. assta-, aştan- (eight), for *açta-,
 $\sqrt{ }$ vaç (will, wish).

For the changes of $s$ produced by assimiln. v. § 55, 2; by nasals, § 56, 2 .

An example of dissimilation worth notice is found in the change of $s$ to $t$ at the end of a root bef. the termn. in $s$ of fut. and aor., e.g. $\sqrt{ }$ vas (dwell), 3 sg. fut. vat-syáti, 3 sg . aor. á-vāt-sìt for ${ }^{*} v a s$-syati, ${ }^{*} \dot{a}$-vās-sīt. Doubled $s$ was generally avoided, e.g. ási, 2 sg . pres. $\sqrt{ }$ as (esse), for $a s-s i=\epsilon ิ \sigma-\sigma l$, cf. § 55, 2.

Note. -The $s$ of $\sqrt{ }$ vas (dwell) is origl. and perh. not due to $t$, cf. Goth. $\sqrt{ }$ vas (remain, be), pres. $\tau i s-a=v a s-\bar{a} m i$.
2. The aspirates stand bef. vowels and son. prolonged consonn. only, and therefore never in termn. The collision of a sonant gutt., dent., or lab. aspirate with follg. $t(t h)$ is common. In this case the aspp. throw their aspiration on follg. $t$, which in its turn becomes like the preceding sound in that it assumes vocal-sound; fr. sonant aspp. $+t$ arise therefore son. unasp. consonn. $+d h$;
accordingly $g h+t=g d h ; \quad d h+t=d d h ; \quad b h+t=b d h$, e.g. $\sqrt{ } b u d h \S 59$. (learn, know), step-formed $b \bar{o} d h+t u m$ (infin. termn.) $=b \hat{o} d d h u m$; $\sqrt{ }$ labh (hold) + tum $=$ lábdhum, etc.: $h$ here also often is clearly equivalent in force to $g h$ (cf. §54, 1), e.g. $\sqrt{ } d u h$ (milk) $+t a$, sf. past part. pass., composes the fm. dughdá-s, further $d u g-d h \xi$ ( 2 sg. imper.) for * $d u g h-d h i$, $d o ̂ ́ g-d h i$ for ${ }^{*} d o ̄ g h-t i, 3 \mathrm{sg}$. pres., collectively formed as sounds from still existing $\sqrt{ }$ dugh. Other roots (whose initial is not $d$ ) also treat their $h$ otherwise, e.g. ruh (increase) $+t a$ (pf. part. pass.) fms. rūdhá-; *lēh-ti, *lēgh-ti, 3 sg. pres. $\sqrt{ }$ lih, i.e. ligh (lick), become léd $d h$, etc.; $h+t, t h, d h$, here becomes $d h$, accompanied by lengthening of preceding short vowel: this sound-interchange is accordingly clearly more secondary and later than the change of $h t$, i.e. ght, into $g d h$. The aspiration is thus throughout postponed to the follg. consonant.

When the aspiration of a root-termn. cannot remain, e.g. in termn. or bef. $s$, and the root begins with an origl. sonant unaspd. conson., the aspn. passes over to the latter, e.g. st. sarva-búdh- (all-knowing), n. sg. should be *sarra-budh-s, s is necessarily lost, acc. to termination-laws, $d h$ became $t$, the aspn. passes over to the $b$, and the word is sarva-bhút; precisely so the loc. pl. sarva-bhút-su fr. ${ }^{*}$-budh-su; $h$ here too was treated like $g h$, e.g. 3 sg. aor. $\sqrt{ } d u h$ (milk) is $\dot{a}-d h u k$-šat, with $\check{s}$ for $s$ acc. to rule ( $\$ 55,2$ ), for ${ }^{*} a$-dugh-sat; likewise where the final aspn. disappears through loss (assimiln.), e.g. dhēhi (2 sg. imper. act.) for ${ }^{*} d h a ̄ h i$ (§ $15, \mathrm{e}$ ), and this for ${ }^{*} d \bar{a}-h i$ fr. ${ }^{*} d a d h-h i$, *dadh-dhi; dadh- for $d a-d h a$ - is pres. st. of $\sqrt{ } d h a$ (set), $h i$, $d h i$, termn. of 2 sg . imper. act.
3. Law of reduplication. In redupln. the gutt. are changed into palatals: ka-kấra, pf. $\sqrt{ } k a r$ (make); of more than one conson. or consonantal double-sounds (aspp.; $h=g h$ ) only the first was maintained; $d \dot{a}-d h \bar{a}-m i$, pres. $\sqrt{ } d h a$ (set, lay); $\dot{g} u-h \bar{o}-m i, ~ \sqrt{ } h u$ (open; cf. also § 54, 3, sub. fin.); çu-çrááv-a, pf. $\sqrt{ }$ cru (hear); only in case of $s+$ mom. sounds does the second
§ 59. of these sounds remain; ti-štha-ti, pres. $\sqrt{ }$ stha (stand), origl. fm . of pres. is sta-sta-ti.

In other cases the Sk. still shows a more archaic kind of redupln. by which gutt. and aspp. remain unchanged; so esp. in ancient intensive-sts., e.g. $k \bar{o}-k u(3 \mathrm{sg} . \mathrm{med} . k \bar{o}-k \bar{u}-y a-t \bar{e})$, $\sqrt{ } k u$ (raise a cry) ; kari-kar-, $\sqrt{ }$ kar (make) ; bhari-bhar-, $\sqrt{ }$ bhar (bear) ; ghani-ghan-, $\sqrt{ }$ ghan, han (slay, kill); in noun-sts., e.g. ghar-ghara-s (clatter, crackling), etc. (cf. Benf. G. g. 1864, st. 39, p. 1539 sqq.).

## Termination.

$\S 60$. 1. In termn. only one conson. is tolerated, of more than one only the first remains, e.g. st. vāk' (voice, acc. $v \bar{a} k^{\prime}-a m$ ) should be in n . sg. ${ }^{*} v \bar{a} k-s$, or rather (acc. to $\S 52,1$ ) ${ }^{*} v a \bar{k} k-s$, or (acc. to $\S 55,2$ ) $v \bar{a} k-s$, wherefore $v \bar{a} k$ is now seen. Since aspp. are double-sounds, they must lose their aspn.; thus we find, not ${ }^{*}$ sarva-budh, but *sarva-bhud, with aspn. transferred (acc. to $\S 59,2$ ), for which, acc. to the follg. law (no. 2), sarva-bhut with $t$ for $d$ occurs.

Only $r+$ mom. conson can stand in fine, a case which nevertheless occurs but seldom ; moreover bef. follg. $k^{\prime}, t, t$, and $k^{\prime} h$, $t h, t h$, the combn. ${ }^{s} s$ stands with their representatives, e.g. áçvān, acc. pl. of n. sg. áçva-s (equos), f.f. is *açvāns or *açuāms, hence e.g. açvãs tatra (equos ibi); çrí-mãn (pleasant), n. sg. masc. f.f. *¢̧rī-mant-s, hence e.g. yet çrīnãȩ karati (felix it; ç for $s$ acc. to $\S 55,2$ ) ; ăsan, 3 pl . impl. Vas (esse) fr. ${ }^{*} \bar{a} s a n t$, *āsans, $t$ is esp. often subject to a change into $s$, as in stems in -ant, which are interchanged with fms. in -ans, further in termn. of 3 pl . -us for -ant, hence e.g. $\bar{s} s \widetilde{a} s$ tatra (erant ibi) for origl. *äsant tatra. In all other cases, however, $n$ only remains acc. to the general rule.
2. As only mute mom. consonn. (when no distinctly influencing clearer sound follows upon it; in pausa) could stand in fine, the son. consonn. pass over into the mutes of their quality; hence
for *sarva-búdh, not *sarva-bhud, but sarva-lhút is found. $h, \S 60$. i.e. $g h$, becomes $t$ in termn., earlier $k$ (for $g, g h$ ) has been retained in such roots only as begin with $d$, e.g. fr. lih (licking) comes in nom. (f.f. ligh-s) lit (lid bef. sonants), but fr. duh (milking), dhuk (dhug).

Note.-That palatals are not retained in termn. was remarked above in § 51, sub. fin.

## Consonants of Greek.

v. Table in § 16.

The consonl. system of the Gk. has retained 1 . the origl. aspirates, not, however, as sonants, but as mutes : $\chi=k i, \theta=t h$, $\phi=p h$, these can be proved to be the oldest equivalents of the Gk. sounds; the pronunciation of $\chi, \phi$, as spirants, i.e. $\chi=$ Germ. $c h, \phi=f$, and that of $\theta$ as a sibilant (nearly like $t s$ ), is of later origin, and arose first partially and afterwards in all cases. The passing of origl. sonant aspp. into Gk. mute aspirates is not inexplicable according to the physiology of sounds. Arendt (Kuhn und Schleicher, Beitr. ii. 283) conjectures, prob. rightly, that the un-sonant $h$ of the origl. aspp. $g h, d h, b h$, changed the preceding sonants $g, d, b$, into the mutes $\kappa, \tau, \pi$, and indeed no one will deny that $k h, t h, p h$, are much easier to pronounce than $g k$, $d h, b h$. Thus the Gk. already permits of an assimilation. Change of sonn. to un-sonn. is seen also in Teutonic (origl. $g, d=$ Germ. $k, t$ ). The agreement of the Indo-Eur. langg. collectively, and also of those langg. which are nearest of kin to the Gk., prevents us from accepting the supposition that the Gk. alone has preserved the oldest equivalents for the Indo-Eur. aspirates (that the sounds $k h$, th, $p h$, existed in the origl. lang. instead of $g h, d h, b h$; cf. esp. G. Curtius, Gr. Etym. ${ }^{2}$ p. 369 sqq.). 2. Gk. shows a dislike of the origl. spirants; $y$ even, in the earliest accessible state of the lang., is found merely remaining in its effects, but lost as a separately existing sound ; $v$ is retained
$\S 61$. as $F$ in the archaic lang. ; $s$ stands its ground only in terminations and bef. and after mutes $(\xi, \psi)$; moreover, when another sound has assimilated itself to it (s) ; before vowels it becomes $h$, and generally falls out between vowels. In Gk. as in all other Indo-Eur. langg., except Zend, $l$ already occurs often beside $r$.

Generally, therefore, the consonantal-system of the Gk. is nearer to that of the origl. lang. than that of the Sk. or of most other Indo-Eur. langg.

As for consonl. sound-laws, the loss of origl. spirants and the variations which arise through this loss, and through the effects of origl. spirants on neighbouring sounds, bring about a considerable deviation from the older system of sounds. Assimilation has already acquired a widely extended sway: dentals generally have fallen away before $s, n$, mostly with a lengthening of preceding vowel. The palatal sounds $(y, i)$ already show their influence in many cases (zêtakismos). Further, but few consonn. are tolerated in termn.; in short, in its consonantal sound-laws Gk. much resembles a lang. which is already in a comparatively late stage of existence.

## Examples.

Origl. momentary mute unaspirated consonants.

1. Origl. $k=$ Gk. $\kappa, \gamma, \pi, \tau$ ( $\kappa y=\sigma \sigma$, cf. sound-laws).

Gk. $\kappa=$ origl. $k$, e.g. $\kappa a \rho \delta-i ́ a$ (heart), cf. Lat. cord-, Lith. szird-ìs, Scl. srŭd-ǐce, Goth. hairt-ō, Indo-Eur. lang. collectively presuppose an initial $\kappa$, Sk. $h r d$ - thus stands for *hhard-, origl. kard-; кєî- $\mu a \iota$ (I lie), коí- $\tau \eta$ (bed), $\sqrt{\kappa \iota}$, Sk. çi, Scl. and origl. $k i ; ~ \kappa v ́ \omega v, ~ \kappa v \nu$-ós (hound), Sk. st. ¢̧van-, origl. kvan-; кגv-тós (famed), $\sqrt{ } \kappa \lambda v$ (hear), Sk. çru, Goth. hlu, origl. kru; $\delta \alpha^{\prime} \kappa-\nu \omega$ (bite), $\sqrt{ } \delta a \kappa$, Sk. daç, origl. dak; $\delta \in i \kappa-\nu v \mu \iota$ (show), $\sqrt{ } \delta \iota \kappa$, Sk. diç, Goth. tih, origl. dik; $\delta$ '́ка (ten), Lat. decem, Sk. daçan-, Goth. taihun, origl. dakan-; $\lambda \epsilon \nu \kappa-o ́ s(w h i t e), ~ a ̀ \mu \phi \iota-\lambda$ úк- $\eta$ (morn-ing-twilight), $\sqrt{ } \lambda u \kappa$, Sk. $r u \hbar$, origl. $r u k$, etc.

Note.— $\xi$ is merely a character for $k s$, e.g. $\delta \epsilon i \xi \omega$ (I will show) $\S 62$. $={ }^{*} \delta \epsilon i \kappa-\sigma \omega ; \delta \epsilon \xi \iota o ́ s($ right $)={ }^{*} \delta \epsilon \kappa-\sigma \iota o \varsigma,{ }^{*} \delta \epsilon \kappa-\tau \iota o s$, cf. dexter, Sk. dák $\begin{gathered}\text {-inas } \\ \text {, etc. }\end{gathered}$

Gk. $\gamma$ is sometimes a later softening fr. $\kappa$, which often remains beside it (cf. G. Curtius, Gr. Et. ${ }^{2} 467$ sqq., 600 sqq.), e.g. $\sqrt{ } \phi \rho a \gamma$ in $\grave{\epsilon}-\phi \rho a ́ \gamma-\eta \nu$ bes. pres. $\phi \rho a ́ \sigma \sigma \omega$ (fence in) $={ }^{*} \phi \rho a \kappa-y \omega$ ( v . sound-laws), Lat. farc-io (on the difference of meaning v. G. Curt. Zeitschr. xiii. 399); $\sqrt{ } \mu a \gamma$ in $\grave{\epsilon}-\mu a ́ \gamma-\eta \nu, \mu a ́ \gamma-\epsilon \iota \rho o s$ (cook), $\mu a \gamma$ - $\epsilon$ 's (pastry-cook), but $\mu a ́ \sigma \sigma \omega$ (knead) $={ }^{*} \mu a \kappa-y \omega$, cf. mac-erare, Lith. mink-yti (knead) bes. mank-sztýti (soften), root therefore $m a n k$ fr. $m a k$; $\mu i \sigma \gamma \omega, \mu_{i}^{\prime} \nu \nu \mu \iota$ (mingle), bes. Lat. misceo, Sk. miçráyāmi; $\sqrt{ } \pi \lambda a \gamma$ in $\pi \lambda a \gamma-\eta$ (blow), $\epsilon \xi-\epsilon-\pi \lambda a ́ \gamma-\eta \nu$ bes. $\pi \lambda \eta \dot{\eta} \sigma \sigma \omega$ (strike), i.e. ${ }^{*} \pi \lambda \eta \kappa-y \omega$, cf. Lith. pldik- $t i$ (strike), pres. plak-ù, f.f. plak-ämi, etc. (cf. Lat. post).

Gk. $\pi=$ origl. $k$ (cf. G. Curt. in Kuhn's Zeitschr. iii. 401 sqq.), e.g. $\sqrt{ } \pi \epsilon \pi(\mathrm{cook})$ in $\pi \epsilon \in-\pi \epsilon \pi-\tau a \iota, \pi \epsilon \in \notin \omega$, i.e. $\pi \epsilon \in \pi-\sigma \omega, \pi \epsilon \in \pi-\omega \nu$ (ripe), bes. $\pi \epsilon \kappa$ in $\pi \epsilon ́ \sigma \sigma \sigma$ (cook) $={ }^{*} \pi \epsilon \kappa-y \omega$, origl. kak, Lat. coc; $\pi \epsilon ́ \nu \tau \epsilon$ (five), Aiol. $\pi \epsilon \epsilon \mu \pi \epsilon, \pi \epsilon ́ \mu \pi-\tau o-\varsigma$ (fifth), $\pi \epsilon \mu \pi-a ́ \xi_{\epsilon \iota \nu}$ (count by fives), Lat. quinque, origl. kankan; $\sqrt{ } \pi o$ in $\pi o \hat{v}$ (where), $\pi \hat{\omega} \varsigma$ (how), $\pi o ́ \tau \epsilon \rho o s$ (whether, uter), Iôn. still ко仑̂, кิ̂s, кóтєрos, Lat. quo-, Goth. hra-, Sk. Lith. Sclav. and origl. $k a-$; $\sqrt{ } \dot{\epsilon} \pi$ in $\begin{gathered}\epsilon \\ \pi \\ \text {-opaı }\end{gathered}$ (follow), origl. sak, Lat. seq; $\sqrt{ } F_{\epsilon \pi}$ in $F_{\epsilon}^{\prime} \pi o s$ (word), єimod (I said) $={ }^{*} F_{\epsilon} F_{\epsilon} \pi o \nu,{ }^{*} F_{o \pi-s}$ (voice) $=u o ̄ c-s$, origl. rak (speak), in ő $\sigma \sigma a$ (voice) $={ }^{*}$ Foкуa ( v . sound-laws), $k$ has remained; $\sqrt{ } \lambda \iota \pi$ in $\lambda \epsilon i \pi-\omega$ (leave), $\lambda_{o \iota \pi-o ́ s ~(l e f t ~ o v e r) ~}^{\text {l Lat. lic (linquo), }}$ Sk. rik', origl. rik; $\sqrt{ }{ }^{\prime} \pi$ in ő $\neq 0 \mu a \iota$ (I shall see), ö $\mu \mu a$ (eye), Aiol. ò $\pi-\pi a={ }^{*} о \pi-\mu a$, Lat. oc in oc-ulus, Lith. ak-is (eye), etc., but dual ö $\sigma \sigma \epsilon={ }^{*} о \kappa у \epsilon$, fr. a st. *öкı- (eye), Lith. and origl. akiwith $k$ retained. Acc. to G. Curt. Gk. $\pi$ is in 17 cases $=$ origl. $k$, whilst in 104 cases it remains $k$, thus about one-sixth of origl. $k$ has been changed to $\pi$.

Gk. $\tau=$ origl. $k$ occurs mostly in pronl. and num. stems, thus $\tau i-s\left(\right.$ who), Lat. $q u i-s$, Sk. ${ }^{*} k i-s$ (in na-kis, no one, $m a \bar{a}-k i s, ~ O . B u l g$. $m \bar{a}-k i s$, ne quis), origl. $k i-s ; ~ \tau \epsilon$ (and), origl. ka, Sk. -ka, Lat.
§ 62. -que, Goth. -u-h for *-ha, cf. $\pi \sigma^{\prime}-\tau \epsilon$ (when), Dôr. $\pi \delta^{\prime}-\kappa a$, ä入 $\lambda o-\tau \epsilon$ (another time), Dôr. ä $\lambda \lambda \alpha-\kappa a$; $\pi \epsilon ́ ย \tau \epsilon$ (five) bes. Aiol. $\pi \epsilon ́ \mu \pi \epsilon$ (see ab. $\pi=k$ ), origl. kankan, cf. quinque; $\tau \in ́ \sigma \sigma a \rho \epsilon s$ (four), origl. katrāras, cf. Lat. quatuor (es), Sk. kiatcürr-as, Lith. keturi. This correspondence of sounds occurs but rarely in other roots, e.g. $\sqrt{ } \tau i$ in $\tau i-\omega$ (honour, valuate), $\tau \bar{i}-\mu \eta^{\prime}$ (honour), $\tau i-\nu \omega$, $\tau i-\nu v \mu i$ (punish, fine), Sk. $\not k_{i}$ in $k_{i}^{\prime} a ́ y-\bar{e}$ (I punish), apa-ki-ta-s (honoured), origl. therefore $k i$.
2. Origl. $t=\mathrm{Gk} . \tau(\tau y=\sigma \sigma$, v. sound-laws), e.g. $\tau o ́(\tau)$ origl. and Sk. ta-t (nom. acc. sing. dem. pron. st. origl. ta-); $\sqrt{ } \tau a$, $\tau \epsilon \nu$ in $\tau \epsilon ́-\tau a-\kappa a, \tau \alpha ́-\nu v-\mu a \iota$ (stretch myself), $\tau \epsilon \dot{\prime} \nu \omega$ (stretch, lengthen) $={ }^{*} \tau \epsilon \nu-y \omega$, origl. and Sk. ta, tan; st. $\tau \rho \iota$ - (three) in $\tau \rho \epsilon i ̂$, origl. and Sk. tri-; $\sqrt{ } \sigma \tau a$ (stand), in $\sigma \tau a-\tau o ́ s$ (placed), $\sigma \tau a ́-\sigma \iota \varsigma$ (setting, revolt), $\grave{i}-\sigma \tau \eta-\mu \iota$ (set up), origl. and Lat. sta, etc.; $\sqrt{ } \sigma \tau \epsilon \gamma$ in $\sigma \tau \epsilon ́ \gamma-o s$ (roof), $\sigma \tau \in ́ \gamma-\omega$ (cover), cf. Lith. $\sqrt{ }$ steg, origl. stag; $\sqrt{ } \pi \epsilon \tau$ in $\pi \epsilon ́ \tau-o \mu a \iota$ (fly), $\pi i-\pi(\epsilon) \tau-\omega$ (fall), origl. and Sk. $\sqrt{ }$ pat (fly, fall); $\pi \lambda a \tau$ ús (broad), origl. pratus, Sk. prthús; suff. to of pf. pass. part., origl. and Sk. ta, etc.

The combination $\kappa \tau$ is in most cases preserved only in Gk., while in other langg. it is softened to $k s$, e.g. st. $\tau \epsilon \in \kappa \tau \nu-$ (carpenter), Sk. tákšan-, cf. O.H.G dëhsa, dëhsala (axe); äрктоऽ (bear)=Lat. ursus, by Lat. sound-laws for *urcsus fr. *urctus, Sk. ŕkšas, f.f. *ark-ta-s.

Note.-Upon the very uncommon softening of $\tau$ to $\delta$ in Gk. cf. G. Curt. Gr. Et. ${ }^{2}$ p. 469 sqq. It occurs almost without exception in obscure etymologies, not in words accurately corresponding with their kindred langg.
3. Origl. $p=$ Gk. $\pi$ (cf. $\pi=$ origl. $k$ ), e.g. $\sqrt{ } \pi o, \pi \iota$ (drink), in $\pi o^{\prime}-\sigma \iota \varsigma$ (draught), $\pi \epsilon^{\prime}-\pi o-\mu a \iota, \pi \epsilon^{\prime}-\pi \omega-\kappa a, \pi i-\nu \omega$ (drink); $\pi \delta^{\prime}-\sigma \iota \varsigma$ (husband), f.f. and Sk. pá-tis (lord); st. $\pi a-\tau \epsilon ́ \rho-$ (father), origl. $p a-t a r-$, fr. $\sqrt{ } p a$ (protect); $\sqrt{ } \pi \lambda a$, e.g. in $\pi i \mu-\pi \lambda \eta-\mu \iota, \pi \iota \mu-\pi \lambda a^{\prime}-\nu a l$ (fill), origl. pra fr. par, e.g. Sk. pi-par-mi (1 sing. pres. act.); $\pi \lambda a \tau u ́ s$ (broad), origl. pratus, Sk. prthús; $\sqrt{ } \pi \lambda v$ in $\pi \lambda \epsilon \in F-\omega$ (sail), $\pi \lambda o ́ F-o s$ (voyage), $\pi \lambda u$ - $o o_{s}$ (washed), Sk. plu, origl. pru;
$\sqrt{\hat{\epsilon}} \rho \pi$ in $\dot{\epsilon} \rho \pi$-єтó (creeping thing), $\ddot{\epsilon} \rho \pi-\omega$ (creep) $=$ Sk. and $\S \in 2$. origl. sárp-āmi, Lat. serp-o, origl. sarp; ṽ $\pi-\nu o s$ (sleep), origl. and Sk. scáp-nas, cf. som-mus $=$ *sop-nus, etc.

Note 1.-The softening of $\pi$ to $\beta$, likewise uncommon, and only found in words of obscure etymology, has been treated of by G. Curt. elsewh. p. 471 sqq.

Note 2.-On unoriginal aspiration of tenues caused by operation of sound-laws, v. 'sound-lars.' Sometimes in Gk. as in Sk. aspirates make their appearance without visible reason. This occurs comparatively frequently in the case of $\pi$, cf. $\dot{a}-\lambda \epsilon^{i} \phi-\omega$ (anoint), $\dot{a}-\lambda o i \phi-\eta \prime$ (ointment), bes. $\lambda i \pi-a, \lambda i \pi-o s$ (grease), $\lambda \iota \pi$-após (greasy, shiny), cf. Sk. Vlip (anoint), O.Bulg. lep $p-u$ (plaster), Lith. lip-ti (cleave to); $\beta \lambda \notin \phi-a \rho o \nu$ (eyelid) bes. $\beta \lambda \epsilon ́ \pi-\omega$ (glance) ; $\kappa \epsilon \phi-a \lambda \lambda^{\prime}$ (head) bes. Lat. cap-ut, Sk. kap-älas, kap--̂́lam (shell, skull); $\sigma a \phi$-ク̆s (clear), $\sigma o \phi$-ós (sap-iens), cf. Lat. sap-io (smack, am wise), O.H.G. $\sqrt{ }$ sab (understand ; in pf. int-suab, *ant-suob, he understands, notices), etc. Moreover, $\mu \dot{\prime} \theta-o s$ (bustle) must not be coupled with Sk. $\sqrt{ }$ math, manth (i.e. mat, mant, stir, more), and O.Bulg. met-a (trouble), męt-ežu (uproar, tumult). In ${ }_{\epsilon}^{\epsilon}-\tau v \chi-o \nu$ (I chanced), $\tau u \chi-\eta^{\prime}$ (chance), $\tau \epsilon \dot{\prime} \chi$ - $\epsilon \nu$ (prepare), and Iôn. $\tau \epsilon-\tau \cup \hat{\kappa}$-оעтo (they prepared), $\tau \cup ́ \kappa-o \varsigma$ (mason's tool), we cannot suppose different roots; so too $\delta$ é $\chi$-o oual (receive) bes. Iôn. $\delta \epsilon \in \kappa$-о $\mu a \iota$, $\delta о к$-ós (beam), $\delta о \kappa$-áv $\eta$ (fork) has the look of an unorigl. asp. In the perf. this unorigl. asp. has developed into a kind of medium for stem-formation, v. sub. Perf. G. Curt. Gr. Et. ${ }^{2}$ p. 439 sqq. has treated at length of Unorigl. Aspiration in Gk.

Momentary sonant unaspirated consonants.

1. Origl. $g=\mathrm{Gk} . \gamma, \beta$.

Gk. $\gamma=$ origl. $g$ (on $\zeta=\gamma y$, v. sound-laws), e.g. $\sqrt{ } \gamma \in \nu$ in $\gamma^{\prime} \nu \nu-o s$ (race), $\gamma i-\gamma(\epsilon) \nu-o \mu a \iota$ (I am born, become), Sk. ǵan, origl. gan; $\sqrt{ } \gamma \nu o=g n a$ fr. gan in $\gamma \iota-\gamma \nu \omega^{\prime}-\sigma \kappa \omega$ (I learn), $\gamma \nu \omega \prime-\mu \eta$ (thought, opinion) ; yóvv (knee)=Sk. ǵắnu, cf. Lat. genu, Goth. kniu; $\sqrt{ } \zeta_{v \gamma}$, origl. $y u g$ (iungere) in $\zeta \epsilon u ́ \gamma-\nu v \mu \iota$ (I yoke), $\zeta v \gamma-o ́ \nu$ (yoke); $\sqrt{ } \dot{a} \gamma$ in $\ddot{a} \gamma-\omega$ (lead) $=$ Sk. $\dot{a} g ́-\bar{a} m i$, Lat. $a g-0$, O.Norse inf. $a k-a$, 1 sing. pres. $\epsilon k$, pf. $\bar{o} k$, etc.

Note 1.-It is only in quite detached cases that Gk. $\delta$ seems $=$ origl. $g$ (like $\tau=$ origl. $k$ ); thus prob. $\delta \epsilon \lambda \phi-\hat{v}$-s (uterus) must be
§63. placed beside Sk. gárbh-a-s (id.), esp. since a form $\mathfrak{a} \delta \in \lambda \phi \in \epsilon$ ós corresponds perfectly to Sk. sa-garbhyas (co-uterinus) in its formn. It is worthy of note that $\beta$ pé $\phi o s$, too (v. sq.), stands close to Sk. gárbhas.

Note 2.—On Gk. $\gamma$ and Sk. $h$, cf. § 53, 1.
Gk. $\beta=$ origl. $g$ (cf. $\S 68,1, \mathrm{e}$ ); $\sqrt{ } \beta a$ in $\beta i-\beta \not-\mu l, \beta a ́-\sigma \kappa \omega$ (go) $=$ Sk. and origl. $g a$ (go), in Sk. g'i-gā-mi, origl. $g a-g a \bar{a}-m i$, Sk. gá-kikhāmi, origl. ga-skāmi ; ßapús (heavy)=Sk. gurús for origl. garus, $\beta$ ápıбтos=Sk. ǵarišthas, origl. garistas (heaviest), cf. Lat. grauis $={ }^{*}$ garu-i-s, Goth. kaúrs (heavy, earnest) for *kaúri-s, and this prob. for *kurv-i-s fr. *karv-i-s; $\beta \rho \in ́ \phi=s$ (neut. offspring, child), Sk. gárbha-s (masc. matrix, offspring), O.Bulg. žrěbẹ, žrěbŭč̌ (to foal), Goth. kalbō (fem. cow-calf); Boiôt. ßavá $=\gamma v \nu \eta$ (wife) with root vowel a retained, f.f. of both ganā, $\sqrt{ }$ gan (gignere); $\beta$ ádavos (acorn), cf. Lat. glans, gland-is (acorn); BiFos (life)=Sk. ǵivás, Lith. gývas, Goth. kivius, f.f. prob. gigras (lively) ; $\beta o u ̂ s ~(b u l l)=S k . ~ a n d ~ o r i g l . ~ g a ̄ u s ; ~ \beta l-\beta \rho \omega ́-\sigma \kappa \omega ~(e a t), ~$ $\beta o \rho-a ́$ (food), $\sqrt{ }$ ßop, $\beta \rho o$, origl. gar, gra, Sk. $\sqrt{ }$ gar (swallow); Lat. (g)uor-are, Lith. gér-ti (drink), Scl. žrě-ti (swallow); $\epsilon$ é $\rho \in \beta$-os (gloom of lower world), cf. Sk. rág'-as (gloom, dust), Goth. rikv-is (neut. darkness); $\sqrt{ } \nu \beta$ in $\chi^{\prime} \rho-\nu \downarrow \psi$ (water for washing hands) for ${ }^{*} \chi \epsilon \rho-\nu \iota \beta-\varsigma,{ }^{*} \chi \epsilon \rho-\nu \iota \beta-o s$, Sk. $\sqrt{ } n i g$, origl. $n i g$, in Gk. retained in $\nu i \zeta \omega($ wash $)={ }^{*} \nu \nu \gamma-y \omega$.
2. Origl. $d=$ Gk. $\delta$ (on $\zeta=\delta y$, cf. § 68) ; $\sqrt{ } \delta 0$, origl. $d a$ (give), pres. $\delta i-\delta \omega-\mu \iota$, origl. $d a-d a ̄-m i ; \sqrt{ } \delta a \kappa$ (bite), pres. $\delta a ́ \kappa-\nu \omega$, Sk. $\sqrt{ } d a c ̧$, origl. $d a R ; \sqrt{ } \delta a \mu$ in $\delta a \mu-\alpha ́ \omega$, $\delta \dot{a} \mu-\nu \eta \mu \iota$ (tame, bind), Sk. and origl. dam (domare); סó $\mu o s$ (house), Lat. domus, Sk. damás or damám, Scl. domu; $\sqrt{ }$ Fi $\delta$ (see), origl. $\sqrt{ }$ vid (uidere), pf. Foî $\delta a$ (knew), Goth. vait, f.f. vi-vāida; $\sqrt{ } \dot{\epsilon} \delta$, origl. and Sk. $\sqrt{ }$ sad (sedere) in $\epsilon_{\zeta} \zeta \rho \mu a \iota={ }^{*}$ sed-yo-mai; $\sqrt{ } \epsilon \delta$, origl. and Sk. $\sqrt{ }$ ad iu $\epsilon \bar{\epsilon}-\omega, \epsilon ้ \delta-o \mu a \iota$ (eat, shall eat), Lat. ed-o, Goth. it-a, etc.
3. Gk. $\beta$, whose origl. existence can be proved, is found very rarely (cf. § 46), e.g. $\beta \lambda \eta-\chi \eta$ (bleating), $\beta \lambda \eta-\chi^{\alpha} o \mu a \iota$ (bleat), Lat. bāl-are, Scl. ble-ya, O.H.G. blä-zan; $\beta \rho a \chi^{\prime}$-s (short), Lat.
breutis, fr. *bregı-is, Scl. brŭz-ŭ; $\beta \delta \delta^{\prime}-\omega$ (pedo), Bohem. bzdi-ti, § 63. Lith. bead-éti, Germ. fist (flatus uentris sine crepitu), thence fist-en (flatum uentris emittere), Scl.-Germ. thus with spirant bef. $d$ (whether this spirant was inserted in Germ. or lost in Gk., H.G. $f$ does not correctly correspond to $b$ of other langg.), the f.f. of the root is thus $b d a$ or $b s d a=b a d$ or basd.

Note.- $\chi, \theta, \phi$, instead of $\gamma, \delta, \beta$, in Gk., is barely seen in one single certain ex.; even the cases which G. Curt. (Gr. Et. ${ }^{2}$ p. 449 sqq .) allows are more or less doubtful. $\Theta$ eós (god) is in no way related to $\Delta_{\text {I }}$ F-ós (gen. fr. Z $\epsilon$ ús), סios (godlike), Lat. deus, diuos, but, as G. Curt. makes probable, to $\sqrt{ } \theta$ es (Gr. Et. ${ }^{2}$ p. 450) (pray), in $\theta \dot{\epsilon} \sigma-\sigma \epsilon \sigma \theta a \iota, \pi o \lambda \dot{v}-\theta \epsilon \sigma-\tau o s$ (much-implored),
 (godly), $\theta \epsilon i o s$ for ${ }^{*} \theta \epsilon \sigma \iota o s$ fr. st. $\theta \epsilon o-$, ${ }^{*} \theta \epsilon \sigma o-$, with regular loss of o bef. origl. suff. $y a$, and loss of $s$ (cf. $\dot{\alpha} \lambda \dot{\eta} \theta \epsilon \epsilon a$, i.e. ${ }^{*} \dot{a} \lambda \eta \theta \epsilon \sigma t a$ fr. st. ả $\lambda \eta \theta^{\prime} \dot{\epsilon} \sigma-$ ), Lat. fes in fes-tus; $\mu \in ́ \theta \eta$ (drunkenness) does not belong to Sk. $\sqrt{ }$ mad (be drunk), but to $\mu_{\epsilon}^{\prime} \theta v$ (n. intoxicating drink, wine), Sk. and origl. múdhu (honey-mead, intoxicating drink), etc. Only in pf. act. we see in later formations $\chi$ and $\phi$ bes. $\gamma$ and $\beta$ ( $\epsilon_{l}^{\prime \prime}-\lambda o \chi-a$ fr. $\lambda \epsilon ́ \gamma-\omega$, $\tau \epsilon^{\prime}-\theta \lambda \iota \phi-a$ fr. $\theta \lambda i \beta-\omega$, etc., v. post).

Original momentary sonant aspirated consonants. § 64.

1. Origl. $g h=$ Gk. $\chi$ (on $\chi y=\sigma \sigma$, cf. § 68), e.g. $\chi \chi^{\eta} \nu$ (goose), cf. Germ. gans, f.f. gansis, Sk. hãsá-s, i.e. *ghansas, Lith. $\dot{z} a ̨ s i s$, Scl. gasiz; $\sqrt{ } \chi v$ in $\chi^{\prime} F-\omega$ (pour), $\chi^{\dot{v}-\sigma \iota s ~(p o u r i n g), ~ G o t h . ~} \sqrt{ } g u-t$,
 (am grieved), ${ }^{\alpha} \chi$-o $\mu a \iota$ (id.) ${ }_{a} \chi$-os (pain, grief), ${ }^{a} \chi$ - - os (burthen), ${ }^{a} \chi \chi$ - $\theta$ oual (am burthened), origl. agh, Sk. áal, Lat. ang, Goth. aggv; $\sqrt{ } \sigma \tau \iota \chi$ in $\sigma \tau \epsilon i \chi-\omega$ (go), $\sigma \tau i \chi \chi$-os (rank), $\sigma \tau o \hat{\chi} \chi$-os (rank, file), Sk. and origl. $\sqrt{ }$ stigh, Goth. stig in steigan (step vb.), staiga (path, the Sclavo-Lith. do not regard aspirates); $\sqrt{ } \lambda \iota \chi$ in $\lambda \epsilon^{\prime} \chi-\omega$ (lick), Sk. lih, earlier rih, i.e. righ (lick), Goth. lig in bi-laig-ōn ( $\epsilon \pi \iota-\lambda \epsilon i ́ \chi-\epsilon \iota \nu) ; ~ \sqrt{ } \mu l \chi$ in $\dot{o}-\mu l \chi \chi^{-\epsilon} \omega$ (urino), $\dot{o}-\mu i ́ \chi-\lambda \eta$ (mist), Sk. mih, i.e. migh in mélh-ämi (urino), mēgh-ás (cloud), Germ. mig, e.g. Dutch mīge (urina); סo入ıरós (long), Sk. dīrghás, f.f. darghas, etc.
§64. In érزús (near)=Sk. âhús, i.e. *anghus (narrow), -the Goth. aggvus (narrow) corresponds to the aspirated fms., which we hold to be origl. in this case, since we assign ér $\gamma$-v́s to $\sqrt{ } \dot{a} \chi$, origl. agh, in ${ }^{\prime} \gamma \chi^{-} \omega, \ddot{a}^{\prime} \chi^{-o \mu a l}$, etc. (so G. Curtius).

Other isolated cases in which Gk. sonants, mostly after nasals, stand for origl. aspp., are treated by G. Curtius (Gr. Et. ${ }^{2}$ p. 460 sqq.).

Note.-In $\nu i \phi-a$ (acc. snow), $\nu \boldsymbol{\prime} \phi-\epsilon \tau o ́-s$ (snow-storm), $\nu^{\prime} \phi-\epsilon \iota$ (it snows), $\phi$ stands for $\chi$, cf. Lat. nix, niu-is, for *nig-s, *nigu-is, (v. post), ning-it; the root had an initial $s$ lost in Graeco-Italic, cf. Lith. snig-ti (to snow), snëg-as (snow), O.Bulg. sněg-ŭ (snow), Goth. snair-s (snow), Zend $\sqrt{ }$ çniž (çnaëz̈-enti, 3 pl . pres. 'it snows,' lit. 'they snow'), Sk. $\sqrt{ }$ snih (be damp), f.f. of root is therefore snigh.
2. Origl. $d h=\mathrm{Gk} . \theta$ (on $\theta y=\sigma \sigma$, cf. § 68), e.g. $\sqrt{ } \theta \epsilon$, origl. $d h a$ (set), pres. $\tau i-\theta \eta-\mu l$, Sk. and origl. $d \dot{a}-d h \bar{a}-m i$, Goth. $\sqrt{ } d a$, (do), H.G. ta, e.g. in 1 pres. tuo-m fr. ${ }^{*} t i-t \bar{o}-m i=d h a d h a ̄ m i ;$ $\mu^{\prime} \theta v$ (intoxicating drink), Sk. and origl. mádhu, O.H.G. mëtu (mead) ; $\sqrt{ } i \theta$ in $a_{i} \lambda \theta-\omega$ (kindle), Sk. and origl. $\sqrt{ } i d h ; ~ \epsilon ่-\rho v \theta-\rho o ́ s$ (red), $\sqrt{ } \dot{\rho} v \theta$, Sk. rudhirás, origl. rudhras, $\sqrt{ }$ rudh, Goth. $\sqrt{ }$ rud in raud-s, H.G. rut in rōt, Lat. rüf-us, etc.
Note.-In $\theta_{\epsilon \rho \mu o ́ s, ~ S k . ~ g h a r m a ́ s ~(h e a t), ~ L a t . ~ f o r m u s, ~ e f . ~ S c l . ~}^{\text {St }}$
 warm), $\theta$ ép-os (neut. summer), origl. and Sk. ghar, $\theta$ stands where we should expect $\chi$.
3. Origl. $b h=$ Gk. $\phi ; \sqrt{ } \phi a$ (shine) in $\phi a-i \nu \omega$ (show), $\phi a ́ \sigma-t s$ (a showing), $\sqrt{ } \phi a$ (speak) in $\phi \eta-\mu i, \phi a ́-\sigma \kappa \omega$ (say), $\phi a ́-\tau \iota \varsigma$ (speech, rumour), $\phi \omega-\nu \eta^{\prime}$ (voice), Sk. and origl. bha, Sk. bhá-mi (shine), bhā-s (give light, shine), bhā-š (speak), Lat. fa-ri; $\sqrt{ } \phi \epsilon \rho, 1$ sing. pr. $\phi \epsilon \rho \rho-\omega$ (bear), Lat. fer, fero, Sk. and origl. bhar, bhár-āni, Goth. bar, baira; $\sqrt{ } \phi v$ in $\phi \dot{v}-\omega$ (bring forth), $\phi u-\tau o ́ v$ (plant), Lat. $f u$ in $f u$-turus, $f u-i$, Sk. and origl. bhu, O.H.G. $p i$ in $p i-m$, weakened fr. ${ }^{*} p u$, ${ }^{*} p i-u m$; $\nu \in ́ \phi-o s$ (cloud), $\nu \in \phi \in \lambda \eta$ (a cloud), Sk. nábhas (a cloud), O.H.G. nëpal (cloud); $\dot{o}-\phi \rho$ ús $^{(e y e b r o w), ~ S k . ~ b h r u ̄ s, ~ O . H . G . ~ p r a ̄ u a, ~ e t c . ~}$

Note 1.-In $\sqrt{ } \lambda a \beta$ ( $\lambda a \mu \beta a ́ \nu \omega, ~ \not ̣-\lambda a \beta-o \nu$, take, seize) bes. § 64. $\lambda a ́ \phi-v \rho o \nu(b o o t y), \dot{a} \mu \phi \iota-\lambda a \phi-\eta{ }^{\prime} s$ (clasping), Sk. $\sqrt{ }$ labh (keep, get), $\beta$ is very prob. a representative of origl. $b l$, caused perh. by the nasalized pres. $\lambda a \mu \beta a ́ \nu \omega$, cf. supr. ধ́zरús fr. $\sqrt{ } a g h$; also $\beta \rho^{\prime} \mu-\omega$ (roar) has $\beta$ for origl. bh, cf. Lat. frem-o, Sk. bhrám-ämi (swarm, rove). On other isolated exx. cf. G. Curt. Gr. Et. ${ }^{2}$ p. 460 sqq., Grassmann, Kuhn's Zeitschr. xii. 91 sqq.).

Note 2.- $\sqrt{ }$ Fpar in $\dot{\rho} \eta \gamma-\nu \nu \mu \iota$ (break, tear), $\dot{\rho} \hat{\gamma} \gamma-\mu a$ (rent), $\delta a a \rho \rho \omega \bar{\xi}$ (broken through) for ${ }^{*} \delta \iota a-F \rho \omega \gamma$-s has $F$ for origl. $b h$ (as in case-sf. origl. bhi the $b h$ may even be entirely lost, v. sub. declens.), cf. Lat. $\sqrt{ }$ frag in frang-o, frag-men, frag-ilis, Goth. $\sqrt{ }$ brak in brik-an (break), pf. brak. The same change occurs
 in bha-ná- $\dot{y}-m i$ (I break), bhangi-s (breakage). It is uncertain whether the roots bhag and bhrag are akin.

Roots which origly. began and ended with an asp. also lose in Gk. their initial asp., whereby there thus arises a tenuis (cf. sup. § 64). Thus e.g. $\pi \hat{\eta} \chi^{\nu-\varsigma}$ (fore-arm) stands for ${ }^{*} \phi \eta \chi^{\nu-\varsigma, ~}$ cf. Norse $b o ̄ g-r, ~ O . H . G . b u o c$, like Sk. bāhú-s (arm) for ${ }^{*} b h a ̈ g h u-s$; $\pi v \theta-\mu \eta^{\prime} \nu$ (base) for ${ }^{*} \phi \nu \theta-\mu \eta \nu$, like Sk . budh-nás (floor) for *bhudh-na-s, ef. O.H.G. bod-am, Lat. fu-n-d-us; $\pi \epsilon \nu \theta-\epsilon \rho o ́ s$ (father-in-law), $\pi \epsilon \nu \theta-\epsilon \rho \dot{a}$ (mother-in-law), $\pi \epsilon \hat{\imath} \sigma-\mu a$ (bond, halser) for * $\pi \epsilon \nu \theta-\mu a$ fr. $\sqrt{ } \pi \epsilon \nu \theta$ for * $\phi \epsilon \nu \theta$ (bind), like Sk. bandh for *bhandh (in Sk. also 'relationship' derived fr. 'bonds,' e.g. bandh-u-s, a relation); so too the Goth. fm. band points to this (pres. $b i n d-a$, pf. band); $\sqrt{ } \pi v \theta$ for ${ }^{*} \phi v \theta$ in $\pi v \nu \theta$-ávo $\mu a l, \pi \epsilon v$ e-o $\mu a \iota$ (learn, ask), Sk. budh for ${ }^{*} b h u d h$ (be awake, know, be wise), Lith. $\sqrt{ }$ bud (bud-ëti be awake, bud-rú-s wakeful), O.Bulg. büd (bŭd-ěti be awake, bud-iti wake), Goth. bud (biud-an bid, though with a considerable change of meaning). A perfectly analogous phenomenon is seen in redupln.-laws (§68); cf. Grassm. Kuhn's Zeitschr. xii. 110 sqq.

Origl. spirants; $y, s, v$ (the changes of origl. $y, v$ have been treated at length by G. Curt. Gr. Et. ${ }^{2}$ pp. 491-611).
§65. 1. Origl. $y=\mathrm{Gk} . \iota, \epsilon, \zeta,{ }^{\imath}$, is lost (on $y$ in $\zeta$, $\sigma \sigma$, cf. § 68 , $1 \mathrm{~b}, \mathrm{~d}, \mathrm{e}$ ). From assimiln. of $y$ to other consonn. ( $\kappa \epsilon \rho \rho \omega$ for ${ }^{*} \kappa \epsilon \rho-y \omega$, $\dot{\lambda} \lambda{ }^{\prime} \sigma \sigma \omega \nu$ for ${ }^{*} \dot{\epsilon} \lambda a \chi y \omega \nu$, etc.), it follows that it was not lost till late in Gk. To the existence of $y$ in Gk. evidence is given by the operation of the consonantal beginning of Hom. ${ }^{\circ} \mathrm{s}$ (as)=origl. $y \bar{a} t$ (abl. of st. $y a-$ ), and that of $i \notin \tau о$, $i^{\prime \prime} \mu \in \nu о \varsigma$, etc., origl. $\sqrt{ } y a$ (go); even the writing of $F$ for $y$ in Fót८ and ThariaFo proves it, on which point we may follow G. Curt. Gr. Et. ${ }^{2}$ no. 606, p. 354.
a. Gk. $\iota=$ origl. $y$, e.g. in the common st.-formative sf. origl. $y a$, Gk. $\iota$, thus $\pi \alpha \dot{\alpha} \tau \rho-\iota o-s$ (fatherly), origl. patar-ya-s; $\tau \epsilon \lambda \epsilon \epsilon^{\prime} \omega$, thence $\tau \epsilon \lambda \epsilon \in \omega$ (finish), for ${ }^{*} \tau \epsilon \lambda \epsilon \sigma-y \omega$, pres. fm. in $y a$ fr. st. $\tau \in \lambda \epsilon \varsigma-$ ( $\tau \epsilon \in \lambda o s$, neut. end), etc., vid. § 26.

Here there occurs also a transposition of origl. $y$ after a liquid cons. to Gk. $\iota$ before the liquid, e.g. $\phi \theta \epsilon i \rho \omega$ (destroy) fr. ${ }^{*} \phi \theta_{\epsilon} \rho-y \omega$, etc., v. § $26,3$.
b. Gk. $\epsilon=$ origl. y, e.g. кєขєós (empty) for ${ }^{*} \kappa \epsilon \nu y o s$, as is shown by Aiol. кévdos fr. Sk. çūnya-s beside *кєขyo-s we may infer an origl. kvanya-s common to both; $\sigma \tau \epsilon \rho \epsilon$ ós $=\sigma \tau \epsilon \rho \rho_{\rho}{ }_{\rho}{ }^{\prime}$ s (hard, solid) fr. *$\sigma \tau \epsilon \rho-y o s ; ~ \theta u \rho \epsilon$ ós (door-stone, door-shaped shield) fr. * $\theta v \rho y o \varsigma$, with origl. sf. $y a$, fr. $\theta$ v́pa, door. v. § 26, 2.
c. Gk. $\zeta=$ origl. $y$, e.g. $\sqrt{ } \zeta v \gamma$ in $\zeta \in u ́ \gamma \nu v \mu \iota ~(b i n d), ~ \zeta v \gamma o ́ v ~(y o k e), ~$ Lat. iug-um, Sk. yugám, etc., Lat. Sk. origl. $\sqrt{ } y u g$ (iungere);
 (H.G. gären), f.f. of root is yas; $\zeta^{\prime} F a$ (spelt), Lith. yávas, pl. yavai (barley), Sk. st. yava- (grain).

Note.-A $d$ has been here developed bef. origl. $y$, for $\zeta=d z$ or $d y$, precisely as in other langg. we find a change fr. $y$ to $d y$, and further to $d z$, e.g. Lat. maiorem, middle-Lat. madiorem. It. maggiore, i.e. madžore; Prākrt ǵutta-, i.e. džutta-=yukta-. G. Curtius (Gr. Et. ${ }^{2}$ p. 550 sqq.) compares this $d y$ for $y$ with $g v$ for $v$, which appears not unfrequently in later periods of speech (e.g. It. guastare fr. Lat. uastare). Curt. also adds $\delta \iota$ $=o r i g l . ~ y$, in sf. $\delta \iota o-(e . g . \kappa \rho u \pi \tau a ́-\delta \iota o s$, secret) $=o r i g l . y a$, and $\delta \epsilon=* \delta y=o r i g l . y$ in sf: $\delta \epsilon \sigma-$ (e.g. á $\delta \epsilon \lambda \phi i-\delta \epsilon \sigma-\varsigma$, nephew), and
further $\delta=$ origl. $y$ by entire loss of $y$ after the $\delta$ wh. it pro- $\S 65$. duced, through intermed. step. *$\delta y$. This case is indisputable in Boiôt. $\delta \nu \gamma o ́-\nu$ (yoke) $={ }^{*} \delta y \nu \gamma o-\nu=\zeta \nu \gamma o ́-\nu=$ origl. $y u g a-m$ (yoke); further G. Curt. assumes it in $\delta \eta^{\prime}$ (iam) for ${ }^{*} d y \bar{a},{ }^{*} y \bar{a}$, perh. an instr. pron. st. origl. ya, cf. Lat. iam, Lith. yaú, Goth. H.G. $j u$, and others fr. same st.; it then becomes evident that the $\delta$ of apparent sf. - $\iota \delta$ - is nothing but iy for $i$, e.g. $\mu \eta$ - $\nu l$-os and $\mu \eta$ - $\nu \ell \delta$-os fr. $\mu \hat{\eta}$ - $\nu l$-s (wrath; $\sqrt{ } m a$, think, also be wroth, sf. ni) $\theta \epsilon ́-\tau t-o s$ and $\theta \in ́ \epsilon \tau t \delta-o s$ (each case formed by sf. ti), also $\phi \rho o \nu-\tau i \delta-o s$, $\epsilon \rho \rho \delta-o \varsigma$ bes. $\epsilon \rho \iota-\nu$, etc. ; everywhere therefore we must presuppose in these cases a Gk. f.f. such as ${ }^{*} \mu \eta-\nu \nu y-o s,{ }^{*} \theta \epsilon-\tau \tau y$-os. Also the sf. $a \delta$ and others with $\delta$ are due to origl. $y$ acc. to Curtius. Though we cannot treat in detail of the deductions of $G$. Curtius, we may remark in general on his opinion, that whilst $y$ is remarkably common in st.-formation of Indo-Eur., $d$ is a rare element, so that we see scarcely any other possibility of bringing the above-named Gk. fms. into harmony with those of the kindred langg. The assumption of so many termns. in special cases of later Gk. forms is, however, not perfectly certain; nevertheless that $y=\delta$ in $\delta u y o ́ v$ is beyond doubt. Further the dental certainly corresponds to origl. $y$ in $\chi \theta^{\prime}{ }_{s}={ }^{*} \chi \delta^{\prime}$ s, ${ }^{*} \chi \delta y \epsilon \varsigma,{ }^{*} \chi y \epsilon \varsigma=S k$. hyas (yesterday), f.f. ghyas, cf. Lat. her-i, hes-ternus, Goth. gis-tra-dagis. What we admit in these cases is possible in others too.
d. Gk. ${ }^{e}=$ origl. $y$, e.g. $\mathfrak{\eta} \pi a \rho$ (liver), cf. Lat. iecur, Sk. yákrt; ärıos (holy), Sk. yaǵyas (to honour, worship), origl. ل yag; $\check{\omega} \rho a$ (season), cf. O.Bulg. järe (n. year), Goth. yēr, O.H.G. jār; $\dot{v} \sigma-\mu i \nu-$ (retained only in loc. sg. $\dot{v} \sigma-\mu \hat{\nu} \nu-\imath$ ), $\dot{v} \sigma-\mu i \nu \eta$ (combat), $\sqrt{ } \dot{v}$ bef. $\mu$ for $\dot{v} \theta=\mathrm{Sk} . y u d h$ (fight), e.g. in yudh-ma-s (fight, fighter), yudh-mãna-m (fight), which agrees with the Gk. in the sf. also ; $i \mu \epsilon-i \bar{s}$ (you), cf. Sk. yušmád (abl. ; it here depends of course from the stem only), Lith. jūs (you), etc.
e. In Gk. $y$ is entirely lost (cf. § 27), e.g. initial $y$ in Aiol.
 $=$ origl. $y a-$. In the middle of words this loss is more frequent; after consonn., e.g. in termn. of fut. $-\sigma \omega$ for ${ }^{*} \sigma y \omega$, cf. Dôr. fm. $-\sigma i \omega=$ Sk. and origl. -syā-mi; betw. vowels the loss of $y$ is commonest of all, as in the termns. of derivative vbs. - $\epsilon$ e $\omega$, $-a^{\prime} \omega$, -ó $\omega$, which alike represent the origl. and Sk. -ayämi, e.g. фopé $\omega$
§65. (bear) $=$ Sk. and origl. bhär-áyāmi; in cases like $\tau \epsilon \lambda \epsilon ́ \omega$ fr. $\tau \epsilon \lambda \epsilon \dot{\epsilon} \omega$, for ${ }^{*} \tau \epsilon \lambda \epsilon \sigma-y \omega$, with origl. sf. $y a \operatorname{fr}$. st. $\tau \epsilon \lambda \epsilon \varsigma-$ ( $\tau \in \lambda^{\prime}$ os neut. end), in $-v \omega$ for ${ }^{*}-v y \omega$ ( $\phi v^{\prime} \omega$ earlier $\phi \nu^{\prime} \omega$, f.f. bhuyāmi, etc.); in gen. sg. masc. and neut. of $o$-st., origl. $a$-st., e.g. $i^{\prime \prime} \pi \pi o v$ fr. $i^{\prime} \pi \pi o o$, and this certainly fr. ín $\pi \pi o t o$, which stands for ${ }^{*} i \pi \pi o \sigma y o$, origl. akvasya; $\pi \lambda \epsilon$ éo (more) bes. $\pi \lambda \epsilon \hat{i} o v$, f.f. pra-yans, comp. fr. $\sqrt{ }$ par, pra in $\pi o \lambda-v^{\prime}$ (many), f.f. par-u-. Thus in most cases, before $y$ entirely disappearèd, it became $i$.

Note.-The assimiln. of $y$ to other consonn., e.g. $\lambda \lambda=\lambda y$ and the like, and its combination with gutt. and dentt. as $\zeta$, $\sigma \sigma$, is treated of under 'sound-laws,' $\S 68$.
2. Origl. $s=$ Gk. $\sigma,{ }^{\circ}$, is lost.
a. Gk. $\sigma=$ origl. $s$ in termn. and bef. mutes, more rarely bef. vowels, e.g. $\sqrt{\mathrm{k}} \mathrm{e}$, origl. as (esse), $\bar{\epsilon} \sigma-\tau i ́$, Sk. and origl. ás-ti (he is); st. $\mu \epsilon \nu \epsilon s-n . \mu \epsilon ́ \nu o s$ (might, strength), origl. and Sk. mánas; sf. of nom. sg. masc. fem. -s, e.g. $\pi o ́ \sigma t-$ s, oै $\psi=F^{\prime} \pi-\varsigma$, Sk. and origl. páti-s, origl. $x a \bar{a} k-s$; sf. gen. sg. -os, origl. -as, e.g. Foot-ós, origl. $v \bar{a} k$-as, Sk. $v \vec{a} k$-ás, etc.; $\sqrt{ } \sigma \tau o \rho$, Sk. and origl. star, e.g. in 1 sg. pres. $\sigma \tau o \rho-\epsilon \in \nu \nu v \mu l, \sigma \pi o ́ \rho-\nu \nu \mu \iota$ (spread), Sk. str-nômi, origl. star-naumi, etc.; $\sqrt{ } \sigma \tau a$, í' $\sigma \tau \eta \mu \iota$ (set), origl. sta-stā-mi, Lat. and origl. sta; $\sigma \hat{v} s$ bes. $\hat{v} s$ (swine), Lat. süs, O.H.G. su$; ~ \sigma \epsilon \in-o \mu a \iota$ (be in awe of), $\sigma \epsilon \mu-\nu o s$ (awful) for ${ }^{*} \sigma \epsilon \beta-\nu o s$, $\sigma o \phi$-ós (wise), and others show likewise init. $s$ bef. vowel; $\sigma \iota$ yá $\omega$ (am silent) bes. O.H.G. swīgēn has exceptionally $\sigma$ for older $s v$, which regularly should become ${ }^{c}$; it is also found in $\sigma \epsilon \lambda-\eta \eta^{\prime} \eta$ (moon), fr. origl. $\sqrt{ }$ svar (shine), and perh. in some other instt., cf. $\sigma \in \bar{\lambda} \lambda-a s$ (sheen), $\dot{\epsilon} \lambda-a ́ \mu \eta$ (torch), with usual sound-change, fr. same root (cf. G. Curt. Gk. Et. ${ }^{2}$ p. 625). This $\sigma$ bes. ${ }^{e}$, we must prob. consider to be an archaïsm, which has been partially retained.
b. Gk. ${ }^{e}=$ origl. $s$, when it is initial before a vowel or origl.
 *é $\delta-y o \mu a \iota$, Lat. sed, origl. and Sk. sad (sit); é érá (seven), Lat.


Lat. sequ-or, Sk. $\sqrt{ }$ sak', origl. sak; $v$ vimvos (sleep), origl. and Sk. § 65.
 ov, oi, $\notin$ (sui, sibi, se), ơs (suos), origl. and Sk. sva-; éкupós (father-in-law), f.f. svakuras, Sk. çváçuras for sváçuras, Lat. socer, Goth. svaihra, etc.

Note.-It is not probable that the " (which regularly represents $s$ ) in words which origly. began with $s v$ compensates for the $v$, and that $s$ afterwards entirely disappeared from before it. If the earlier lang. shows $F$ even then, we may prob. assume that the sign of the asp. was not written bef. F, and that we must theref. read $F^{\prime}$ and the like as lwe; the long duration of $s$ in Gk. seems proved by parallel fms. in diall., such as $\sigma \phi$ ós. $^{\circ}$.

Not uncommonly we find medial ${ }^{\text {e }}$ after vowel transferred to initial ${ }^{\text {e }}$ bef. vowel ; e.g. íє ós (strong, holy) fr. ${ }^{*} i \notin \rho o \varsigma,{ }^{* i} \sigma \epsilon \rho o-s$
 $\sqrt{\ell} \pi$ (follow) for ${ }^{*} \sigma \epsilon \pi$, origl. sak; єí $\sigma \tau \hat{\eta} \kappa \epsilon \nu$ fr. ${ }^{*} \mathrm{e}-\dot{\epsilon} \sigma \tau \eta \kappa \epsilon \iota \nu$, ${ }^{*} \epsilon$ ѐ $\sigma \epsilon \sigma \tau \eta \kappa \epsilon \iota \nu, \sqrt{ } \sigma \tau a$ (stand), redupld. sa-sta, ${ }^{*} \sigma \epsilon-\sigma \tau a$; $\epsilon \bar{v} \omega$ bes. $\epsilon \dot{\cup} \omega$ (kindle), $\sqrt{ } \dot{v} \varsigma$, origl. us, Sk. uš (burn), f.f. ausāmi, in Gk.
 Aiol. av́ws for ${ }^{*} a \dot{v} \sigma \omega s$ ( $\eta \dot{\prime} \omega$ by compens. lengthening for ${ }^{*} \dot{a} F \sigma \omega s$ ), f.f. of st. is aus-as-, cf. Sk. uš-ás- (f. dawn), fr. same $\sqrt{ } u s$, Lat. aurōra for *aus-ōs- $a$, likewise, as in Gk., with stepformn. of root; ${ }^{\eta} \mu \mu a \iota$ (sit) for ${ }^{*} \eta \sigma-\mu a l$, cf. Sk. $\bar{a} s s e \bar{e}$ for ${ }^{*} a \bar{s}-m a i$, here in Gk. the init. ' became fixed by analogy throughout, and is added also in $\hat{\eta} \sigma-\tau a \iota$ for ${ }^{*} \eta \boldsymbol{\eta} \sigma-\tau a \iota=S k$. $\bar{a} s-t \bar{e} ; \dot{\eta} \mu \epsilon \hat{i} \varsigma$ (we), cf. Sk. as-má-t, $\dot{\eta} \mu \epsilon i \hat{\imath}$ thus stands by compens. lengthening for ${ }^{*} \dot{a} \sigma-\mu \epsilon \iota \varsigma$, whence the parall. fm. ${ }^{\prime} \mu \mu \mu \varsigma={ }^{*} \dot{a} \sigma \mu \epsilon \varsigma$, in which the $\sigma$ has become assimilated to the $\mu$; in $\dot{\eta} \mu \epsilon \hat{\epsilon} \hat{\rho}$ therefore the real $s$ is doubly represented.

Note.-At first sight eés bes. $\sigma \phi{ }^{\prime}{ }^{\prime}$ and ös seems clearly fr. a Gk. f.f. * $\sigma$ Fos, viz. éós for *eós (ehos) fr. *é Fos (ehvos), and this fr. ${ }^{*} \dot{\epsilon} \sigma$ Fos, ${ }^{*} \dot{\epsilon}-\sigma$ Fos for ${ }^{*} \sigma$ Fos, with the favourite vowelprefix, which does not occur in $\sigma \phi^{\prime}$ 's and ós; but when we recollect the Lat. suus, earlier souos, i.e. *seuos (§ 33, 2), we are
§65. led back to a special Gr.-Ital. f.f. *sccos (cf. Lith. sáro fr. an unused *sava-s suus), which necessarily becomes in Lat. souos, suus, in Gk. $\dot{\epsilon} F o s$; then too we must understand $\tau \epsilon \rho_{s}={ }^{*} \tau \epsilon F o s$ $=t u u s$, i.e. ${ }^{*}$ toros, ${ }^{*}$ tecos, Lith. tàva-s (tuus). Cf. $\S 26 \mathrm{n}$.

Sometimes ${ }^{\text {e }}$ appears as a later addition; it seems that the sensibility of the lang. to the distinction betw. ' ( $k$ ) and ' (Semit. 'elif') began to decay rather early (cf. c.), thus - e.g. in í ímтos (horse) fr. ${ }^{*}{ }^{\prime} \kappa$ Fos, cf. the extant fm. iкккоऽ, Lat. equos, Sk. ácras, f.f. akeas; that ${ }^{\text {c occurs }}$ here only in later times is proved by forms like $\Lambda \epsilon \dot{\prime} \kappa \iota \pi \pi о \varsigma, ~ " A \lambda \kappa \iota \pi \pi o \varsigma$, which otherwise would have been pronounced ${ }^{*} \Lambda \epsilon \tau \chi \iota \pi \pi o s,{ }^{*} A \lambda \chi \iota \pi \pi \sigma \rho ; ~ \tilde{v} \sigma \tau \epsilon \rho o s$ (later) $=$ Sk. út-taras; $\dot{v}$ is so frequently an initial sound, for origl. $s u, s v a$, that the more uncommon beginnings which would properly be $\dot{v}$, followed the analogy of $\dot{v}$; here belongs prob. $\hat{v} \delta \omega \rho$ (water), cf. Boiôt. oư $\delta \omega \rho$, Lat. unda, Sk. ud-am, udd-alám (water), Goth. vatō, Lith. vandư (with earlier vad=ud); $v \phi-\eta$, $\tilde{v} \phi$-os (web), $\dot{v} \phi$-aiv $\omega$ (weave), cf. Germ. $\sqrt{ }$ wab (weave), Sk. $\bar{u} r$ ṇa-táblb-i-s ( m . spider, lit. woolweaver), $\sqrt{ }$ rabh, fr. which therefore may arise regularly a $\mathrm{fm} . u b h, \mathrm{Gk} . \dot{v} \phi$; for ${ }^{*} \dot{v} \delta,{ }^{*} \dot{v} \phi$, in these words, we must presuppose an origl. vad, vabh, for which through loss of $a$ arose $u d, u b h$.
c. In Gk. origl. $s$, or rather ${ }^{e}$, which arose fr. origl. $s$, is entirely lost (cf. $\S 28$ ). This occurs regularly in middle of words betw. vowels, and more rarely in initio bef. vowels, whilst it is regular
 f.f. and Sk. mánasas; $\phi \in ́ \rho \eta$ fr. ${ }^{*} \phi \epsilon \rho \epsilon \sigma a l$, origl. bharasai; $\mu \hat{\nu} s$ (mouse), gen. $\mu$ vós $=$ Lat. mus, muris, both fr. ${ }^{*}$ musas; Fiós (poison) for ${ }^{*}$ Fıoos =Lat. uirus, Sk. viša-s and ciša-m; etc. Yet we also find $s$ kept betw. vowels, e.g. סíסo- $\sigma a \iota, ~ \tau i \theta \epsilon-\sigma a \iota$, i' $\sigma \tau a-\sigma a \iota$.

In initio bef. vowels ' has fallen out in $\dot{\alpha}$ - (for and bes. $\dot{a}$-), $\dot{o}=$ origl. and Sk. sa- (with), e.g. in $\dot{a}-\delta \epsilon \lambda \phi \epsilon \epsilon^{\prime} \sigma^{\prime}, \dot{a}-\delta \epsilon \lambda \phi o^{\prime}$ (brother, lit. couterinus, cf. $\delta \in \lambda \phi u{ }^{\prime} s$ uterus) ; $\ddot{a}-\lambda o \chi o s$ (spouse, consors tori, cf. $\lambda$ é $\chi o s$, bed) ; ò-тat $\rho o s$ (having the same father, cf. $\pi a \tau \eta \dot{\rho}$ ), etc., bes. ä- $\pi$ as (all); ¢̇т $\tau o ́ s ~(t r u e, ~ c o r r e c t)=S k . ~ s a t y a ̈-s ; ~ \sqrt{\epsilon} \chi$
(in é $\chi$ - $\omega$ hold, have)=Sk. sah (sáh-atē, he holds, carries; this $\S 65$. $\sqrt{\epsilon} \chi=s a g h$ is confused in Gk. with $\sqrt{ } v a g h$, uehere) ; idio (sweat), Sk. and f.f. svidyämi, bes. í- $\rho \omega$ s (sweat); $\hat{\eta} \delta$-os (pleasure, delight) bes. $\dot{\eta} \delta$-v́s (sweet) $=\mathrm{Sk}$. and origl. sväd-ús, $\sqrt{ }$ svad; ô̂ $\lambda o-s$ (Old-Ep. and Iôn.) bes. ö $\lambda o s$ (whole), Gk. f.f. solvo-s=Lat. saluo-s, sollo-s=Sk. sárva-s; $\begin{gathered}\text { č- } \sigma \tau a \lambda-\kappa a, ~ p f . ~ f r . ~ p r e s . ~\end{gathered}$ $\sigma \tau \epsilon \bar{\lambda}-\lambda \omega$ (place, send) for ${ }^{*} \dot{\epsilon}-\sigma \tau a \lambda-\kappa a,{ }^{*} \sigma \epsilon-\sigma \tau a \lambda-\kappa a$; ${ }^{\epsilon}-\sigma \pi a \rho-\mu a \iota$, pf. pass. fr. $\sigma \pi \epsilon i \rho \omega$ (sow) $={ }^{*} \sigma \pi \epsilon \rho-y \omega$, similarly for ${ }^{*} \hat{\epsilon}-\sigma \pi$, ${ }^{*} \sigma \epsilon-\sigma \pi$. We see that the dropping of the $h$-sound, which has taken place throughout in mod. Gk., began even very early (G. Curt. Gr. Et. ${ }^{2}$ p. 612 sqq.). The feeling of the lang. for $h$ was weakened even in early Gk. (cf. supr. 2, b.).

Note.-The st. ò $\nu \tau$ - in $\stackrel{\omega}{\omega} \nu={ }^{*} \dot{\partial} \nu \tau-\varsigma, ~ o \hat{\sigma} \sigma a={ }^{*} \dot{\partial} \nu \tau y a$, ô $\nu={ }^{*} \dot{\partial} \nu \tau=$ origl. as-ant-, pres. part. act. of origl. $\sqrt{ }$ as (esse), only apparently belongs here. The earlier fms. of this part. $\epsilon^{\prime} \omega v$, etc.,
 fr. which fm. the $s$ regularly dropped out, ${ }^{*} \dot{\epsilon} \sigma-o v \tau-$ thus became $\epsilon \epsilon^{\prime} \nu \tau \tau$-, later the $\epsilon$ fell off, and thus arose ojvt-
$s$ falls away bef. $\nu$ in $\nu$ vós (bride, daughter-in-law), Lat. nurus, but O.H.G. snur, snura, Sk. snušāa, O.Bulg. snücha, accordingly we must assume also a Gk. f.f. ${ }^{*} \sigma \nu v \sigma o-s ; ~ \sqrt{ } \nu v$ in $\nu \dot{\epsilon} F-\omega$ (swim), impf. however in Hom. ${ }^{\epsilon} \nu \nu \epsilon o \nu$ fr. ${ }^{*} \mathrm{e}-\sigma \nu \epsilon \mathcal{F}-o \nu$, Sk. and origl. $\sqrt{ }$ snu (flow, drip).
$s$ is lost bef. $\rho$ in $\sqrt{ } \dot{\rho} v$ (flow), $\dot{\rho} \epsilon \in \omega$, $\dot{\rho} v \tau_{o ́ s=S k . ~ a n d ~ o r i g l . ~}^{s r u}$, Germ. stru, with inserted $t$, in ström, Lith. sru and stru, Scl. stru in 0 -strov-й ( $\pi \epsilon \rho i \not \rho \rho \rho u t o s$, i.e. isle). Also here $s$ is preserved


Also in $\sqrt{ } \mu \epsilon \rho$ in $\mu \epsilon ́ \rho-\mu \epsilon \rho-o s$ (careful), $\mu \epsilon ́ \rho-\iota \mu \nu a$ (care), $\mu a ́ \rho-\tau \nu s$ (witness), as in Lat. me-mor and Germ. māri (felt), the $s$ is lost which is preserved in Sk. smar, pres. smárāmi (I remember, recall). The same loss perh. occurs elsewhere, though $\sigma \mu$ was not disliked as an initial sound.

Before other sounds the loss of $s$ is rarer, yet cf. $\tau a \hat{v} \rho o-s$ (bull), Lat. tauru-s, O.Bulg. turŭ, with Sk. sthūrá-s (bull), Zend
§65. çtaora- (larger cattle, draught-oxen), Goth. stiur (bull, calf); sts. the interchange betw. $\sigma \tau$ and $\tau$ is prob. merely a dialectical one, e.g. $\tau^{\prime} \gamma-o s$ bes. $\sigma \tau^{\prime} \gamma-o s$ (roof), $\sigma \tau^{\prime} \gamma-\omega$ (cover), Lith. stóg-as (roof), stëg-ti (to cover), Sk. $\sqrt{ }$ sthag, origl. stag (cf. Lat. teg-o, Germ. decken, $\sqrt{ } d a k$, without initial $s$ ). For further exx. of this phenomenon, which is hard to decide upon, vid. G. Curt. Gr. Et. ${ }^{2}$ p. 621 sqq.

The assimiln. of $s$ to other consonn. is treated, $\S 68$; the loss of $s$ with compens. lengthening, $\S 28$.
3. Origl. $v=$ Gk. $v, F$, which was lost in the later langg.; origl. $v$ is expressed by ${ }^{\text {e }}$.
a. Gk. $v=$ origl. $v$, e.g. $\delta v ́ \omega, \delta u ́ o$, which bes. $\delta \omega \dot{\delta \epsilon \kappa a}$ proves an early Gk. st. $\delta F_{o-=S k . ~}^{\text {O }} d v a-$; the same holds good in $\kappa v \omega \nu(\mathrm{dog})$, bes. Lat. canis for ${ }^{*} q u a n i-s$, Sk. çuā (nom. sing. for ${ }^{*}$ çran-s, st. çan-, çun-), and in some other cases. It is very hard to decide whether $v$ or $u$ was the origl. here; perh. $u v$ (Engl. $w$ ) is the earliest.

On the Aiolic vocalisation of $v$ between vowels ( $\chi \chi^{\prime} \dot{v} \omega=\chi^{\epsilon} F \omega$, etc.), so too on the transposition of $v$ near liquid consonants, as e.g. youvós $=$ Aiolic yóvDos from ${ }^{*}$ yovFos, st. yovv- (knee), with -os of the gen. sg., before which $v$, that is $u$, passes over
 explained also $\delta o \rho o ́ s, ~ \delta o ́ \rho a t o s, ~ b y ~ l o s s ~ o f ~ v, ~ c f . ~ n o m . ~ \delta o ́ p v ~(s p e a r), ~$ v. supra $\S 26 \mathrm{~b}, 1,3$.
b. Gk. $F,{ }^{l}$ which was lost in the later stage, =origl. $v$ (cf. § 27), e.g. Foîvos (wine), cf. Lat. uīnum, O.Lat. ueinom, f.f. of st. vaina- (or, acc. to Gk., vāina-) ; Foîkos (house), Lat. uïcus, i.e. O.Lat. ueieos, Sk. véça-s, origl. vaika-s; Fépyov (work), $\sqrt{ } \epsilon_{f} \rho \gamma=$ Sk. $v r g ́, \bar{u} r g ́, G e r m . v a r k$ (work, to work), origl. varg; $\sqrt{ } F_{\iota} \delta$ (see, know), origl. Sk. vid, Lat. uid, Germ. vit, e.g. in Fí $-\mu \epsilon \nu=$ Sk. and origl. vid-mási, Foî $\delta a=$ Sk. vé̀ $d a$, Goth. vait,

[^1]f.f. vicäida; $\sqrt{ } F \in \pi$, speak $=$ Lat. uoc for *uec, Sk. vak', origl. $v a k$, $\S 65$. e.g. in $F^{\prime} \pi$-os (word) $=$ Sk. vák'-as (speech) ; òFıs (sheep) $=$ Lat. ouis, Lith. and origl. avis; $\dot{\omega}^{\circ} \nu$ for $^{*} \dot{\omega} F \iota o v$, f.f. āvya-m, fr. origl. avi-s, Lat. aui-s (bird); véFos (new)=Lat. nouus for *neuos, Sk. and f.f. náva-s ; $\pi \lambda \epsilon \in \mathcal{F}-\omega$ (sail), $\sqrt{ } \pi \lambda v=$ Lat. ${ }^{*}$ plou-o for ${ }^{*} p l e u-0$ (pluo), Sk. and origl. pláv- $\bar{a} m i ; ~ \grave{\rho} \epsilon ́ F-\omega$ (flow), $\sqrt{ } \dot{\rho} v$, origl. and Sk. sráv-āmi, $\sqrt{ } s r u$, cf. $\dot{\rho} \in \hat{v}-\mu a$ (stream); sf. $-F \epsilon \nu \tau-=$ Sk. and origl. -vant- (e.g. in $\sigma \tau o \nu o ́-F \epsilon \sigma \sigma a \nu=-F \epsilon \tau-y a \nu$, with loss of nasal) ; $\nu a \hat{v}$ s (ship), gen. $\nu \bar{a} F o ́ s=$ Sk. and origl. $n \bar{a} u s$, gen. $n \bar{a} v$-ás; after consonn. e.g. in $\delta \dot{\omega} \delta \epsilon \kappa a$ (twelve), $\delta \delta^{\prime}$ (twice), for ${ }^{*} \delta F \omega-\delta \epsilon \kappa a$ * $\delta F l-\varsigma$, st. $\delta F o-, \delta F_{l-,}$ origl. dva- (cf. $\left.\delta v v_{o}\right) ; ~ \delta o \rho o ́ s, ~ \gamma o ́ v a \tau o s, ~ f r . ~$


Note.-Thus vy can disappear in medio betw. vowels; this occurs in sf. tav-ya, formed by $y a$ and step.-formn. of stem termn. of abstracts in $t u$, sounded in Gk. as téo, e.g. סoтéos (dandus) $=$ Sk. dātáryas ; $\theta \epsilon \tau \in ́ o s$ (ponendus) $=$ Sk. dläatáryas.
c. Gk. ${ }^{e}=o r i g l . v$ in $\tilde{\epsilon} \sigma \pi \epsilon \rho o \varsigma, ~ \hat{\epsilon} \sigma \pi \epsilon ́ \rho a ~(e v e n i n g), ~ c f . ~ L a t . ~ u e s p e r, ~$ uespera; $i \sigma-\tau \omega \rho$ bes. $i \sigma-\tau \omega \rho$, a fm. which we expect according to $F i \delta-\mu \epsilon \nu$, st. $F i \delta-\tau o \rho-$ (knowing, witness), thence $i \sigma \tau o \rho-i a$ (questioning, history), $\sqrt{ } F \iota \delta ; \notin \not \subset \nu v \mu \iota$ (clothe), $\epsilon i \mu a$ (garment), Aiol. $F^{\prime} \mu \mu a={ }^{*} F^{\prime} \sigma-\nu v \mu \iota,{ }^{*} F \epsilon \sigma-\mu a, \sqrt{ } F_{\epsilon}$, cf. Lat. ues-tive, Sk. and f.f. of $\sqrt{ }$ vas : ${ }^{\circ}$ may, however, here have arisen also fr. $s$, and then been transposed: cf. supr. 2 b .

Note.-In isolated exx. $\beta=$ origl. $v$, $\beta$ oúдoual (I will), which we hold stands for ${ }^{*} \beta o \lambda \nu o \mu a \iota$ (cf. Sk. vrnée, f.f. var-na-mai); to which Aiol. $\beta o$ ó $\lambda \lambda o \mu a \iota$ and $\beta o ́ \lambda \lambda a=\beta o u \lambda \eta^{\prime}$ (will, council) seem to bear evidence; ov would thus arise fr. o by compensatory lengthening, in place of the lost $\nu ; \sqrt{ } \beta o \lambda$ for $* F o \lambda$ corresponds to the Lat. uel, uol (in uel-le, uol-t), Sk. and origl. var (choose, will); ${ }^{\circ} \rho \rho o \beta o-s$ (vetch) bes. Lat. eruo-m, O.H.G. araweiz, cf. H.G. erb/se. For other exx. of this correspondence of sound v. G. Curt. Gr. Et. ${ }^{2}$ p. 514 sqq . Dialectically $\beta$ for origl. $v$ occurs more often, e.g. Lakôn. $\beta \epsilon \epsilon \rho \gamma o \nu, \beta i \delta \epsilon i ̂ \nu$, for $F \epsilon ́ p \gamma o \nu$ (work), Fi $\delta \epsilon i ̄ \nu$ (see), origl. $\sqrt{ }$ varg, $\sqrt{ }$ vid ; Lesb. Aiol. $\beta$ pí̧a (root), $\beta$ pó̊ov (rose), for Fpi乡a, Fpódov, etc. Yet it is not unlikely that here (except in comb.
$\S 65 . \beta \rho=F \rho) \beta$ is practically only a character representing the $r$ sound instead of $F$.

Quite beside the ordinary rule we find $\sigma \phi=$ earlier $s v$ in pron. st. $\sigma \phi \epsilon-$, $\sigma \phi o-\left(\sigma \phi \epsilon \hat{\imath} \varsigma\right.$, you, $\sigma \phi \in ́-\tau \epsilon \rho o \varsigma, \sigma \phi \delta^{\prime}-\varsigma$, your) $=S k .$. and origl. sca-; in $\sigma \phi \dot{\phi}$ (you two) for ${ }^{*} \sigma F \omega,{ }^{*} \tau F \omega$, fr. $\sigma \dot{v}$, Dôr. $\tau v$, origl. tu (thou); here $\sigma \phi$ arises, prob. early, for $s p$, in consequence of the aspirating force of $s$ (v. sub. § 68); so, too,
 Goth. scamms, st. scamma- (Lat. fungus is perh. borrowed fr. Gk.) ; $s p$ here occurs exceptionally for $s v$, as takes place sometimes in Zend ; in Hom. $\phi \eta^{\prime}$ (as) for ${ }^{*} \sigma \phi \eta$, cf. Goth. $s c \bar{e}$ (as), the initial $s$ has been lost (G. Curt. p. 387).

Origl. $v$ is said to $\mathrm{be}=\mu$ in $\dot{\alpha} \mu \nu{ }^{\prime}{ }^{\prime}$ (lamb) for ${ }^{*} \dot{a} F t-\nu 0-\varsigma$, fr. origl. avi-s, Gk. ö $F_{\text {c-s (sheep), and in other single instt. more or }}$ less doubtful (G. Curt. p. 521).

Still more doubtful is the change from $v$ to $\gamma$ (G. Curt., p. 527 sqq.).

On the assimiln. of $v$ to other consonn. e.g. $\tau \epsilon \in \sigma \sigma a \rho \epsilon=$ ${ }^{*} \tau \epsilon \sigma F a \rho \epsilon \varsigma,{ }^{*} \tau \epsilon \tau F a \rho \epsilon \varsigma$, v. 'sound-laws.'
§66. Nasals.

1. Origl. $n=$ Gk. $\nu$ (cf. sound-laws for medial and final loss of origl. $n$ in Gk.) ; e.g. $\nu$ ćFos (new) $=$ Sk. and origl. náras ; $\nu a \hat{v} s(s h i p)=S k . n \bar{a} u s$, Lat. nauis ; $\dot{a}-\nu \hat{\eta} \rho(\mathrm{man})$, st. $\nu \epsilon \rho-=$ Sk. and origl. nar- ; èv $\nu^{\prime} F a$ (nine), Lat. nouem, Sk. and f.f. návan-; $\sqrt{ } \nu \epsilon \kappa$ in $\nu \in \epsilon \kappa-\nu \varsigma, \nu \in \kappa$ - $\rho o ́ s$ (corpse)=Lat. nec in nec-are, Sk. naş, origl. $n a k$; neg. $\dot{a} \nu=$ origl. and Sk. an-; $\sqrt{a} \nu$, origl. and Sk. an (blow) in ảv- $\epsilon \mu \circ$ (wind) $=$ Lat. an-imus, cf. Sk. an-ilás (wind); $\sqrt{ } \gamma \epsilon \nu$ in $\gamma^{\prime} \varphi$-os (race), $\gamma^{\prime}-\gamma(\epsilon) \nu-о \mu a \iota$ (become)=Lat. gen, origl. gan; $\sqrt{ } \mu \epsilon \nu$, origl. and Sk. man (think) in $\mu \epsilon \in \nu-o s$ (mind, might $)=$ Sk. mán-as ; 3 pl . vb. $-\nu \tau \iota(-\nu \sigma \iota)=$ Sk. and origl. $-n t i$, e.g. ф'́ $\rho o v \tau \iota, \phi \in ́ \rho o v \sigma \iota=$ Sk. and origl. bháranti, etc.

Before gutturals in Gk . the nasal becomes guttural, origl. $n k, n g, n g h=$ Gk. $\gamma \kappa, \gamma \gamma, \gamma \chi$; bef. labials it is labial. Accordingly the radical nasal, origl. $n$, which occurs after the root in the case of certain present-forms, remains, as in $\tau \epsilon \mu-\nu \omega$ (I cut; cf. aor. $\frac{\epsilon}{-}-\tau a \mu-o \nu$ ), is $\nu$ bef. dentt., e.g. $\lambda a \nu \theta-\alpha ́ \nu \omega$ (escape notice), cf. $\epsilon$ è $\lambda a \theta-o \nu$; it becomes $\mu$ bef. labb., e.g. $\lambda a \mu \beta-\alpha ́ \nu \omega$ (take), cf.

єै- $\lambda a \beta-o \nu ; \gamma$ bef. gutt., e.g. $\lambda a \gamma \chi$-áv $\omega$ (get by lot), cf. $\begin{gathered}\text { é- } \lambda a \chi-o \nu . ~ § 66 . ~\end{gathered}$ The same interchange is seen besides naturally in compds. where $\sigma v v^{-}$is changed to $\sigma v \mu-, \sigma v \gamma$, according to the quality of the following conson.
 Lith. $\sqrt{ }$ gam (gim-ti, am born, pri-gim-tis, nature, gam-in-ti, beget, furnish), a further fmn. fr. $\sqrt{ } \gamma a(\gamma \epsilon-\gamma a-\omega \varsigma)$, developed early to $\gamma \epsilon-\nu$ (the meang. 'beget' through that of 'marry'); $\mu$ is here not fr. $\nu$ in $\gamma \in \nu$. In $\gamma a \mu-\beta \rho \rho_{\rho}^{\rho}$ (son-in-law) for ${ }^{*} \gamma \alpha \mu-\rho o-\varsigma$ we conjecture a 'popular' etymology fr. $\gamma a \mu-\epsilon$ ' $\omega$, through which an earlier ${ }^{*} \gamma a \nu-\rho o-s=$ Lat. gener, i.e. ${ }^{*}$ gen-ro-s (son-in-law), may have passed to ${ }^{*} \gamma a \mu-\rho o s ; ~ c f . ~ L i t h . ~ z ̇ e ́ n-t a-s ~(s o n-i n-l a w), ~ f . f . ~$ gan-ta-s, O. Bulg. zettü (id.), f.f. gan-ti-s, similarly fr. $\sqrt{ }$ gan; cf. §75, 2, n.

Note 2.-"A 1 入os (other)=Lat. alius, Goth. alis, we hold to be unconnected with Sk. anyá-s (other), with G. Curt., and see in it a fmn. fr. origl. pron. $\sqrt{ }$ ar. That such a root existed is proved by st.-fmative sf. ra (v. post). Corss. (Krit. Beitr. p. 295 sqq.) divides them thus : $a$-li-s, $a$-liu-s, ${ }^{*} \dot{a}-\lambda y o-s$, because he holds the $a$ to represent pron. $\sqrt{ } a$ (dem. e.g. Sk. gen. sg. masc. nt. $a-s y a ́), l i, l y o$, to be sff. $t \bar{a}-l i-s, q u a \bar{a}-l i-s$.
2. Origl. $m .=$ Gk. $\mu, \nu$ (the latter in termn.), e.g. st. $\mu \epsilon-, \mu 0-$, $\dot{\epsilon} \mu \epsilon-, \epsilon \not \epsilon o-$ (pron. pers. 1) $=$ Lat. me-, Germ. mi- (in mi-ch, mi-r), Sk. and origl. ma-, thence $-\mu t$, pl. $-\mu \epsilon \nu$, Dôr. $-\mu \epsilon \varsigma, 1$ sg. pl. vb. $=$ origl. and Sk. $-m i$, -masi (e.g. $\epsilon i-\mu t=$ origl. ai-mi, Sk. $\bar{e}-m i$; $i-\mu \epsilon \nu=$ Sk. and origl. $i$-másis) ; $\mu \hat{\epsilon} \sigma \sigma \sigma-\varsigma(\mu \epsilon ́ \sigma o \varsigma)={ }^{*} \mu \epsilon \theta-y o s$ (v. post, $\S 68,1$, e) $=$ Lat. mediu-s, Sk. and origl. mádhya-s, Goth. midji-s; st. $\mu \mathfrak{\eta} \tau \epsilon \rho-$ (mother), Sk. and origl. mātär-; $\sqrt{ } \mu \epsilon \nu, \mu \nu a$, origl. and Sk. man (think), in $\mu c-\mu \nu \eta^{\prime}-\sigma \kappa \omega$ (remember), $\mu^{\prime} \nu \nu-o s$ (mind, might) $=$ Sk. and origl. mánas ; $\mu \dot{\epsilon} \theta v$ (intoxicating drink), Sk. and origl. mádhu, O.H.G. mëtu; ä $\mu a$ (together, with), $\dot{\delta} \mu o ́-\varsigma=$ Sk. sama-s (similar, like), sama-m, samā ( $\dot{o} \mu o \hat{v}$ ), cf. Lat. sim-ilis, sim-ul, Goth. sama (same); $\sqrt{ }{ }^{\epsilon} \epsilon \mu(\dot{\epsilon} \mu \dot{\epsilon} \omega)=$ Lat. uom in uom 0 , for *uemo, Lith. rem ( 1 sg. pres. vem-iì), Sk. and origl. vam (spue, 1 sg. pres. rám-āmi). Final $m$ becomes $\nu$, e.g. sign of acc. $\nu=$ origl. $m$, e.g. $\tau o ́-\nu=$ Sk. and origl. $t a-m$, cf. Lat. is-tu-m; $\nu=m$ as sf. of 1 pers. sing., e.g. 光ф $\rho \rho-\nu=$ Sk. and origl. ábhara-m.
§66. Note.-The exx. which are intended to prove medial $\nu$ to be a representative of origl. $m$ (cf. Curt. Gr. Et. ${ }^{2}$ p. 476 sqq.) are all doubtful. Thus e.g. $\beta a i v \omega$ (go) fr. ${ }^{*} \beta a \nu-y \omega$, which must not be assigned to Sk. $\sqrt{ }$ gam, but to $\sqrt{ } g$ a, comes fr. the common formatives of the present st. $n a$ and $y a$; in $\chi \theta \omega \dot{\nu}$ (earth), st. $\chi^{\theta o \nu-\text {, bes. }} \chi^{\theta a \mu a \lambda o ́ s}$ (lowly, on the earth), cf. $\chi a \mu a i$ (on the earth), Zend st. zem- (earth), O. Bulg. zemya, zemlya, Lith. zéme (earth), the $\nu$ seems to have penetrated inwards from the termn.: so, too, perh. st. $\chi$ cóv- ( $\chi \iota \dot{\omega} \nu$, snow) bes. Lat. hiem ( $p$ ) s, Sk. hima-s (snow, cold), Zend st. zim-, zima-(winter, cold), O. Bulg. zima-, Lith. ̇̇ëmà (winter).

## §67. $r$ - and $l$-sounds.

Origl. $r=$ Gk. $\rho, \lambda$.
Gk. $\rho=$ origl. $r$, e.g. in $\sqrt{ } \dot{\rho} v \theta$ (be red), Sk. and origl. rudh; suff. $-\rho o$, Sk. and origl. -ra, both in $\epsilon$ è $\rho v \theta-\rho o ́-s(r e d)=$ Sk. rudh-irá-s, Lat. ruber, i.e. ${ }^{*}$ rub-ro-s, origl. rudh-ra-s; $\sqrt{ } \dot{a} \rho$ in $\grave{\alpha} \rho$-ó $\omega$ (plough), ${ }^{a} \rho-o \tau \rho o \nu(\mathrm{a}$ plough), cf. Lat. ar-o, ar-atrum, Goth. ar-yan, Lith. àr-ti, Scl. or-ati (plough) ; $\sqrt{ } \dot{o} \rho$ in ö $\rho-\nu u \mu \iota$ (rise), Lat. or, Sk. ar in r-nômi (orior) ; $\sqrt{ } \dot{\rho} v$, Sk. and origl. sru, flow, etc.

Gk. $\lambda=$ origl. $r$, e.g. in $\sqrt{ } \lambda v \kappa$ in $\lambda \epsilon v \kappa$-ós (white), Lat. luc, Germ. luh, Sk. ruk, origl. ruk (shine) ; $\sqrt{ } \pi o \lambda, \pi \lambda \epsilon$, Sk. and origl. par (fill), in $\pi o \lambda u{ }^{\prime} s$ (many), Sk. purús for origl. parus, $\pi i \mu-\pi \lambda \eta-\mu \iota$ (fill) ; '̇- $\lambda a \chi u{ }^{\prime}{ }^{\prime}$ (small)=Sk. laghús; $\delta o \lambda \iota \chi o ́ s$ (long), Sk. dīrghás, Zend dareghō, origl. dargha-s; ő $\lambda o s$ (whole) for ${ }^{*} \dot{\lambda} \lambda$ Fos, Lat. sollus for ${ }^{*}$ soluos, Sk. sárva-s, etc.

## Medial.

1. Assimilation.
a. Perfect assimiln. of a preceding to a following sound; e.g. of $s$ to $\nu, \mu$ following, $\varepsilon \nu \nu \nu \mu \iota$ (clothe) $={ }^{*} F \epsilon \sigma-\nu \nu \mu \iota$; Aiol. ö $\rho \epsilon \nu \nu 0$ (mountainous) $={ }^{*} \dot{\partial} \rho \epsilon \sigma-\nu 0$, fr. ò $\rho o s$ (mountain), st. ò $\rho \epsilon \varsigma-$ sf. $-\nu o$; Aiol. ${ }^{\wedge} \mu \mu \iota(\mathrm{am})={ }^{*} \epsilon \in \sigma-\mu \iota$; $\epsilon i-\mu i ́$, ò $\rho \epsilon t-\nu o ́ s$, represent the double cons. by compensatory lengthening. Not unfrequently consonants which were afterwards lost are preserved in
 (flow, $\rho_{\epsilon} \mathcal{F}-\omega$ ) for ${ }^{*} \sigma \rho v$, Sk. and origl. sru, Germ. stru (with inserted $t$ ), etc.; á $\rho \dot{\rho} \rho \eta \kappa \tau o \varsigma$ (unbreakable, unbroken) for ${ }^{*} \dot{d}$ - $F \rho \eta \gamma \gamma-\tau o-\varsigma$, $\sqrt{ }$ Fpay ( $F \rho \eta \eta_{\gamma}-\nu v \mu \iota$, break, $F \rho \hat{\eta} \xi \iota \varsigma$, rent, for ${ }^{*} F \rho \eta \gamma-\tau \iota-\varsigma$ ) ; $\phi \iota \lambda o \mu$ $\mu \epsilon \iota \delta_{\eta}{ }^{\prime}$ (freely smiling) for ${ }^{*} \phi \iota \lambda o-\sigma \mu \epsilon \iota-\delta \eta s, \sqrt{ } \mu \iota$ for ${ }^{*} \sigma \mu \iota$, Sk. and origl. smi, O. Bulg. smi, etc.

The assimiln. of momentary labb. to following $\mu$ is well known ; e.g. $\gamma \rho a ́ \mu \mu a$ (writing) for ${ }^{*} \gamma \rho a \phi-\mu a$ ( $\gamma \dot{\epsilon}-\gamma \rho a \mu \mu a \iota$ for ${ }^{*} \gamma \in \gamma \rho a \phi-\mu a \iota$, 1 pf . med. fr. $\gamma \rho \alpha^{\prime} \phi-\omega$, write), etc., and the assimilns. which perh. occur only in compds., e.g. $\sigma v \lambda \lambda \lambda^{\prime} \gamma \omega, \sigma v \rho \rho \rho \rho^{\prime} \omega$, and the like.

In the commonest of these cases, i.e. in assimiln. of. all the dentals (including $\nu$ ) to a following $s$, the double $s$ so produced was not tolerated in the later form of lang., even when $s$ was medial and followed a short vowel : only the archaic (Hom.) lang. shows such forms as $\pi o \sigma \sigma l$ fr. ${ }^{*} \pi o \delta-\sigma \iota$ (loc. pl. fr. st. $\pi o \delta-$, foot) ; throughout $s$ is the only trace of the process of assimiln., not. seldom (especially in nom. sing. and where $\nu \tau, \nu \delta, \nu \theta$, were originally existent) accompanied by compensatory lengthening of precedg. vowels (cf. $\S 28$ ), in which cases, perh. not common, we must assume an assimiln. of the $\nu$ by resolution into a vowel-sound. This is a well-known sound-law, to which belong such exx. as loc. pl. $\sigma \dot{\omega} \mu \breve{a}(\tau)-\sigma \iota, \pi o(\delta)-\sigma \iota, \kappa o ́ \rho \check{v}(\theta)-\sigma \iota, \delta a i \mu o(\nu)-\sigma \iota$. The $s$ which produces the assimiln. is often unorigl., i.e. has arisen, through the action of a previous sound-law (v. infr.), from $\tau$, e.g. $\pi \epsilon i \sigma \iota s$ (feeling) fr. st. $\pi \epsilon \nu \theta$ - (cf. $\pi \epsilon \in \nu \theta o s$, grief) and suff. $-\sigma l$-s fr. $-\tau \iota-\varsigma$. Compensatory lengthening occurs in such cases as $\epsilon i \delta \omega \dot{s}={ }^{*} F \epsilon \iota \delta F_{o \tau-\varsigma}, \delta a i \mu \omega \nu={ }^{*} \delta a \iota \mu o \nu-\varsigma, \phi \in ́ \rho o v \sigma \iota={ }^{*} \phi \in \rho о \nu \sigma \iota \mathrm{fr}$. $\phi$ ¢́ $\rho о \nu \tau \iota ; ~ \nu+$ dent. must both be lost before $s$, e.g. $\sigma \pi \epsilon i \sigma \omega$ fr. ${ }^{*} \sigma \pi \epsilon \nu \delta-\sigma \omega, \pi \epsilon i \sigma o \mu a \iota$ fr. ${ }^{*} \pi \epsilon \nu \theta-\sigma o \mu a \iota, \tau \iota \theta \epsilon i \varsigma$ fr. ${ }^{*} \tau \iota \theta \epsilon \nu \tau-\varsigma, \chi a \rho i-\epsilon \iota s$ fr. ${ }^{*} \chi a \rho \iota-F \epsilon \nu \tau-\varsigma ~\left(\phi \epsilon ́ \rho \omega \nu\right.$, however, fr. ${ }^{*} \phi \epsilon \rho \circ \nu \tau-\varsigma, ~ v . ~ § 28,3$; $\chi a \rho i \epsilon \sigma \sigma a$ fr. ${ }^{*} \chi a \rho \iota F \epsilon \tau-y a[\mathrm{v} . \mathrm{e}]$, without compensatory lengthening, because no $\nu$ was originally there).

Moreover, in this place belong the cases in which the assimiln. takes place together with the loss of the former consonant, e.g.
§ 68. $\delta \iota \delta a ́ \sigma \kappa \omega$ (learn) for $* \delta \delta \delta a \chi-\sigma \kappa \omega$, cf. $\delta \iota \delta a \chi-\eta{ }^{\eta}$ (teaching) ; $\lambda a ́ \sigma \kappa \omega$


b. Complete assimiln. of a following to a preceding sound.

This kind of assimiln. is, like the former, an especial favourite in the Aiol. dialects, whilst elsewhere, instead of the double consonn., compensatory lengthening ( $\$ 28$ ) of the preceding vowel, or transposn. of $v$ and $y$ generally occurs. Thus $F, y$, and $\sigma$ become assimilated to a preceding liquid, $F$ and $y$ sometimes to other sounds also, viz. $\sigma, y$, to $\tau, \delta$; e.g. róvvos= rovvós $={ }^{*}$ YovF-os, gen. fr. st. yovv- (knee); st. $\pi о \lambda \lambda \dot{o}^{\prime}-$ for ${ }^{*} \pi o \lambda F o-$, a further fmn. through $o$, origl. $a$, fr. st. $\pi 0 \lambda \lambda^{-}$(many), origl. par-u- ; i' $\pi \pi о \varsigma$ (horse) fr. ${ }^{*} i \pi F o s, i \kappa F o s$ (ef. sideform ' ${ }^{\prime} \kappa \kappa о \varsigma$ ), origl. $a k-\imath a-s ; \kappa \tau \in ́ \nu \nu \omega($ kill $)=\kappa \tau \epsilon \dot{\epsilon} \nu \omega={ }^{*} \kappa \tau \epsilon \nu-y \omega ; \chi^{\epsilon} \rho \cdot \rho \rho \omega \nu=\chi \epsilon i \rho \omega \nu$ (worse) $={ }^{*} \chi \epsilon \rho-y \omega \nu$, etc. In the case of $\lambda y$ the assimiln. has been retained in other diall. ; $\sigma \tau \hat{\epsilon} \lambda \lambda \omega$ (send) $={ }^{*} \sigma \tau \epsilon \lambda-y \omega ; \ddot{a} \lambda \lambda o s$ (other) ${ }^{*} \dot{ } \dot{ } \lambda \lambda y o s$, Lat. alius; except $\dot{o} \phi \epsilon i \lambda \omega$ (owe) fr. ${ }^{*} \dot{\partial} \phi \in \lambda y \omega$, and perh. a few others; $\pi \tau i \sigma \sigma \omega$ (peel) $={ }^{*} \pi \tau \iota \sigma-y \omega(\epsilon$ ' $-\pi \tau \iota \sigma-\mu a \iota)$, cf. Lat. $\checkmark$ pis in pinso, pis-tor, Sk. piš (e.g. pi-nás-t $i$, Lat. pinsit); this does not often happen, $s$ usually is lost, and also $y$ at a later period,
 termn. of loc. pl., $\pi 0 \delta \epsilon$ - is the noun-st. fr. earlier $\pi o \delta-$ (foot) ; in this case also the later lang. has only one $\sigma$, e.g. $\pi o ́ \lambda \in \sigma \iota$, $\gamma \lambda \nu \kappa \epsilon \in \sigma \iota$, which never disappears from between the two vowels, because it stands for $\sigma \sigma$. $\tau \in ́ \tau \tau \alpha \rho \epsilon \varsigma, \tau \in ́ \sigma \sigma \alpha \rho \epsilon \varsigma$ (four), fr. ${ }^{*} \tau \epsilon \tau F a \rho \epsilon \varsigma$ (f.f. katväras), and thence ${ }^{*} \tau \epsilon \sigma F a \rho \in s$ is an ex. of $F$ assimild. to a mom. sound. $\tau \tau$ for $\tau y, \theta y, \kappa y$ (apparently $\gamma y, \mathrm{v}$. infr. e, $\beta$ ), $\chi y$ is produced in the same way, since $\kappa y$ first became $\tau y$, as this sound-change occurs in many langg., and the aspiration (of $\theta y, \chi y)$ becomes lost before $y$.

Thus, e.g. $\epsilon \rho \in ́ \tau \tau \omega$ (I row) fr. *'є $\rho \epsilon \tau-y \omega$, cf. $\epsilon \rho \epsilon \tau-\mu o ́ s$ (oar) ; $\ddot{\eta} \tau \tau \omega \nu$ (less, worse) fr. ${ }^{*} \dot{\eta} \tau y \omega \nu$ for ${ }^{*} \dot{\eta} \kappa-y \omega \nu$, cf. $\ddot{\eta} \kappa-\iota \sigma \tau \sigma$ (superl.); $\dot{\epsilon} \lambda \dot{́} \tau \tau \omega \nu$ (less, smaller) for ${ }^{*} \dot{e} \lambda a \tau y \omega \nu$, and the latter for ${ }^{*} \dot{\epsilon} \lambda \alpha a-$
 forms in $\tau \tau$ have by-fms. in $\sigma \sigma$ (v. infr. e, $\beta$ ), and have not arisen through an unparalleled change of $\sigma \sigma$ into $\tau \tau$, but one produced by a divergence of diall. in the treatment of the same fund-fins. as underlie the fms. in $\sigma \sigma$. Accordingly, since e.g. $\pi \tau i \sigma \sigma \omega$ (v. supr.) stands for ${ }^{*} \pi \tau \iota \sigma-y \omega$, no $t$-sound ever was in existence here, and so no parallel fm. ${ }^{*} \pi \tau \iota \tau \tau \omega$ occurs.
$\delta \delta$, initial $\delta$, for $\delta y, \gamma y$, a sound which did not become $\delta y$ until late, is likewise dialectic ; e.g. Boiôt. Lak. $\Delta \in u ́ s$ for ${ }^{*} \Delta y \in u s$ ( $Z \in u ́ \varsigma)$; Boiôt. $\sigma \phi{ }^{\circ} \delta \delta \omega$ for ${ }^{*} \sigma \phi a \delta-y \omega$ fr. ${ }^{*} \sigma \phi a \gamma-y \omega(\sigma \phi a ́ \zeta \omega$, cut the throat), $\sqrt{ } \sigma \phi a \gamma\left(\hat{\epsilon}-\sigma \phi{ }^{\prime} \gamma-\eta \nu\right) ; \sigma a \lambda \pi i \delta \delta \omega$ for ${ }^{*} \sigma a \lambda \pi i \delta-y \omega$, * $\sigma a \lambda \pi \iota \gamma-y \omega$ ( $\sigma a \lambda \pi i \zeta \omega$, trumpet); st. $\sigma a \lambda \pi \iota \gamma-(\sigma \alpha ́ \lambda \pi \iota \gamma \zeta, \sigma a ́ \lambda-$ $\pi \iota \gamma \gamma$-os (trumpet). This also is the explanation of Att. Iôn.
 Goth. vark, for ${ }^{*} F \epsilon \rho \delta-y \omega$, ${ }^{*} F \epsilon \rho \gamma-y \omega$, from which we ought to have found ${ }^{*} F \epsilon \rho \zeta \omega$ acc. to the rule, but this form seems to have been avoided on account of the unpleasant combination $\rho \zeta$, cf. Iôn. $F \rho \epsilon ' \zeta \omega$, Boiôt. Fp' $\delta \delta \omega={ }^{*} F \rho \epsilon \gamma-y \omega$, which differs from ${ }^{*} F \epsilon \rho \delta-y \omega$ merely in transposition from $F_{\epsilon \rho \gamma}$ to $F \rho \epsilon \gamma$. So also $\delta \mathrm{fr}$. $\delta y$ is produced in place of origl. $y$ (v. supr. § 65, c, n.).

The same assimiln. occurs, except in archaic remains such as
 perh. is hardly authenticated), beside medial combinations, as $\lambda \sigma, \rho \sigma, \nu \sigma, \mu \sigma$, e.g. Aiol. ${ }_{\epsilon} \sigma \tau \epsilon \lambda \lambda a=\stackrel{\text { en }}{ } \sigma \tau \epsilon \lambda \lambda a={ }^{*} \dot{\epsilon} \sigma \tau \epsilon \lambda-\sigma a$; Aiol.

 $\eta \eta_{\gamma} \gamma \epsilon \lambda a$ for ${ }^{*} \eta \gamma \gamma \gamma \epsilon \lambda-\sigma a$, etc. Thus $\chi^{\dot{\eta} \nu}$ (goose), gen. $\chi \eta \nu$-ós fr. ${ }^{*} \chi \epsilon \nu-\varsigma,{ }^{*} \chi \in \nu \sigma-o \varsigma$, cf. Lat. (h)ans-er, Sk. hã-sas, O.H.G. st. gansi-,
 $\mu \eta \nu$-ós fr. ${ }^{*} \mu \epsilon \nu-s$, cf. Lat. mens-is, Sk. mās- (origl. ma-nt-, pres. part. act. $\sqrt{ } m a$, measure) ; $\partial \lambda \lambda \nu \mu \iota$ (destroy) stands for ${ }^{*} \partial \lambda-\nu v \mu c$.
c. An assimiln. of preceding to following sounds. It is well known that $\tau$ and $\sigma$ can be preceded only by mute mom. sounds ( $\lambda \epsilon \kappa$ - $\tau o ́ s, ~ \lambda \epsilon \epsilon \kappa-\sigma \iota \varsigma$, i.e. ${ }^{*} \lambda \epsilon \gamma-\sigma \iota \varsigma, \sqrt{ } \lambda \epsilon \gamma$ ), $\delta$ by none
$\S$ 68. but sonant mom. sounds ( $\gamma \rho \dot{\alpha} \beta-\delta \eta \nu, \sqrt{ } \gamma \rho a \phi$ ), $\theta$ by none but aspp. ( $\lambda \in \chi-\theta \hat{\eta} \nu a \iota, \sqrt{\lambda}$ ¢ $)$.

Before $\nu$ labb. pass into their nasals, e.g. $\sigma \epsilon \mu$ - $\nu$ ós (awful) for * $\sigma \epsilon \beta-\nu o s$, cf. $\sigma \epsilon \beta$-opal (I dread), yet they are found, e.g. $\ddot{v} \pi-\nu o s$ (sleep), in opposition to som-nus (*sop-nus).

Bef. labb. $\nu$ notably passes into the lab. nasal $\mu$ (e.g. $\ddot{c}_{\mu} \mu-\pi \epsilon \iota \rho o s$ for *' $\epsilon \nu-\pi \epsilon \iota \rho o \varsigma)$, bef. gutt. into the gutt. nasal $\gamma$ (e.g. $\sigma v \gamma-\kappa \alpha \lambda \epsilon \epsilon$ for * $\sigma v \nu-\kappa a \lambda \epsilon \omega)$, cf. § 66, 1.

Bef. $\mu$ the dentt. $\tau, \delta, \theta$, often pass into their spirants, e.g. $\eta ้ \nu v \sigma-\mu a \iota$ fr. à av́т- $\omega$ (bring to pass, finish), $\pi \epsilon \in-\pi \epsilon \iota \sigma-\mu a \iota$ for * $\pi \epsilon-\pi \epsilon \iota \theta-\mu a \iota$, etc.; yet Iôn. ò $\delta-\mu \eta^{\prime}$ occurs beside later $o \partial \sigma-\mu \dot{\eta}$
 $\kappa \epsilon \kappa \circ \rho u \theta-\mu \epsilon \in \nu o \rho$, and others, do not show the change to $\sigma$.

Further, the change of gutt. $\kappa, \chi$, before $\mu$ into $\gamma$ is well known, e.g. $\delta_{o ́ \gamma} \boldsymbol{-} \mu a, \sqrt{ } \delta_{o \kappa}$; $\tau \in ́-\tau v \gamma-\mu a \iota, \sqrt{ } \tau v \chi ;$ yet $\chi$ often remains, e.g. $\delta \rho a \chi \mu \eta$. This law was likewise incompletely applied in the earlier (Iôn.) langg., e.g. ${ }^{\prime \prime} \kappa-\mu \epsilon \nu о \varsigma, \dot{a} \kappa a \chi-\mu \epsilon ́ v o s$.

Sometimes nasals seem to change preceding mom. sounds into aspp., e.g. $\lambda u u^{\chi}$-vos (light, torch) fr. $\sqrt{ } \lambda \nu \kappa$ ( $\lambda \epsilon v \kappa$-ós, white), origl. ruk; $\dot{a} \kappa-a \chi-\mu \epsilon ́ \nu o s$ (sharpened, pointed), redupl. $\sqrt{ } \dot{\alpha} \kappa$ (be sharp) ; cf. $\dot{\alpha} \kappa-\omega \kappa-\eta^{\prime}$ (point), and others.

The same influence is exercised by $\rho, \lambda$, in many cases, e.g. suff. $-\theta \rho o,-\theta \lambda o$, bes. origl. tra, Zend thra (here the spirants have the force of aspp.), e.g. $\beta \dot{a}-\theta \rho o-\nu$ (base), $\sqrt{ } \beta a$ (go); $\kappa \lambda \in \hat{i}-\theta \rho o \nu($ lock ), fr. $\kappa \lambda \epsilon \epsilon^{\prime} \omega, \kappa \lambda \eta t \omega, \kappa \lambda \eta^{\prime} \omega$ (lock); $\theta \epsilon \epsilon \epsilon \epsilon-\theta \lambda o \nu$ (ground-work), etc., bes.


Before $\iota$ in stem- and word-formative particles (except in Dôr. dial.) $\tau$ is changed to $\sigma$, e.g. $\phi \eta \sigma l$ (he says), Dôr. $\phi a \tau i$; the $-\tau \iota$ of 3 rd pers. sing. is kept in $\epsilon \sigma-\tau i$ (he is); the abstracts in $-\sigma \iota-\varsigma$ for $-\tau \iota-\varsigma$, e.g. $\phi \alpha \alpha^{-}-\sigma \iota \varsigma$, in Hom. and tragg. $\phi \dot{\alpha}-\tau \iota \varsigma$ (speech); $\pi e ́ \nLeftarrow \iota \varsigma\left(c o o k e r y, \sqrt{ } \pi \epsilon \pi\right.$, f.f. $k a k$, cook) fr. ${ }^{*} \pi \epsilon \pi-\tau \iota-s$, f.f. kak-ti-s; suff. $y a$, Gk. - $\iota 0$, forming -tya, with stems ending in $t$-, ta- (the stem-termn. $a$ of $t a$ being lost, which is regularly the case bef. suff. $y a$ ), Gk. - $\tau \iota 0$, and hence - $\sigma \iota o$, e.g. fr. $\pi \lambda o \hat{\tau} \tau o-s$ (wealth) is

 (n. sing. $\gamma \epsilon \rho \rho \omega \nu$, old man) with sf. $y a$, Gk. $\iota a$, makes $\gamma \epsilon \rho o \nu \tau i a$, and thence $\gamma \epsilon \rho o v \sigma i a$ (senate); f.f. (d) rikati, Dôr. Fiккать, єíкать (perh. fr. ${ }^{*}$ éFıкат८), Att. єі้коб८ (twenty) ; from Dôr. ф'́ $\rho о \nu \tau \iota, ~ \tau \iota \theta^{\prime} \nu \tau \iota$ ( 3 pl .), f.f. bharanti, dadhanti, come ${ }^{*} \phi \epsilon \rho o \nu \sigma \iota,{ }^{*} \tau \iota \theta \epsilon \nu \sigma \iota$, and thence by rule (v. supr.) $\phi \in ́ \rho o v \sigma \iota, ~ \tau \iota \theta \in i ̂ \sigma \iota$ (Iôn.), etc. Yet in Att. and Iôn. is found $\phi \dot{\alpha}-\tau \iota-\varsigma$ (speech), $\sqrt{ } \phi a$, and the like.

Also bef. $v$ this change of $\tau$ to $\sigma$ sometimes takes place, thus in $\sigma v$ for Dôr. $\tau v$ (thou), cf. Lat. and Lith. $t u$; suff. $-\sigma v-\nu \eta$, f.f. $-t u-n \bar{a}$, further fmn. of common abstract sf. $-t u(-t v-a)$.
d. An assimiln. of following to preceding sounds. $y$ in the combn. $d y$ is so similar to the preceding dent. sonant $d$, that it becomes a dental sonant spirant (French or Polish $z$ ), $d y$ thus becomes $d z$ (acc. to Sclav. or French pronuncn.), written $\zeta$, e.g. $Z_{\epsilon u ́ s}$ fr. ${ }^{*} \Delta y \epsilon u \varsigma=S k$. dyäus ( $\left.\sqrt{ } d y u=d i v\right)$, cf. early Lat. Diou-is; Aiol. $\zeta a ́=* \delta y a$ for $\delta \iota a ́$ (through); ç̌oual (sit, seat myself) $={ }^{*} \sigma \epsilon \delta-y \rho \mu a \iota, \sqrt{ }{ }^{\ell} \delta=\sigma \epsilon \delta ; \sigma \chi i \zeta \omega$ (split) for ${ }^{*} \sigma \chi \iota \delta-y \omega, \sqrt{ } \sigma \chi \iota \delta$; $\tau \rho a ́-\pi \epsilon \zeta a$ (table) for ${ }^{*} \tau \epsilon \tau \rho a-\pi \epsilon \delta-y a$ (four-footed), cf. Lat. st. ped(pes, ped-is, foot), etc.

Here belongs the aspiration of origly. unaspirated consonn. through influence of preceding prolonged-(liquid) sounds. In Greek this influence is especially exercised by $s$, cf. Sk. $\S 52$ : i.e. * $\sigma \chi \iota \delta-y \omega, \sigma \chi i \delta-\eta$ (splinter), $\sqrt{ } \sigma \chi \iota \delta$, for and bes. $\sqrt{ } \sigma \kappa \iota \delta$ in $\sigma \kappa i \delta-\nu \eta \mu \iota$ (divide, scatter), cf. Lat. scid in scindo, Goth. skid in skaida (cut), Sk. $k^{\prime} h i d$, i.e. origl. skid, in $k^{\prime} h i-n \dot{\alpha}-d-m i$ (slit); $\pi a ́ \sigma \chi \omega$ (suffer) for ${ }^{*} \pi a-\sigma \kappa \omega$ or perh. ${ }^{*} \pi \alpha \nu-\sigma \kappa \omega, \sqrt{ } \pi a$ in $\pi a-\theta$ ( $\left.\epsilon \cdot \pi a \theta-o \nu\right)$, and $\pi \epsilon-\nu$, $\pi \epsilon \in$-opal (endure, tire myself), further formations in $\theta$ and $\nu$; the $\sigma$ sometimes disappears before the aspp. which it has called into
 (come, go), cf. Sk. rk' ${ }^{\prime} h a ̂ ́ m i$, also árkhāmi=${ }^{*} \dot{\epsilon} \rho \chi \omega$, origl. 1 sing. act. ar-skī-mi, med. ar-ska-mai ; к $\bar{i} \theta \dot{\eta}$ (spelt) for ${ }^{*} \chi \rho \bar{i} \theta \eta$ (cf. $\S 64$, sub fine, and 2 infr.), and this for ${ }^{*} \chi \rho \iota \sigma \theta \eta,{ }^{*} \chi \rho \iota \sigma \tau \eta$, cf. O.H.G. gërsta, etc.
§68. The nasals also seem to have this aspirating effect sometimes, e.g. Boiôt. $-\nu \theta i$ for $-\nu \tau \iota, 3$ p. pl. act. vb.; $\partial \mu \phi-\eta$ (voice) for ${ }^{*} F_{0 \mu \pi} \boldsymbol{\eta}$ fr. $\sqrt{ } F \epsilon \pi$, origl. vak (speak); $\dot{\epsilon} \gamma \chi$-os (nt. spear) fr. $\sqrt{ } \dot{a} \kappa$ (be sharp), cf. äк-орт- (äк $\omega \nu$, javelin).

Perh. $\rho, \lambda$, are the cause of aspiration in $\tau \rho \in \dot{\theta} \phi-\omega$ (nourish), which thus by assumption may be for ${ }^{*} \tau \epsilon \rho \phi \omega$ bes. $\tau \epsilon \rho \pi \omega$ (sate, delight, cf. $\tau \in ́ \rho \pi \epsilon \sigma \theta a \iota ~ \epsilon ̇ \delta \eta \tau$ v́os), Sk. tarp (be sated, delighted), Lith. tàr $p-t i$ (thrive) ; $\pi \lambda a ́ \theta-a \nu o s, ~ \pi \lambda a \theta-a ́ \nu \eta ~(f l a t ~ c a k e), ~ b e s . ~$ $\pi \lambda a \tau-v s^{\prime}($ broad), Lith. plat-ùs, etc., $\pi \lambda a ́ \tau-\eta$ (plate, oar-blade). Concerning ' unorigl. aspiration,' cf. G. Curt. Gr. Et. ${ }^{2}$ p. 439 sqq.
e. Mutual assimilation (complete or partial) of two sounds, each affecting the other.
a. $\gamma y$ becomes $\zeta=d z$ (v. d supr.), as $\gamma$ bef. $y$ becomes $d, y$ after $d$ becomes $z$, e.g. $\kappa \rho a ́ \zeta \omega$ (cry), i.e. ${ }^{*} k r a d z o ̄ ~ f r . ~ * ~ * ~ \kappa \rho a \delta y \omega, ~ a n d ~$ this fr. ${ }^{*} \kappa \rho a \gamma-y \omega, \sqrt{ } \kappa \rho a \gamma$, cf. кє́-кр $\bar{\gamma} \gamma-a$; ä $\zeta о \mu \alpha \iota$ (dread) fr. ${ }^{*} \dot{a} \gamma-y o \mu a l$, cf. $\tilde{a}^{\gamma} \gamma-\iota o s$ (holy) ; $\mu \epsilon ́ \zeta \omega \nu, \mu \epsilon i \zeta \omega \nu$ (greater), the latter having, moreover, $y$ transferred to the preceding syll. (cf. § 26), fr. ${ }^{*} \mu \epsilon \gamma-y \omega \nu$, cf. $\mu \in \gamma-a ́ \lambda \eta, \mu \in ́ \gamma-a s$ (great), etc.

In $\nu l \zeta \omega$ (wash) bes. $\chi^{\epsilon} \rho-\nu \iota \beta$-os ( $\chi^{\prime} \rho \nu \iota \psi$, water for handwashing), $\nu i \pi \tau \omega$ (wash) $={ }^{*} \nu \iota \beta-\tau \omega$, the earlier root-fm. nig, Sk. nig, is retained (cf. §63). Мá̧omaı (grasp) bes. $\lambda a \mu \beta a ́ \nu \omega$ (take) is obscure, unless it be the unique ex. of $\zeta=\beta y$, formed perh. on the analogy of the common fms. in -a $\omega,-a \zeta o \mu a t$.
$\beta$. $\tau y, \theta y, \kappa y, \chi y$, become $\sigma \sigma$; in $\tau y$ and $\theta y, y$ perh. became the dent. mute spir. $s$, after dental mutes, whereby arose $\tau \varsigma$, $\theta \sigma$, then the preceding mute dentt. assimilated themselves to this $\sigma$; because $\sigma \sigma=\tau y, \theta y$, also in Dôr., we must not assume that $\tau y(\theta y)$ passed next into $\sigma y$, as $\tau \iota$ into $\sigma \iota$ (v. sup. c), and this $\sigma y$ into $\sigma \sigma$ by rule (b), for in Dôr. $\tau$ remains before $\iota$; $\kappa y, \chi y$, became firstly $t y, t h y$, as of course gutt. so often pass into dentt. bef. $y$, and then these sounds became $\sigma \sigma$ in the way above described ; e.g. є̀ $\epsilon$ '́ $\sigma \sigma \omega$ (row) fr. ${ }^{*} \epsilon \rho \epsilon \tau-y \omega$, cf. є̀ $\rho \epsilon \tau-\mu o ́ s ;$ $\kappa \rho \epsilon ́ \sigma \sigma \omega \nu, \kappa \rho \epsilon i \sigma \sigma \omega \nu$ (stronger, better), with transposn. of $y$ (cf.
 fr. ${ }^{*} \kappa о \rho \nu \theta-y \omega$, cf. $\kappa \epsilon-\kappa \dot{\rho} \rho \nu \theta-\mu a \iota$; $\beta a ́ \sigma \sigma \omega \nu$ for ${ }^{*} \beta a \theta-y \omega \nu$, cf. $\beta a \theta-v$ s (deep); $\pi i \sigma \sigma a$ (pitch) $={ }^{*} \pi \iota \kappa-y a$, cf. pix, pic-is; グ $\sigma \sigma \omega \nu$ (less, worse) for ${ }^{*} \dot{\eta} \kappa-у \omega \nu$, cf. $\eta \kappa \kappa-\iota \sigma \tau o s ; ~ \epsilon ̇-\lambda a ́ \sigma \sigma \omega \nu$ (smaller) for ${ }^{*} \epsilon-\lambda a \chi-y \omega \nu$, cf. ċ- $\lambda a ́ \chi$-ıбтos, ċ- $\lambda a \chi$-v́s, Sk. lagh-ús.

Not unfrequently $\sigma \sigma$ has apparently arisen from $\gamma y$ : in these cases thus much is clear, that in the older state of langg. a fundamental $\kappa$ is always found still preserved, and that this $\kappa$ was not softened to $\gamma$ till a later period, after $\kappa y$ had been incorporated into a fixed group of sounds; e.g. $\pi \lambda \eta \dot{\eta} \sigma \sigma \omega$ (strike) bes. $\pi \dot{\epsilon} \pi \lambda \lambda \eta \gamma o \nu, \pi \lambda \eta \gamma \eta^{\prime}$ (blow), but origl. $\sqrt{ } \pi \lambda a \kappa$, cf. $\pi \lambda a ́ \xi, \pi \lambda a \kappa$-ós (flat, plate), Teut. flah, Lith. plàk-ti (strike), whence plók-sztas (flat, adj.) ; $\phi \rho a ́ \sigma \sigma \omega$ (inclose) $=^{*} \phi \rho a \kappa-y \omega$, but $\dot{\epsilon}-\phi \rho a ́ \gamma-\eta \nu$ with softening of $\kappa$ to $\gamma$, cf. Lat. farc-io, etc. Cf. supr. $\S 62$.

Note 1.- $\beta \rho a \dot{\sigma} \sigma \omega \omega$ must be assigned to $\beta \rho a \chi$-ús (short), not to $\beta \rho a \delta$-v́s (slow) ; so G. Curt. Gr. Et. ${ }^{2}$ p. 600.

Note 2.-Likewise we mentioned in $\S 62$, above, that $\kappa y$ is still preserved in cases such as $\pi \epsilon \in \sigma \sigma \omega$ (cook) bes. $\pi \epsilon ́ \psi \omega$,
 (see) bes. ő $\psi o \mu a \iota ~\left(* \pi \epsilon \kappa-y \omega\right.$, Sk. paǩ, Lat. coc; ő $\sigma \sigma a={ }^{*}$ Foкуа,
 origl. $a k$, cf. oc-ulus, Lith. $a k$-is).
f. Apparent insertion of a consonant between two concurrent consonants. $\nu \rho$ and $\mu \rho$, also $\mu \lambda$, as in other langg. (e.g. French gen-d-re fr. Lat. gener, generum, ${ }^{*}$ genrum ; nombre fr. Lat. numerus, *numrus; humble fr. Lat. humilis, $\left.{ }^{*} h u m l i s\right)$, become $\nu \delta \rho, \mu \beta \rho, \mu \beta \lambda$, i.e. $n$ and $m$ thereby are joined with follg. $r$ and $l$, in an easier combination, because they preserve the extremities of momentary consonn.; $n$ becomes $n d$, $m$ becomes $m b$, to which the subsequent $r$ - or $l$-sound was merely lightly joined ; e.g. à $\nu-\delta$ - $\rho$-ós for ${ }^{*} \dot{a} \nu \rho-o s$, gen. st. $\dot{a} \nu \epsilon \rho-$ (man) ; $\mu \epsilon \sigma-\eta \mu-\beta$ - $\rho^{\prime} a$ (mid-day) for ${ }^{*}-\eta \mu$ - $\rho \iota a$, cf. $\eta \mu \epsilon ́ \rho a$ (day) ; ${ }^{2}-\mu-\beta$ - $\rho o \tau o s$ (deathless) for ${ }^{*} \dot{a}-\mu \rho o-\tau o \varsigma, ~ \sqrt{ } \mu \rho o=$ Lat. mor (mori) ; $\mu \epsilon ́-\mu \beta \lambda \omega-\kappa a$ (pf.) for ${ }^{*} \mu \epsilon-\mu \lambda \omega-\kappa a$, fr. $\mu 0 \lambda-\epsilon \hat{\nu} \nu$ (go, come), $\sqrt{ } \mu_{0} \lambda, \mu \lambda_{o}$; in $\beta \rho o t o ́ s$ the $\mu$ has fallen away from bef. $\beta$, $\beta$ potós stands for
§68. ${ }^{*} \mu \beta \rho o \tau o s$ (preserved in ${ }^{\alpha}-\mu \beta \rho o \tau o s$ ), and this for ${ }^{*} \mu \rho o-\tau o s$, past part. from $\sqrt{ }$ mar, mra (mori), cf. Sk. mar-ta-s (a mortal, man, Rigved. I. 84, 8, acc. to Kuhn, Beitr. iii. 236); the same process takes place in $\beta \lambda \lambda_{i \tau \tau} \omega$ (cut honey) for ${ }^{*} \mu \beta \lambda \iota \tau \tau \omega$, fr. ${ }^{*} \mu \epsilon \lambda \iota \tau-y \omega$, st. $\mu \epsilon \lambda \iota \tau-\left(\mu \dot{\epsilon} \lambda \iota\right.$, honey) ; $\beta \lambda \omega \dot{\sigma} \kappa \omega$ (go, come) for ${ }^{*} \mu \beta \lambda \omega \sigma \kappa \omega$ fr. ${ }^{*} \mu \lambda \omega \sigma \kappa \omega, \sqrt{ } \mu \circ \lambda$ in $\mu o \lambda-\epsilon i \nu$, etc.

Note.-In $\pi \tau o ́ \lambda \iota s$, and such like cases, bes. mó̀ıs (city), cf. Sk. puram, purī, $\sqrt{ }$ par (fill) ; $\pi \tau o ́ \lambda \epsilon \mu о s$ bes. $\pi o ́ \lambda \epsilon \mu o s$ (war), cf. $\pi \epsilon \lambda \epsilon \mu i \zeta \omega$ (brandish), and Lat. pello ; $\pi \tau i \sigma \sigma \omega$ (peel) $={ }^{*} \pi \tau \iota \sigma-y \omega$ for ${ }^{*} \pi \iota \sigma y \omega, \sqrt{ } \pi \iota \varsigma=$ Lat. pis (pinso), Sk. pis, $\pi \tau$ stands for $\pi$ without any visible cause. They seem to be dialectic fms.
g. The ejection of $s$ from between consonn., e.g. $\tau \in \in \tau \nu \phi-(\sigma) \theta \epsilon$, is well known.

Loss of $s$ between vowels is treated of $\S 65$. In like cases $\tau$ also disappears, but not so often; e.g. $\kappa \epsilon ́ \rho \omega s$ for $\kappa$ '́ $\rho a \tau-o s$ (gen. sing. st. $\kappa \epsilon \rho a \tau-$, horn) ; $\phi \epsilon ́ \rho \epsilon \iota$ ( 3 sing. pres. act.) fr. ${ }^{*} \phi \epsilon \rho \epsilon-\tau \iota$, origl. bhara-ti. The dent. nasal also is subject to similar decay in known cases, e.g. $\mu \epsilon i \zeta o u s$ for $\mu \epsilon i \zeta o \nu-\epsilon s$ (n. pl. masc. fem. st. $\mu \epsilon \iota \zeta 0 \nu-$, greater).
h. Transposition, as in $\theta a ́ \rho \sigma o s ~ b e s . ~ Ө \rho a ́ \sigma o s, ~ \delta e ́ \delta o \rho к а ~ b e s . ~$ є́ $\delta \rho а к о \nu$ : it is not easy to ascertain which arrangement is here the primitive one.

Note.— $\tau \in \in-\theta \nu \eta-\kappa a$ bes. $\stackrel{\epsilon}{\epsilon}-\theta a \nu-o \nu$, and the like, are primitive deviations from root-fms., and must not be treated according to Gk. sound-laws. Cf. 'root-formation.'
2. Dissimilation. Here belong the known changes of mom. dent. bef. $\tau$ and $\theta$ to $\sigma$, so as to facilitate pronunciation; this change is found in Eran. Lat. and Sclavo-germ. also, e.g.
 $\pi \iota \sigma-\tau o ́ s$ for ${ }^{*} \pi \iota \theta-\tau o \rho$, etc.

Sometimes two consecutive aspp. are avoided by changing the former or latter into an unasp. conson., e.g. $\mathfrak{\epsilon}-\tau \epsilon \in-\theta \eta \nu, \vec{\epsilon}-\tau v j-\theta \eta \nu$, for ${ }^{*} \mathrm{e}-\theta \epsilon-\theta \eta \nu,{ }^{*} \dot{e}-\theta v-\theta \eta \nu, \quad \sqrt{ } \theta \epsilon, \theta v$, cf. $\tau i-\theta \eta-\mu l, \theta \dot{v} \omega$; $\sigma \dot{\omega}-\theta \eta-\tau \iota$ for ${ }^{*} \sigma \omega-\theta \eta-\theta l$, the termn. of 2 p. sing. imp. is $-\theta l$, origl. dhi, cf.
$\kappa \lambda \hat{\nu}-\theta l$, origl. $k r u-d h i$, etc. This change scarcely ever takes $\S 68$. place except in the case of $\theta$ (in $\phi$ and $\chi$ perh. only in compds.,


For a similar phenomenon in the case of root-fms., which origly. began and ended with aspp., v. supr. § 64, sub fine).

Moreover, the attempt to avoid pronouncing similar sounds close together causes the contraction of two similar or like consonn. into one, by means of evaporation of the vowel that lies between them, e.g. т $\boldsymbol{\alpha}$ т́тє $\zeta a$ (table) for ${ }^{*} \tau \epsilon \tau \rho a ́-\pi \epsilon \zeta a$ (fourfooted) ; тє́т $\rho a \chi \mu \circ \nu$ for earlier $\tau \epsilon \tau \rho a ́-\delta \rho a \chi \mu o \nu$ (four-drachm piece) ; à $\mu \phi o \rho \in u ́ s ~(t w o-h a n d l e d ~ j u g) ~ f o r ~ e a r l i e r ~ a ̀ ~ \mu \phi ı-\phi o \rho \epsilon u ́ s, ~$ etc.
3. The aspirates. Whenever by sound-laws aspp. which terminate a root become unasp. consonn., the aspiration falls back upon the $\tau$ which begins the root; the same change takes place when $\theta$ follows upon the root-termn., notwithstanding that the asp. remains before $\theta$, e.g. st. $\tau \rho \iota \chi$-, cf. $\tau \rho \iota \chi$-ós, but * $\theta \rho \iota \kappa-\varsigma$, i.e. $\theta \rho i \xi($ hair ) ; $\tau \rho \in ́ \chi$ - $-\omega$ (run), but $\theta \rho \in ́ \xi о \mu a \iota ; ~ \tau и ́ \phi \omega ~$ (fume), but $\theta \dot{u} \psi \omega ; \tau \rho \in \rho^{\prime} \phi-\omega$ (nourish), but $\epsilon^{\theta} \theta \rho \dot{\epsilon} \phi \theta \eta \nu$, etc. In cases like the last mentioned the aspiration before the $\theta$ appeared to the Greek instinct for language to be caused by it (the $\theta$ ), and similarly also where the aspiration occurs in the case of e.g. $\pi, \beta$; accordingly the sound that ended the root was only characterized as aspirate by the retrogression of the aspiration upon the initial conson.

For the law by which, in the case of roots which origly. began and ended in aspp., the initial consonn. lost their aspiration, v . supr. $\S 64$, sub fine.
4. Law of Reduplication. Of two initial consonn. the former only was admissible into the syll. of redupln.,-hence the aspp. are redupld. through their first element alone ( $\chi$, i.e. $k h$, through $\kappa$; $\theta$, i.e. th, through $\tau$; $\phi$, i.e. $p h$, through $\pi$ ) e.g. $i$ í $\sigma \tau \eta-\mu \iota$ (set), i.e. * $\sigma \iota-\sigma \tau \eta-\mu \iota$ for sti-stā-mi; $\gamma^{\prime}-\gamma \rho a \phi-a$ (have written) for ${ }^{*} \gamma \rho \epsilon-\gamma \rho a \phi-a ; \pi \epsilon \in-\phi v-\kappa a$ (have been born) for ${ }^{*} \phi \epsilon-\phi v-\kappa a$;
§68．$\tau i-\theta \eta-\mu \iota$（place）for ${ }^{*} \theta_{\iota}-\theta \eta-\mu \iota$ ；кi$-\chi \rho \eta-\mu \iota$（lend，borrow）for ${ }^{*} \chi \iota-$ $\chi \rho \eta-\mu l$ ，and this for ${ }^{*} \chi \rho \iota-\chi \rho \eta-\mu l$ ，etc．

In the case of more consonantal combinations，the first con－ sonant also falls away，so that instead of redupln．，only a vowel appears，e．g． $\begin{gathered}\text { é－} \gamma \nu \omega-\kappa a ~(h a v e ~ l e a r n t) ~ f o r ~\end{gathered}{ }^{*} \gamma \epsilon-\gamma \nu \omega-\kappa a ; ⿳ ⺈ ⿴ 囗 十 \epsilon-\kappa \tau о \nu-a$ （have killed）for ${ }^{*} \kappa \epsilon-\kappa \tau o v-a$ ，etc．Cf．Sk．redupln．，§ 59.

## TERMINATION．

The only consonn．tolerated in fine in Gk．were s and $\nu$ （generally fr．$\mu$ ；this is also the case in the N．European langg． of the Teut．stem），e．g．$\pi \delta^{\prime} \sigma t-s$ ，origl．pati－s；$\pi o ́ \sigma t-\nu$ ，origl．pati－m； and further $\rho$ also，e．g．$\pi a ́ \tau \epsilon \rho$ ，voc．f．f．patar，n．sing．$\pi a \tau \eta{ }^{\prime} \rho$ ，f．f． patars（ $\kappa$ is found only in $\grave{\epsilon} \kappa$ ，shortened fr． $\mathfrak{\epsilon} \xi$＇out，＇and in ov̉ $\kappa$ ＇not，＇which likewise is prob．a shortened fm．）．Other conson． were either cast off，or changed into $\varsigma$ or $\nu$ ．

Thus the frequent final $t$ of Indo－Eur．is thrown off in Gk． （cf．Lat．noū fr．noū̄d，origl．narāt，abl．sing．），or changed to $\varsigma$ ，e．g．$\tau o ́$（the，neut．），Sk．and origl．ta－t，Lat．（is）－tu－d，Goth．
 aor．），Sk．ábhūt ；ধ́ $\phi \in \rho o v(3 \mathrm{pl}$ ．impf．），origl．abharant；ф́́pov （acc．sg．neut．pres．part．act．）for ${ }^{*} \phi \in \rho o \nu \tau ; ~ \tau \epsilon ́ \rho a s ~(w o n d e r, ~$ sign）for ${ }^{*} \tau \epsilon \rho a \tau$ ，cf．gen．тé́pat－os；cióós（neut．pres．part．act．
 of loss of final $\iota, \theta$ became final ；when this occurred，$\theta$ also became $\varsigma$ ，e．g．$\delta_{o ́ s ~(g i v e) ~ f r . ~ * ~}^{*} \delta \theta$ for ${ }^{*} \delta o-\theta l$ ，origl．$d a-d l i i$（imper． aor．$\sqrt{ } \delta o$ ，origl．$d a$ ，dare）．$\delta$ drops off ：$\pi a \hat{\imath}$（voc．）for ${ }^{*} \pi a \iota \delta(\mathrm{n}$ ． sg．$\pi$ aîs，child）；so also $\kappa$ in yúvaı（voc．woman）for ${ }^{*}$ дvvaıк （cf．e．g．gen．$\gamma v \nu a u \kappa$－ós）；$\kappa \tau$ in ${ }^{2} \nu a$（voc．）for ${ }^{*} a \nu a \kappa \tau ~(a ̈ \nu a \xi$ ， gen．ävaкт－os，lord），үá入a（n．acc．milk）for ${ }^{*}$ үа入акт（e．g．gen． үádакт－os），etc．From $\nu \tau$ only $\tau$ is lost，e．g．$\gamma$ f́ $\rho o \nu$（voc．fr．n． $\gamma \dot{\gamma} \rho \omega \nu$ for ${ }^{*} \gamma \epsilon \rho о \nu \tau-\varsigma$ ，gen．$\gamma \epsilon ́ \rho о \nu \tau-o s$, old man）for ${ }^{*} \gamma \epsilon \rho о \nu \tau$ ．

The final $m$ so common in Indo－Eur．，esp．as sign of acc．and element of 1 st sing．of $v b$ ．，is usually replaced by $\nu$ in Gk．，e．g．

(1 sing.), f.f. and Sk. ábhara-m, etc. More rarely it coalesced § 69. with the precedg. vowel ; this is probably the reason why precdg. $a$ was lengthened, and hence also in the above lang. it remained as $\breve{a}$, and did not change into $\varepsilon$, e.g. $\pi a \tau \epsilon \in \rho-a={ }^{*} \pi a \tau \epsilon \rho-\bar{a}$ fr. ${ }^{*} \pi a-$ $\tau \epsilon \rho-a \nu$, f.f. patar-am; ${ }_{\epsilon}^{\epsilon} \delta \epsilon \iota \xi a(1 \mathrm{sg} . \operatorname{aor})=.{ }^{*} \epsilon-\delta \epsilon \iota \kappa-\sigma \bar{a}$, f.f. of termn. $-s a-m$, cf. Sk. á-dik-šam ; $\delta \in ́ \kappa \alpha$, cf. Lat. decem, Sk. dáçan-, etc.

Where there are more than one consonn. of which $s$ is the last, the last $s$ is cast off regularly, in the n . sing. generally, with compensatory lengthening, e.g. $\phi \hat{\epsilon} \rho \omega \nu$ for ${ }^{*} \phi \epsilon \rho o \nu \tau-\varsigma, \mu \eta^{\prime} \tau \eta \rho$ for ${ }^{*} \mu \eta \tau \epsilon \rho-\varsigma, \pi о \iota \mu \eta^{\prime} \nu$ for ${ }^{*} \pi о \iota \mu \epsilon \nu-\varsigma, \epsilon \dot{\jmath} \mu \epsilon \nu \eta \eta_{s}$ for ${ }^{*} \epsilon \dot{v} \mu \epsilon \nu \epsilon \varsigma-\varsigma$; yet $s$ is retained also, as e.g. in $\tau \iota \theta \in i s, \delta \iota \delta o u ́ s$, etc., fr. ${ }^{*} \tau \iota \theta \epsilon \nu \tau-\varsigma$, * $\delta \iota \delta o \nu \tau-s$, and, in known cases, the foregoing sounds also, e.g. фá入ay (gen. фá $\lambda a \gamma \gamma-o s, ~ p h a l a n x), ~ \lambda u ́ \gamma \xi($ gen. $\lambda u \gamma \kappa$-ós, cough), $\phi \lambda o ́ \xi$ (gen. $\phi \lambda o \gamma$-ós, flame), ö $\psi$ (gen. ó $\pi$-ós, voice) ; even $\tilde{\epsilon} \lambda \mu ı \nu$, for ${ }^{*} \dot{\epsilon} \lambda \mu \iota \nu \theta$-s (gen. $\tilde{\epsilon}^{\prime} \lambda \mu \iota \nu \theta$-os, intestine worm), $\pi \epsilon i \rho \iota \nu-\varsigma$ for ${ }^{*} \pi \epsilon \iota \rho \iota \nu \theta-\varsigma$ (gen. $\pi \epsilon i \rho \iota \nu \theta-o s$, hamper), ä $\lambda s$ (gen. á $\lambda$-ós, salt), which end in displeasing combinations.

The well-known $\nu$ द́фєлкvбтькó $\nu$ is no relic of an earlier state of the lang., but a peculiar and late phenomenon in Gk., e.g. є̌ $\phi \epsilon \rho \epsilon-\nu$, Sk. and f.f. ábharat ( 3 sg . impf.) ; in these cases the $\nu$ does not appear, therefore, until the origl. $t$ had already been lost, and the feeling for lang. had become accustomed to treat the form as ending in vowel ; $\phi$ '́povol- $\nu$, Sk. and f.f. bháranti (3 pl. pres.) ; $\pi o \sigma \sigma i-\nu$, f.f. pad-sci (loc. pl.).

On the 1st pers. pl. of the vb . this $\nu$ has taken firm hold; the f.f. of this termn. is -masi, hence rose -mas, which is kept in Dôr. $-\mu \epsilon$; through the loss of final $s$-which occurs here and there even in Gk. (in Lat. it is notoriously common), e.g. in oüt $\omega$ bes. and for oü $\tau \omega s$ (thus)-fr. - $\mu \epsilon \varsigma$ arose ${ }^{*}-\mu \epsilon$, and upon this was grafted $\nu$, at first prob. ephelkustik, and thus was produced $-\mu \epsilon \nu$, e.g. Sk. and origl. bhárāmasi, hence Sk. bhárāmas, Gk. (Dôr.) $\phi \epsilon ́ \rho o \mu \epsilon \varsigma,{ }^{*} \phi \epsilon \rho о \mu \epsilon, \phi^{\prime} \rho \rho \partial \mu-\nu$ (we must not think of a change of $s$ to $n$ in this case, any more than elsewhere throughout the range of the Indo-Eur. lang.).

The table of consonn. is to be found in $\S 30$.
The Lat. lang. is esp. characterized by lack of the aspp., which were represented by the corresponding unaspirated sonants, and by unorigl. spirants $f, k$; the latter in such a way that $f$ (repres. by $b$, in medio) may stand for any origl. asp., $h$ almost exclusively $=$ origl. $g h$.
$k$ (written $, c, q$ ) remains always unchanged, but here and there drops away in initio; it does not become $p$ or $t$, as in the other Indo-Eur. langg. The origl. spirants $y, s, c$, are generally retained, though $s$ very often passes into $r$, and $y$ and $v$ often drop out, and are interchanged with $i$ and $u$.

The consonn. are subject to numerous sound-laws: assimilation; dissimilation; change from $t$ to $s$; from $s$ to $r$; medial, initial, and final loss (the latter in a still higher degree in archaic Lat.)-all remove the consonantal system of Lat. widely from the origl. condition of the Indo-Eur. lang.

Origl. mom. mute unaspirated consonn.

1. Origl. $k=$ Lat. $k$, i.e. $c, q$. Origl. $k$ often attaches to itself a $v$, by a sound-law not yet understood (cf. Goth.). The written character, with a few archaic exceptions, represents $k$ by $c$; before $u$ (when other vowels follow $=v$ ) $k$ is represented by its equivalent $q$ (at an earlier period also before the $u$ which forms the syll., e.g. pequnia), e.g. $\sqrt{ }$ coc in coc-tus, coqu-o (cook), origl. $k a k$, cf. Gk. $\pi \epsilon \pi$, Sk. pak' ; quinque (five), origl. kankan, cf. Gk. $\pi \epsilon ́ \nu \tau \epsilon ; \sqrt{ } q u o$ in $q u o-d$ (which), etc., origl. ka, cf. Gk. $\pi o$, earlier $\kappa о$; -que (and), Sk. -k'a, origl. ka, cf. Gk. $\tau \epsilon$; quatuor (four) for ${ }^{*}$ quatuores, origl. katcāras, cf. Gk. тє́т $\tau a \rho \epsilon s$; st. cord- in cor (heart) for *cord, gen. cord-is, origl. kard, cf. Gk. кpaס-ía; $\sqrt{ } q u i$ in qui-s, qui-d (what), origl. ki, cf. Gk. $\tau i-s, \tau i ; ~ \sqrt{ } q u i$ in qui-es (rest), origl. $k i$, cf. Gk. $\kappa \iota$ in $\kappa \epsilon \hat{\imath}-\tau a \iota$; $\sqrt{ } c l u$ in clu-o (hear),
in-clu-tus (famed), origl. kru, cf. Gk. $\kappa \lambda \nu$; $\sqrt{ }$ scid in scindo (split), § 71. origl. skid, cf. Gk. $\sigma \chi \iota \delta$; canis (hound) for *cvan-is, origl. kvan-s, cf. Gk. $\kappa \tilde{v} \omega \nu$, $\kappa v \nu$-ós ; $\sqrt{ }$ dic in deic-o, dìc-o (say), -dǐc-us (saying), origl. dik, cf. Gk. $\delta \iota \kappa$ in $\delta \epsilon i \kappa-\nu v \mu \iota$; decem (ten), origl. dakan, cf. Gk. ס́éка; Vluc in lūc-eo (shine), louc-em, lūc-em (n. lux, light), origl. ruk, cf. Gk. $\lambda u \kappa$; $\sqrt{ }$ loc in loc-utus, loqu-i (speak), origl.
 (call), origl. $\varepsilon a k$, cf. Gk. $F \in \pi$; suff. $-c o$, fem. $-c a$, origl. $-k a$, fem. $-k \bar{a}$, e.g. ciui-cu-s, uni-cu-s, cf. Gk. -ко-s, etc.

In Lat. as in Gk. (cf. § 62) $k$ is sometimes softened into $g$, e.g. ui-gin-ti, tri-gin-ta, bes. ui-cen-sumus, tri-cen-sumus (uigesimus, trigesimus, cf. єї-ко-бь, т $\left.\quad \iota^{\prime}-\kappa о \nu-\tau a\right)$, -gin-, -cen-, is here a relic of (de)cem, f.f. dakan ; neg-otium=*nec-otium ; gubernator bes. киßєрขйтŋऽ, etc.

Note 1.-This is prob. the case also in glöria (glory) for *clōria, ${ }^{*}$ clōsia, a further fmn. of st. ${ }^{*}$ clōs- for ${ }^{*}$ clouos-, ${ }^{*}$ cleuos$=$ Gk. $\kappa \lambda \epsilon F \epsilon \varsigma-$, Sk. çráras- (glory), Sclav. sloves- (n. acc. slovo, word), root origly. $k r u$ (hear), as Sk. çracas-ya-(famous), cravas-yā (famousness, Kuhn, Zeitschr. iii. 398), yet the $\bar{o}$ is strange, for we should have expected $\bar{u}$, cf. in-īuria $={ }^{*} i o u s-i a$, fr. ious, $i \bar{u} s$, a further fm. fr. *iouos, *ieuos.

Note 2.-The pronunciation of $c$ bef. $i$ became, as in other langg., that of palat. $k$ (perh. like Germ. $k$ in kind): the preference for $c$ before $i$, where another vowel follows, was the stronger, because in these cases $i$ was nearly the same as $y$, so that the combinations cio, ciu, etc., were not only sounded like Kio, k'iu, but tolerably early (precisely as in other langg. also) were pronounced tyo, tylu (Ital. cio, ciu), whence arose the common fluctuation in writing about the end of the second or the beginning of the third century a.d. (Corss. Krit. Nachtr. p. 48). The change of $i, y$, after $t$, into $s, s\left(\right.$ tyo $=t_{s}^{r} o$ ), does not occur till the Romance period.

Note 3.-In the pronoml. stems, hi-, ho- (hi-nc, ho-nc), notwithstanding the regularly corresponding Sk. ${ }^{*} g h i \cdot$, $g h u$ - (in $h i$, then, ha, gha, important particles), ought not prob. to be separated from Goth. hi-, hva-, Sclav. sǐ-, kü-, Lith. szi-, ka-, i.e. origl. ki-, $k a$-, on account of the perfect similarity of their functions; further, in $\sqrt{ } h a b$ in $h a b-c o, h a b-\bar{e} s=$ Goth. hab-a, hab-ais (I have, thou hast), cf. Osk. hip-ust (habuerit), haf-iest (habebit),
$\S 71$. whose initial conson. is, as in Goth., $k$ (Goth. $\sqrt{ }$ hab also corresponds to Lat. $\sqrt{ }$ cap in cap-io) ; Lat. $h$ seems to be origl. $k$, a permutation which is found sporadically in Sk. $h r d-$-, $h i^{i} d$-aya(heart) =origl. kard- (cf. Lat. cord-, Gk. кар $\delta$-ia, Goth. hairt-ō) [the antiquity of this $h$ in Aryan is shown by Zend zeredhaèm $=$ Sk. hrdayam]. With Bopp, therefore, I now hold the Lat. pron. stems $h i$-, ho-, to be parallel-fms. to origl. ki-, ka-, regularly represented in Lat. by qui-, ci-, quo-, cu- (qui-s, ci-tra, quo-d, cu-ius, used as interrog. and relat.), and so, too, $\sqrt{ }$ hab in hab-ère, as a parallel-fm. to cap in cap-ere, for Goth. $b$ can be $=$ origl. $p$, and $b$ may possibly arise in Lat. through softening from $p$ (bibo, drink, =origl. papāmi). The correspondence of Lat. $h$ to Goth. $h$ remains none the less remarkable, but esp. the conformity of the two langg. as regards habēre, whose perfect identity, nevertheless, no one denies. But we must not suppose words were borrowed in either case. Other views are found in Corss. Krit. Nachtr., p. 89 sqq.; Comp., 1st ed., p. 715.

Note 4.-Accordingly $p$ is not in Lat.=origl. $\mu$ (but cf. Osk. and Umbr.) ; words in which $p$ seems=origl. $k$ are therefore borrowed. Thus Petronius, Epona, are Keltic, cf. Lat. quatuor, equos; popina is Osk., cf. Lat. coquina, coquere ; palumbes, bes. Lat. columba, must prob. be derived fr. Osk., and limpidus, too, bes. liquidus, must be a dialectic, and not originally a Roman by-form, in which case both words, as is often maintained, were identical ; if lupus is really $=$ Gk. $\lambda$ úкos, it must therefore also be attributed to Osk., Sab., or Umb., but beyond doubt it belongs to Zend; u-rup-i-s, raop-i-s (name of wild beasts of the breed of dogs), $\sqrt{\text { rup }}$, lup (rend, cf. Spiegel, Zeitschr. xiii. 366); sap-io (taste of), sap-iens (wise), does not belong to sucus, Gk. ömós (sap), but to O.H.G. $\sqrt{ }$ sab (understand, pf. int-suab ; Mid. H. G. pres. ent-sebe, pf. ent-suop), Gk. $\sigma 0 \phi$-ós (wise), $\sigma a \phi-\eta$ 's (intelligible, clear), with unorigl. asp. (v. supr. § $62,3, \mathrm{n} .2$ ); sacp-io (hedge in), prae-sacp-e (crib, stall), does not agree with Gk. $\sigma \eta \kappa \bar{o}-s$ even in root-vowel (Lat. $a c=a i$, Gk. $\eta=\overline{\mathrm{a}}$ ); trepit (vertit; Paul. Ep., 367 ; Curt. Gr. Et. ${ }^{2}$ 411) seems to be borrowed from Gk. т $\rho \epsilon \in \pi \epsilon \iota$.
2. Origl. $t=$ Lat. $t$; e.g. in $t i u$ (thou), origl. $t u$, cf. Gk. $\tau$, $\sigma u ́ ; \sqrt{ }$ to in $i s-t u-d$ (dem.), origl. ta, ta-t, cf. Gk. тó; $\sqrt{ }$ ten in ten-tus (held, stretched), ten-or (holding, length), ten-eo (hold), ten-do (stretch), origl. tan, cf. Gk. $\tau a, \tau \epsilon \nu$; st. tri- (three) in trēs, triss, treis, origl. tri-, cf. Gk. $\tau \rho \iota$ - in $\tau \rho \in \hat{\imath} ; \sqrt{ } s t a$ (stand) in sta-tus,
sta-re, origl. sta, Gk. $\sigma \tau a ; \sqrt{ }$ teg (cover), origl. stag, Gk. $\sigma \tau \nLeftarrow ;$ § 71. $\sqrt{ }$ pet in pet-o (make for), im-pet-us (onset), penna fr. pes-na, *pet-na, origl. pat (fly, fall), cf. Gk. $\pi \in \tau$; $\sqrt{ }$ uert in uert-ere (turn), origl. vart ; suff. $-t o$, fem. $-t a=-t a \bar{a}$, cf. Gk. $-\tau o ́-,-\tau \eta$, e.g. in $d a-t u-s$, origl. $d a-t a-s, G \mathrm{Gk} . \delta o-\tau o-s ;-t, 3 \mathrm{p}$. sing., $-n t, 3 \mathrm{pl} . \mathrm{vb} .$, origl. $-t i,-n t i$, cf. Gk. - $\tau t,-\nu \tau t$, e.g. fer-t, fero-nt (i), Sk. and origl. bhảra-ti, bhára-nti, Gk. $\phi \epsilon ́ \rho \epsilon-(\tau) \iota, \phi \in ́ \rho o-\nu \tau \iota$, etc.

Note 1.—On final $t$, cf. § 79 : for Lat. $b r=G \mathrm{Gk} . \theta \rho$, origl. $t r$, § 77, 1 , с.

Note 2.-The change fr. $\tau t$ bef. vowels to $t s(z)$ occurs first in Romance langg.
3. Origl. $p=$ Lat. $p$, e.g. $\sqrt{ } p o$ in po-tus (drink), origl. $p a$, cf. Gk. $\pi o$ in $\pi o ́ o \sigma \iota \varsigma$; in $b i-b o$ (drink), f.f. pa-pāmi, $p$ has been softened into $b$, a change occurring also in other isolated cases (cf. Corss. Krit. Nachtr. p. 176 sqq .) ; ${ }^{*} p o-t i-s$ in impos, compos, im-po-tem, com-po-tem (unable, able), po-t-est (he can), -po-te, -pte (a noticeable affixed particle, e.g. ut-pote, suo-pte), Sk. and origl. $p a ́-t i-s$ (lord), Gk. $\pi \delta^{\prime}-\sigma \iota-\varsigma$, origl. $\sqrt{ } p a$ (protect); pa-ter (father), origl. pa-tar-s, cf. Gk. $\pi a-\tau \eta \prime \rho$, same root; $\sqrt{ }$ ple in plē-nus (full), origl. par, pra, cf. Gk. $\pi \lambda \epsilon$; ped-is (gen.; n. pes, foot), Sk. and origl. pad-ás, cf. Gk. $\pi o \delta-o$ 's ; $\sqrt{ }$ spec in spec-io, spic-io (see), spec-ies (appearance), Sk. paç for ${ }^{*}$ spaç, O.H.G. spah (in spëh-ōn, espy, späh-i, shrewd), origl. spak; $\sqrt{ }$ tep in tep-eo (am warm), tep-or (warmth), Sk. and origl. tap; $\sqrt{ }$ sop in sop-ire (make sleepy), som-nus (sleep) for ${ }^{*}$ sop-nus, Sk. and origl. svap, cf. Gk. $\dot{v} \pi-$, etc.

Note.- $\sqrt{ } f l u$, $f u g$ (fluc-tus), a later and further fmn. fr. $f l u$, in *fou-o, $\mathrm{Alu}^{\prime}-0$ (flow), does not belong to $\pi \lambda v$, Sk. plu, Sclav. plu, etc., for Lat. $f$ is not=origl. $p$ : this root is represented by Lat. $p l u$ (plu-it, i.e. ${ }^{*}$ plou-it, it rains) ; perh. Lat. $f l u$ is to be placed beside Gk. $\phi \lambda \hat{\prime}-\omega$ (swell, overflow), oivó- $\phi \lambda \nu \xi$, - $\phi \lambda u \gamma-o s ;$ so Curt. Gr. Et. ${ }^{2} 271$; we can scarcely take $f u$ for *sfu, and this for ${ }^{*} s \theta l u$ fr. ${ }^{*}$ stru for $s r u$ (flow), with Ad. Kuhn (Zeitschr. xiv. 223 ); in the latter case Lat. fluo, i.e. *fouo, stands equal to Sk. srárāmi, Gk. $\rho \in \notin \omega$; Alu-men for ${ }^{*}$ s $\theta$ roumen, ${ }^{*}$ s $\theta$ reumen, essentially $=\dot{\rho} \epsilon \hat{v} \mu a$ for ${ }^{*} \sigma \rho \epsilon v \mu a$, O.H.G. strou-m, Pol. strumien' (running stream).
§72. Momentary sonant unasp. consonants.

1. Origl. $g=$ Lat. $g, g v(g u), v$.

Lat. $g=$ origl. $g$, e.g. $\sqrt{ }$ gen in $g i-g(e) n-0$ (beget), gen-us (race), gna in gnā-tus (one born, son), origl. gan, cf. Gk. $\gamma \in \nu ; \sqrt{ } g n o$ in gnō-sco (learn), gnō-tus (known), origl. gna, transposed fr. gan, cf. Gk. $\gamma \nu 0$ in $\gamma \iota-\gamma \nu \omega$ - $\sigma \kappa \omega$; genu (knee), cf. Gk. $\gamma^{\prime} \nu v$, Sk. $g^{\prime} \bar{a} n u$, Goth. kniu; $\sqrt{ } a g$ in ago (drive), origl. ag, pres. ag-āmi, Gk. $\dot{a}_{\gamma}$ in ${ }^{\prime} \gamma-\omega$; $\sqrt{ } \dot{i} u g$ in iugum (yoke), iung-o (join), Sk. yug', yug, origl. yug, cf. Gk. Yuy, etc.

Lat. $g v(g u)=o r i g l . g$. As origl. $k$ developed into $q u(k v)$, so also $g$ (=origl. $g$ and $g h$, cf. $\S 73,1$ ) into $g v$ : this $g v$ is, however, retained only after $n$; it also occurs after $r$, bes. $g$, in urgueo bes. urgeo (urge), $\sqrt{ }$ urg, origl. varg, cf. Sk. varǵ (shut out), Lith. vèrż- $t i$ (urge). Between vowels this $g$ has become assimilated to the $v$ (without lengthening of a previous short syll.), so that the $v$ alone therefore remains. In this way it happens that Lat. $v$ betw. vowels may be origl. $g$ and $g h$, e.g. $\sqrt{ }$ uig for ${ }^{*}$ guig, cf. Germ. quick in uixi (pf.) $={ }^{*} u i g$-si, uic-tus (diet) $={ }^{*} u i g-t u s$, but $u \bar{u} u$-os (alive), uīu-o (live) for ${ }^{*} u i g u$-os, *uigu-o. For further exx. of this interchange of sound v. sub ' $g h$ ' (v. Corss. Krit. Beitr., p. 68, on interchange of $g$ and $g v$ in Lat.).

Note 1.-fluxi, fluc-tus, con-flug-es (confluence), bes. fluo, i.e. ${ }^{*}$ flou-o (flow), show indeed a further fmn. of $\sqrt{ } f u$ to $A l u g$, as Gk. $\phi \lambda v$ to $\phi \lambda v \gamma$ (§ 71, 3 n. ) ; we see, however, no ground for the assumption that fuo, *fou-o, together with fluu-ius (river), have passed through fms. ${ }^{*}$ flogu-o, ${ }^{*}$ flugu-ium (Corss. Ausspr. etc., i. ${ }^{1}$ 44). In this case the root-fm. is preserved without $g$.

Note 2.-Cf. exx. cited under $g h, \S 73,1$, and sound-laws, § 77, 1. a.

Note 3.-In bos, bouis (ox)=Gk. Roûs, RoFós=Sk. gãus (gen. $g \bar{s}$ prob. represents origl. gav-as), cf. O.H.G. chuō, $b=$ origl. $g$, a correspondence of conson. otherwise foreign to Lat. ; accordingly the word is probably borrowed. G. Curt. Gr. Et. ${ }^{2}$ nos. 639, 642, bringe forward super-bus, super-bia (proud, pride), which he takes to stand for ${ }^{*}$ super-bios, as=Gk. $\dot{v} \pi \epsilon \in \rho-\beta \iota o s$ (overween-
ing), - -ßia (presumption), -ßıos however=Sk. ǵi, pres. ǵáy-āmi § 72. (triumph), f.f. gi; bo-ere, bou-are (cry, sound), re-bo-are (resound), with Gk. $\beta o-\eta$ (call, cry) fr. Sk. $\sqrt{ } g u$ (let sound), Old Bulg. gov-orŭ (noise); super-bus is, however, not precisely similar to $\dot{u} \pi \epsilon \in-\beta \iota o s$, a word compounded according to Gk. principles (for we should then be obliged to consider it borrowed), but rather a special Lat. fmn. like acer-bus, mor-bus (Corss. Krit. Beitr. 61), and boare with $\beta$ on need not by any means be referred to Sk. gu, O. Bulg. gov-orü. It seems to me to be a mere imitative sound.

Note 4.-c and $g$ were not distinguished in earlier Lat. writing, but prob. in the spoken lang. only.

Note 5.-Bef. $n$ we are now accustomed in pronunciation to change Lat. $g$ to gutt. $n$, i.e. the $g$ becomes assimild. to $n$, according to its scale, becoming nasal: instead of mag-nus, dig-nus, etc., we say mañ-nus, din$-n u s$. This is the same interchange of sound which is seen quite early in the lang., e.g. in Sam-nium for *Sab-nium, som-nus for *sop-nus. Spellings such as singnum make it probable that even as early as the times of the later Cæsars, people had begun to pronounce signum as sinnum. Yet we cannot consider this pronuncn. of $g n$ as $\dot{n} n$ to be ancient, because the Roman grammarians do not mention it. From this later pronunciation of $g n$ we must distinguish the principle on which gn was treated in Romance langg., where it became a palatal n, e.g. Ital. magno, degno (pron. maño, deńo), Fr. magne, digne (pr. mań, diń). Therefore the above-named pronunciation of Lat. $g n$ cannot have arisen through Romance influence.
2. Origl. $d=$ Lat. $d$, rarely $l$.

Lat. $d=$ origl. $d$, e.g. $\sqrt{ } d a$ in dä-tus (given), Sk. and origl. $\sqrt{ } d a$, cf. Gk. $\delta \mathrm{o} ; \sqrt{ }$ dom in dom-are (tame), Sk. and origl. $\sqrt{ }$ dam, cf. Gk. $\delta a \mu-a ́ \omega$; dom-us (house), Sk. and origl. dam-as, cf. Gk. סó $\mu$-os ; dent-em (tooth, acc.), Sk. and origl. dánt-am, cf. Gk. $o$-סóvt-a; $\sqrt{ }$ uid in uid-ere (see), Sk. and origl. vid, Gk. Fı $\delta$; $\sqrt{ }$ ed in ed-o (eat), Sk. and origl. ad, cf. Gk. $\epsilon \in$; $\sqrt{ }$ sed in sed-eo (sit), Sk. and origl. sad, cf. Gk. $\dot{\epsilon} \delta$, etc.

Lat. $l=$ origl. $d$ in initio, and, more rarely, medially bef. vowels, e.g. lacrima (tear) fr. dacrima (Festus), cf. סáк $\rho v, G o t h$. tagr, O.H.G. zahar; lēuir (father-in-law), cf. $\delta \bar{\alpha} \eta \rho^{\prime}-$, st. $\delta \overline{a ̄} \epsilon \rho$-, for * $\delta a \iota \epsilon \rho$-, * $\delta a \iota F \epsilon \rho$ - (Ebel, Zeitschr. vii. 272), Sk. st. dēvár-, n. sing.
§ 72. dēváa, also $a$-st. dēvará-s, O.H.G. zeihhur, Lith. dëveri-s (known to me through the Dictionary only), O. Bulg. dèveř"; lingua (tongue), earlier dingua, ef. Goth. tuggō, Germ. tunge; ol-ere (smell) bes. od-or (scent), cf. ${ }^{\circ} \delta-\omega \delta-a$, $\dot{\delta}-\mu \dot{\eta}, \dot{\partial} \sigma \mu \eta^{\prime}$. Sometimes both the $d$ - and $l$-forms remained extant; thus im-pel-imentum bes. im-ped-imentum (hindrance), fr. st. ped- (pes, foot) ; de-lic-are bes. de-dic-are (dedicate), $\sqrt{ }$ dic (dīc-o, $\delta \epsilon i \kappa-\nu v \mu \iota, ~ e t c.), ~ e t c . ~$
3. Lat. $b$ may be origl. $b$ (v. §46, 3), e.g. in bal-are (bleat), cf. Gk. $\beta \lambda \eta-\chi \chi^{\prime}$ (a bleating), $\beta \lambda \eta-\chi$ áo $\mu a r$, Sclav. $b l e ̄-j a, ~ O . H . G . ~$ blă-马an (bleat), an onomatopoëtic word; breuis (short), corresponding to Gk. $\beta \rho a \chi u ́ s$, Sclav. brŭz (quick) ; $\sqrt{ } l a b$ in lāb-itur (glides, sinks), lap-sus=*lab-tus (past part.), Sk. $\sqrt{ }$ lab, lamb in lámb-atè (he sinks, falls).
§73. Momentary sonant aspirated consonants.
Note 1.- $f$ may represent any of the aspp, and is placed mainly in initio; medially $b$ occurs instead of $f$; yet rūfu-s (red), scrofa (sow), Afer (African), sifilus and sifilare (Fr. siffer, Zeitschr. xvi. 382) bes. usual sibilus (whistling, piping), sibilare (to whistle, pipe), etc., with medial $f$ betw. vowels, according to the principles of the other Italian langg., whose influence perh. made itself felt in these words (Corss. Krit. Nachtr. p. 194, sqq.). In signi-fer, pesti-fer, and the like, $f$ evidently arises from the perceptible connexion with ferre, whilst in ama-bam, etc., fr. $\sqrt{ } f u$ ( $f u i$, etc.), origl. bhu was no longer felt.

Note 2.-ch, th, ph, are not Latin but Gk. sounds, which did not come into use till a comparatively late period, and are yet unknown in the earlier lang. Further details as regards the history of these ways of spelling belong to the special gr. of Lat.

1. Origl. $g h=$ Lat. $g$, $g v(g u), v, h, f$.

Lat. $g=o r i g l . g h$, e.g. $\sqrt{ } g e r$, gra, in ger-men (bud), $=$ Lith. $\dot{z} e l-m \ddot{u}$, st. $̇$ zel-men- (sprout), grā-men (grass), origly. a side-form of ger-men, cf. O.H.G. gruo-ni (green), gra-s (grass), Sk. hár-it-, har-ita- (green), Zend zairita- (yellowish-green), Gk. $\chi^{\lambda o-\eta}$ (green, grass), O. Bulg. zel-enü (green), Lith. ̇̇él-ti (grow green,
wax), ̇̇ál-ias (green), ̇̇ol-ë (grass, greens), origl. $\sqrt{ }$ ghar, ghra § 73. (be green, yellow, grow green) ; grā-tu-s (pleasant), cf. Osk. Umbr. $\sqrt{ } h e r$ (wish), $\chi^{a ́ \rho} \rho \iota s$ (grace), $\chi a i ́ \rho \omega$, i.e. * $\chi a \rho-y \omega$ (rejoice), Sk. har-yāmi (love, desire), Germ. $\sqrt{ }$ gar (desire), e.g. in O.H.G. gër-ōn (desire), origl. Vghar, ghra; grando (hail) bes. Sk. $h r a \bar{d} d-u n \bar{\imath}$, Gk. $\chi a ́ \lambda a \zeta a$, i.e. ${ }^{*} \chi a \lambda a \delta-y a,^{*} \chi \lambda a \delta y a(\mathrm{v} . \S 29,1$ ), origl. root therefore ghrad ; except before $r$ and in ger-men Lat. $g=g h$ is confined to the middle of words; $\sqrt{ }$ ang in ang-o (throttle, kill), ang-ustus (narrow), ang-or (pain), ang-ina (quinsy), origl.
 agg, origl. agh; $\sqrt{ }$ lig in lig-urio, li-n-g-o (lick), origl. righ, Sk. rih, lih, Gk. $\lambda_{l} \chi$ in $\lambda \epsilon i \chi-\omega$, $\lambda_{i}^{\prime} \chi$ - $\nu o s$, Goth. lig ; $\sqrt{m i g}$ in $m i-n-g-o$, mēio, for ${ }^{*}$ migio, origl. migh, Sk. mil, Gk. $\mu \iota \chi$ in $\grave{o}-\mu \iota \chi-\epsilon \in \omega$, $\dot{o}-\mu i \chi-\lambda \eta$.

Lat. $g v$ ( $g u$ ), $v=$ origl. $g h$ (cf. § 72, 1, and § 77, 1, a), e.g. angu-is (snake), angu-illa (eel), cf. Gk. ${ }_{\epsilon}^{\epsilon} \chi-\iota s$ (viper), $\epsilon^{\ell} \gamma \chi-\epsilon \lambda \nu \varsigma$ (eel), Sk. ah-is, i.e. *agh-is, Lith. ang-is (snake), ung-ury's (eel), O.H.G. unc (snake) ; in nix (snow), i.e. *nig-s fr. *snigh-s, gen. niu-is for ${ }^{*} n i g u-i s$, *snigh-as, is found-as also we see fr. Lith. $\sqrt{ }$ snig, in snig-ti (to snow), snếg-a-s (snow), and Gk. $\nu i \phi-a$ (snow, acc.), vi $\phi-\epsilon \iota$ (it snows)-an origl. $\sqrt{ }$ snigh as a basis, which is clearly shown in Sk. snih (be moist); breu-is (short) for *bregu-is,
 In breuis and leuis the correspondence of $v$ to $g u$ ought prob. to be explained as occurring through change of origl. $g h$ to $g v$, but rather through the introduction of a secondary $i$ into the previously existing stems bregu-, legu-, =braghu-, raghu-. Nevertheless even thus the origl. $g h$ is involved in the $v$, because the $g h$, or rather its Lat. equivalent $g$, has become assimild. to the $v$.

Note.-Therefore $g$ may represent both origl. $g h$ and $g$; in such cases as mag-nus (great) bes. $\mu$ é $\gamma-a s$, ego (I) bes. є่ $\gamma \omega \dot{\prime}$ ( $\{64,1$ ), we must not permit ourselves to determine that Lat. $g$ is =origl. $g h$, merely on account of Sk. mah-ánt-, ahám,
§73. since the corresponding Goth. fms. mik-ils, $i k$, show the unasp. conson.

Lat. $h=$ origl. $g h$, esp. in initio, very rarely in medio, e.g. hiem-ps (winter), cf. Gk. $\chi^{\iota}{ }^{\omega} \nu$ (snow), $\chi \epsilon i \mu a$ (storm), $\chi \epsilon \iota \mu \dot{\omega} \nu$ (winter), Sk. himá-s (snow, cold), Sclav. zima (winter, cold), Lith. ̇̇ëmd (winter); homo (man), earlier hemo, st. homen-, hemen-, cf. Goth. guma (man), st. guman-, Lith. $\dot{z} m i$, st. $\dot{z} m e n-$ (mankind), which collectively point to a f.f. ghaman-; holus, helus, heluola (greens), $\sqrt{ }$ ghar (be green), cf. $\chi^{\lambda o-\eta}$, Sk. hár-ita (v. sub $g=g h$ ) ; haed-us (he-goat, Cod. Medic. Vergili), cf. Goth. gaits (f. she-goat), O.H.G. geiz, the initial conson. of this word was therefore $g h ; \sqrt{ }$ veh, pres. ueh-o (carry, draw), $\sqrt{ }$ vagh, pres. vagh-ämi, Sk. vah, pres. váh-āmi, Zend vaz, pres. vaz-āmi, Gk. Fє $\chi$ in Fó $\chi$-os (waggon), Goth. vag in (ga-)vig-a (move), vig-s (way), Sclav. vez, pres. vez-a, Lith. vez, pres. veż-ù.

The $h$ easily comes to be entirely lost, e.g. in anser (goose) for *hanser, cf. Sk. hãad́-s, O.H.G. gans, st. gansi-, Sclav. gascǐ, Lith. $\dot{z}$ asi-s; olus for earlier holus (v. supr.); uia (way) fr. ${ }^{*} u e h-i a$, *ueia, *uäa, $\sqrt{ } u e h$, cf. the completely analogous Lith. rèsè (track), i.e. *reżya, f.f. of Lith. and Lat. word, thus ragh-yā ; nēmo (no man), fr. *ne-hemo, etc.

Note- $h$ is often found where it should not be, by false analogy, e.g. humerus for umerus, which is warranted by MSS., cf. Gk. $\tilde{\omega}^{\oplus} \mu o-\varsigma$, Sk. ấsa-s and à́sa-m, Goth. amsa, st. amsan-; in later times $h$ was noticeably often placed bef. initial vowel : $h$ must therefore have fallen out of use in many cases tolerably early.

Lat. $f=$ origl. $g h$, e.g. fel (gall), st. felli-, clearly fr. ${ }^{*}$ felti-, cf.
 for-mu-s, for-midus (hot), cf. Sk. ghar-má-s (heat), Scl. grě-ti (to warm), gor-ěti (burn), Germ. warm for ${ }^{*}$ gwarm fr. ${ }^{* g a r-m}$,
 § 64, 2. n.) ; fra-gra-t (fragrare, emit odour), provided it really comes from a redupln. of $\sqrt{ } g h r a$, cf. Sk. $\dot{g} i-g h r a \bar{a}-t i, g h r a \bar{a}-t i$ (stinks,

Benf. Or. u. Occ. iii. 69) ; fu-tis (tub), fū-tilis (unstable, cf. Curt. § 73. Gr. Et. ${ }^{2}$ no. 203, p. 156), $\sqrt{ }$ fu-d, fundo (pour), cf. Gk. $\sqrt{ } \chi^{v}$ in $\chi^{\prime} F-\omega$, Teut. gu-t, in Goth. giut-an (pour).

Since $f$ and $h$ correspond to origl. gh, and $h$ easily disappears altogether, we can explain such forms as faedus, fēdus, bes. haedus, aedus, êdus (cf. geiz); folus bes. holus and olus ( $\sqrt{ }$ ghar); fostis bes. hostis (foe; Goth. gasts, guest, points distinctly to the origl. initial $g h$; in both langg. the meaning has been developed in divergent lines, cf. Corss. Krit. Beitr. 217 sqq.); fordeum bes. hordeum, prob. for *horteum, *horsteum, cf. O.H.G. gersta, Gk. к $\rho \bar{\imath} \theta r_{1}^{\prime}$ for ${ }^{*} \chi \rho \check{\iota} \sigma \tau \eta$ ( $\S 8,1, \mathrm{~d}$; on this word cf. Corss. Krit. Nachtr., p. 104 sqq.) ; festūca (stalk, switch) bes. hasta (spear), cf. Goth. gazds (thorn), O.H.G. gart (thorn), *gartya (gardea, kertia, gerta), initial origl. gh therefore; and the like. Cf. the change fr. $g h$ to $f$ in cases such as Engl. enough (pron. inưf), A.S. genōh (genug) ; laugh (pr. läf), A.S. hleahhan, Goth. hlahyan (laugh), etc.

Note 1.-No ex. of $b=$ origl. $g h$ seems to be found.
Note 2.-The origl. $\sqrt{ }$ ghar (be green) is found also in fms. ger (germen), gra (grāmen), hel (helus), hol (holus), ol (olus), fol (folus), and fel (fel). In the other langg. also the feeling of relationship of the different words which spring from this root has been lost.
2. Origl. $d h=$ Lat. $d, f, b$.

Lat. $d=$ origl. $d h$, e.g. mediu-s (middle-) $=$ origl. and Sk. mádhya-s, Gk. $\mu$ é $\sigma \sigma o s, ~ i . e . ~ * ~ * e \Theta y o-s, ~ G o t h . ~ m i d j i-s ; ~ a e d-e s ~$ (house, origly. fire-place, cf. aes-tus, aes-tas, fr. *aed-tus, *aed-tas), $\sqrt{ } \mathrm{idh}$, origl. Gk. ai $\theta-\omega$, Sk. indh, cf. O.H.G. eit (fire) ; uidua (widow), cf. Sk. vidhavā, Goth. vidurō.

Hence it arises that the origl. roots $d a$, $d h a$ (give, set), may become intermixed, e.g. $a b-d o$ (do away, hide), con-do (found), crē-do (believe), belong not to da-re (give), but to a root lost in its uncompounded fm., corresponding to Gk. $\tau i-\theta \eta-\mu l$, Sk. $d \dot{\alpha}-d h \bar{a}-$ $-m i$, O.H.G. tuo-m, cf. Sk. çrad-dadh-āmi (believe); of the coin-
§73. cidence of the origl. $d a$, dha (as in Zend), we find proof in uen-di-t (sells) bes. uēnum dat $=$ Sk. and origl. vasnam dadhäti, $\grave{\omega} \nu \nu \tau i \theta \eta \sigma \iota$, dat therefore stands here most likely as representative of $d h a, \mathrm{Gk} . \theta \epsilon$, not of $d o$, Gk. $\delta o$; further, $d o$ which has become like a sf., e.g. in $a l b i-d u-s$, ari-du-s, sordi-du-s, is prob. to be referred to this root, as the similar roots also in Lat. are elsewh. still practically used as suffixes (e.g. laua-cru-m, ludi-cru-s, ala--cri-s, uolu-cri-s, cf. $\sqrt{ }$ kar (make) ; late-bra, fune-bri-s, cf. $\sqrt{ }$ bhar, ferre, etc.). In uncompounded words $\sqrt{ } d h a$ is in Lat. $f a, f e$; v. post.

Note.-r for $d$ fr. $d h$ is altogether sporadic, in meri-dies (midday) fr. ${ }^{*}$ medi-dies (medius =mádhyas, cf. $\mu \in \sigma-\eta \mu \beta \rho i ́ a$, Germ. mit-tag, Sk. madhyähna-s fr. madhya-, medius, and ahan-, day); in the case of $a r=a d$ (ar-uorsus, etc.), the comparison with words of the kindred langg. is not easy (cf. regular change of $d$ to $r$ in Umbrian).

Lat. $f=$ origl. dh, e.g. fümus (smoke), cf. Sk. dhūmás, Lith. dúmai (pl. n. sing. would be düma-s), Sclav. dymü, O.H.G. toum, Gk. $\theta \dot{v}$-os (burnt sacrifice), $\sqrt{ } d h u$; fores (pl. door), foris (passage), foras (outwards), cf. Gk. Búpa, Goth. daúr, O.H.G. tor, turi, Scl. dverư, Lith. dury's, Sk., however, dvấra-m, dvār-, Ved. durwith $d$, not $d h$, to which the S.- and N.-European langg. point; fer-us, fer-a, fer-ox (wild), cf. Gk. $\theta \eta \eta_{\rho} \rho, \theta \eta \rho-i o \nu$; fir-mus (fast), frē-tus (trusting to), frē-num (bridle), for-ma (shape), cf. Sk. dhar-imán- (id.), $\sqrt{ }$ dhar (hold) ; $f \hat{\imath} \imath={ }^{*} f e i o$ (become), f.f. dhayāmi, $\sqrt{ } d h a$ (set, do), Gk. $\theta \in$, Goth. $d a$, from which also the secondary $\checkmark f a c$ is formed ( $f a c-i o$, make), likewise $f a ̈-b e r$ (wright), st. fa-bro-, cf. Sk. dhā-tar- (founder, ordainer; Kuhn, Zeitsch. xiv. 229 sqq.).

In rūfus (red)=Goth. raud-s, f.f. rāudha-s, $\sqrt{ }$ rudh, medial $f$ stands also for origl. $d h$, whilst rub-er (red), rub-igo (rust), are regular, and show $b$ for $f$ (v. supr. n. 1), but collateral raud-us (clod), origl. $\sqrt{ } r u d h$, cf. Sk. $r u d l-i r a ́-m$ (blood), Gk. $\epsilon$ - $\rho v \theta-\rho o ́ s, ~ a n d ~$ hence we find this root in Lat. as rud, ruf, rub (for rutilus, v.
infr.). Cf. the $f$-like pronuncn. of th in Eng. and $\theta$ in $\bmod . \mathrm{Gk}$; § 73. in Russian Gk. $\theta=f$ in pronunciation.

Lat. $b=$ origl. $d h$ in medio, e.g. rub-er, st. rub-ro-= $\epsilon$ - $\rho v \theta$ - $\rho o ́-$, Sk. rudh-i-rá-, origl. rudh-ra-, $\sqrt{ } r u b$, Sk. $r u d h$, Goth. rud, O.H.G. $r u t$, Scl. rŭd (be red) ; ūber (udder), i.e. *ouber, Gk. ovi $\theta a \rho$, Sk. $\frac{1}{u} d h a r-$, ŕdhas-, $\frac{1}{\prime} d h a n-, ~ M . H . G . ~ u ̈ t e r, ~ i u t e r, ~ r o o t-s y l l . ~ o r i g l . ~ a u d h ; ~$ $\bar{u} b e r$ (adj. rich), i.e. *oiber, cf. Sk. é $d h$-atē (increases), $\sqrt{ }$ idh (Walt. Zeitschr. x. 77) ; uerbum (word)=Goth. vaird, H.G. wort, f.f. vardha-m, cf. Lith. várda-s (m. name) ; barba (beard), stands bes. Norse bardhr, H.G. bart, Lat. $b=$ Germ. $t, d$, must be der. fr. origl. $d h$.
3. Origl. $b h=$ Lat. $b, f, h$.

Lat. $b=$ origl. $b h$ in medio, e.g. $a m b \bar{b}$ (both) $=\mathrm{Gk} . a ̈ \mu \phi \omega$, cf. Sk. ubhāú, earlier ubhá, Goth. bai, nt. ba (with loss of init. sound), Scl. oba, f.f. of st. $=a m b h a-$; lub-et (pleases), Sk. $\sqrt{l u b h}$ (desire), Goth. lub (in liulb-s, dear, -lubō, love, etc.); nëbula (mist), nübes (cloud), Gk. vє申́́ $\lambda \eta$, $\nu \notin ́ \phi o s, ~ S k . ~ n a ́ b h a s ~(c l o u d, ~$ sky), O.H.G. nëbal, Scl. nebo (sky) ; -bī in ti-bī, i-bī, (c)u-bi, corres. to Sk. -bhyam, sf. dat. sg. (only preserved in certain cases, e.g. tí-bhyam, $-b h y a=$ Lat. ti-bē $)$; -bus, sf. dat. abl. pl. $=$ Sk. $-b h y a s$, cf. Gk. - $\phi \iota \nu$, both alike containing particle $b h i: \sqrt{ } f u$ in verb. fms. composed by it begins with $b$, e.g. ama-bam, ama-bo, for *ama-fam, *ama-fo (v. post. "conjugation").

Lat. $f=$ origl. bl, e.g. $\sqrt{ } f a$ in $f \bar{a}-r i$ (speak), $f a \bar{a}-t u m$ (utterance, fate), origl. bha, cf. Gk. $\phi a$ in $\phi \eta-\mu \prime, \phi \omega-\nu \eta^{\prime}, \phi \dot{\alpha}-\tau \iota \varsigma, S k . b h a ̈-s$ (speak); $\sqrt{ }$ fer, pres. fer-o (bear), cf. Gk. $\phi \in \rho$ in $\phi \epsilon \in-\omega$, origl. and Sk. bhar, pres. bhár-āmi; $\sqrt{ } f u$ (be) in fu-turus, fu-am, Sk. and origl. $b h u, \mathrm{Gk} . \phi v$ in $\phi \dot{v} \cdot \omega$, $\phi v$-тós; $\sqrt{ } f u g$ in $f u g-i o$ (flee), fug-a, cf. Gk. $\phi u \gamma$ in $\phi \epsilon u ̛ \gamma-\omega, \phi u \gamma-\eta$, Sk. $b h u g{ }^{\prime}$, Goth. bug, pres. biuga, origl. bhug; frāter (brother), origl. bhrātar-s, cf. Gk. ф $a^{\prime} \tau \omega \rho$, Sk. bhrātã, Goth. brōthar, etc.

Lat. $h$ is very rarely $=$ origl. $b h$; e.g. in hor-da bes. for-da (bearing), $\sqrt{ } f e r$, origl. bhar; in $m i-h i,-h i$ stands for $-b i$, which we should have expected, as also in Sk. má-hyam for *ma-bhyam,
§73. cf. ti-bi, Sk. tú-bhyam; in both langg. the initial $m$ seems to have had a dissimilating influence on the $b h$. We must not hence venture to assign a fm. ma-hyam to the origl. lang., for the origl. could only be sounded ma-bhyam (or ma-bhiam, ma--bhiyam, cf. § 3), a f.f. which diverged later into Sk. má--hyam, Lat. mi-hei; in dat. pl. of $a$-st., in -is fr. -ois, -ais, origl. -a-bhyams, -ā-bhyams (v. 'decl.'), origl. bh has entirely disappeared, perh. through intervening $h$ (cf. mihi); so too prob. ama-ui for *ama-fui, $\sqrt{ } f u$, origl. bhu (be).

Note.-In some exx. a Lat. tenuis stands apparently for an asp.; these are rutilus (fiery red) bes. Sk. $\sqrt{\text { rutudh, Gik. } \dot{\rho} v \theta \text {; }}$ pati (suffer) bes. Gk. $\pi a \theta \in i \bar{\nu}$; pūtēre (stink) bes. Gk. $\pi \bar{v} \theta-\epsilon \sigma \theta a \iota$; putäre (calculate) bes. Gk. $\pi v \theta \in \in \in \theta a \iota$ (learn), otherwise distinct from it in use; sapiens (wise) bes. Gk. oo申ós; latēre (escape notice) bes. Gk. $\lambda_{a} \theta \in i \nu$, Sk. $\sqrt{ }$ rah for origl. radh. Cf. L. Meyer, Gr. of Gk. and Lat. Langg., i. p. 51 ; G. Curt. Gr. Et. ${ }^{2}$ p. 374, Kuhn's Zeitschr. ii. 355 ; Grassmann ap. Kuhn, id. xii. 86 sqq.; Corss. Krit. Beitr. p. 75 sqq., 79 sqq. Herein we concur in the conclusions of Curt. and Corss., which amount to this,-that in the above-named words also $t$ and $p$ are not=origl. $d h, b h$, Gk. $\theta, \phi$. ru-tilus (cf. fu-tilis, mu-tilus) seems to have sf. -tilo, and to stand peculiarly for *rud-tilus, *rus-tilus (v. post.), like early Lat. ad-gre-tus, e-gre-tus, for *-gred-tus, *-gres-tus (class. gressus, $\sqrt{ }$ grad, gred, in grad-ior, step), pa-tior however is a later fmn. fr. $\sqrt{ } p a$, which is otherwise formed in Gk. $\pi a-\theta, \pi \epsilon \nu-\theta(\pi \epsilon \nu \theta o s$, suffering, grief); to the origl. existence of the shorter root-fm. $p a, \pi a$, the fms. $\pi \epsilon \in-o \mu a \iota$ ( am in want), $\pi o \nu-\epsilon \in \omega$ (suffer, labour), point ; therefore $\pi \epsilon-\nu, \pi o-\nu$, give evidence to $\pi a$, just as $\gamma \epsilon-\nu, \gamma o-\nu$ (beget), do to a real pre-existent $\gamma a$ ( $n$ is a common secondary root-termn.). The same explan. holds good in puteo, where $t$ belongs to the origl. root as little as does $\theta$ in $\pi \bar{v}-\theta o \mu a t$; the root is $p u$, which clearly occurs in Lat. pūs, gen. pūris (matter), i.e. ${ }^{*} p o u-o s,{ }^{*} p o u-e s-o s$, f.f. pav-as, pav-as-as, cf. $\pi u^{\prime}-o \nu$ (id.), Sk. $p \frac{\bar{u}}{1}-y a t \bar{e}$ (becomes foul, stinks), putína-s (matter), Lith. pú-ti (befoul), O.H.G. $f \bar{u}-l$ (foul), f.f. pau-ra-s. Pu-tare fr. putus (pure), lit. $=$ 'make clean, clear,' and has therefore nothing to do with Gk. $\pi u \theta \in ́ \sigma \theta a l$, Sk. $\sqrt{ }$ budh, etc. ; $\sigma o \phi_{o}^{\prime}$ stands for * $\sigma o \pi o s$ with unorigl. aspn., cf. supr. $\$ 62,3$, n. 2 . Thus latêre alone remains unexplained bes. $\lambda a \theta \in i \hat{\imath}$, a solitary instance, for which we must not try to make good a consonantal change which is otherwise unknown.

## Consonantal Prolonged-sounds.

Spirants $y, s, v$.

1. Origl. $y=$ Latin $j$ (written $i$ ), $i$.

Lat. $j=$ origl. $y$, initial and medial, yet not commonly between vowels, and almost only after long vowels, e.g. cū-ius, plebē-ius, or when a conson. has assimilated itself to the $y$, as in $a i o$, mäior, mēio (v. post.), e.g. $\sqrt{ } i u g$, Sk. yuǵ, Gk. $\zeta u \gamma$, origl. yug, in $i u-n-g o$, (join), iug-um (yoke)=origl. and Sk. yug-ám, Gk. $\zeta u \gamma-o ́ v$, Goth. $y u k$, O. Bulg. igo $={ }^{*} j u ̈ g-o$; pronl. $\sqrt{ } y a$ in $i a-m$ (already), cf. Lith. yaú, Goth. yu (already) ; ius (broth), cf. Sk. $y \bar{u} s a-s, y \bar{u} s a-m$ (' pease-soup,' 'the water in which pulse of various kinds has been boiled;' Wilson), Scl. iucha; iuuenis (young man), cf. Sk. yúvan-, Goth. yuggs, Scl. yunü, Lith. yainnas (young) ; äio (say) for ${ }^{*} a g-i o$, pres. fmn. in sf. origl. ya, $\sqrt{ } a g$, origl. $\sqrt{ }$ agh, cf. $a d$-ăg-ium (saying), Sk. ah (say); māior (greater) fr. ${ }^{*}$ mag-ior, comp. sf. -ior, earlier -ios, Gk. -tov, Sk. -yâs, -īyâs, origl. -yans ; mēio $={ }^{*}$ migio, i.e. ${ }^{*}$ migh-yāmi, pres. fmn. in origl. $y a$, etc.

Lat. $i=$ origl. $y$ after consonn., e.g. med-ius=origl. and Sk. mádhyas, cf. $\mu$ é $\sigma \sigma o s={ }^{*} \mu \epsilon \theta-y o s ;$ patr-iu-s (father-), origl. patar--ya-s, cf. $\pi a ́ \tau \rho-\iota-$-s, Sk. pitr-ya-s, st. origl. patar-, sf. ya; siem, siet ( 1,3 , sg. opt. pres.), origl. as-y $\bar{a}-m$, as-y $\bar{a}-t$, cf. $\epsilon \ddot{\eta} \eta, \epsilon_{i} \eta$, fr. ${ }^{*} \epsilon \sigma-y \eta-\mu$, ${ }^{*} \dot{\epsilon} \sigma-y \eta-\tau$, Sk. syā-m, syā-t, opt. pres. $\sqrt{ }$ as (be) ; capio for ${ }^{*}$ cap- $y \overline{0}$, i.e. ${ }^{*} k a p-y \bar{a}-m i$, pres. in origl. ya, etc.

Not uncommonly $y$ disappears entirely, thus regularly betw. vowels, as, e.g. moneo (remind, warn), f.f. mānayāmi, causative from $\sqrt{ }$ men (men-tem, me-min-i), origl. man (think); sēdo (seat, set), fr. *sēdao, *sēdayo, Sk. and origl. sādáayāmi, caus. from $\sqrt{ }$ sed (sedere), origl. sad; further before $i$ and $e$ which stands for $i(\S 35, \S 38)$, e.g. capis, capit, for ${ }^{*}$ capyis, ${ }^{*}$ capyit, i.e. kap-ya-si, kap-ya-ti, bes. capio, i.e. kap-y $\bar{a}-m i$; obex (obstacle, hindrance), gen. obicis, for *obyex $={ }^{*} o b-y i c-s, o b-y i c-i s, \sqrt{ }$ iac (cf. iac-io, ob-iic-io, ob-ic-io); yet elsewh.
§ 74. after consonn. also, e.g. minor, minus (less), for *min-ior, *min-ius, origl. sf. -yans, compar.-fmn. ; ero, cris, erit, fr. ${ }^{*}$ eso, ${ }^{*}$ esis, ${ }^{*}$ esit, for ${ }^{*} e s y o,{ }^{*} e s y i s,{ }^{*} e s y i t$, f.f. as-yā-mi, as-ya-si, as-ya-ti, pres.-fmn. through $y a$ of $\sqrt{ } a s$, which expresses fut. meaning, cf. Sk. $s-y \bar{a}-m i$, $s-y a ́-s i, s-y a ́-t i, G k$. $\epsilon \sigma o \mu a \iota$ for ${ }^{*} \epsilon \in \sigma-y o-\mu a \iota$; -bus sf. of dat. and abl. pl. origl. -bhyams, Sk. -bhyas, etc.
2. Origl. $s=$ Lat. $s, r$.

Lat. $s=o r i g l . s$. Initially, generally also finally, medially betw. mute consonn.; betw. vowels $s$ passes over into $r$ almost always in the class. lang. Before sonant consonn. $s$ partly falls out (becomes assimld.), partly likewise becomes $r$ ( v . 'soundlaws'), e.g. $\sqrt{ }$ sed (sed-ere), origl. and Sk. sad, Gk. $\delta \delta$, Goth. sat (sit); septem (seven), Sk. and origl. sáptan, Gk. é $\pi \tau$ á ; $\sqrt{ }$ sta (stand), e.g. in sta-tus, origl. sta, Gk. $\sigma \tau a$, Sk. stha; $\sqrt{ }$ ster in ster-no (strew), Sk. and origl. star, Gk. $\sigma \tau o \rho ; \sqrt{ }$ es in $c s-t$, origl. and Sk. as, Gk. $\grave{\epsilon} \sigma$ in $\grave{\epsilon} \sigma-\tau \grave{l}$; $\sqrt{ } u s$ (burn) in ur-o, us-tus, origl. $u s$, Sk. uš ; $-s$, sf. of nom. sg., origl. and Sk. $-s$, Gk. $-s$, Goth. Lith. $-s$, e.g. equo-s, origl. akva-s, Gk. ín $\pi o-s$, Sk. áçva-s; sf. $-o s$, -es, e.g. gen-os, gen-us (race), gen. gen-er-us, gen-er-is, origl. gan-as, gan-as-as, cf. Gk. $\gamma^{\prime} \nu-o s,{ }^{*} \gamma \epsilon \nu-\epsilon \sigma-o s=\gamma^{\epsilon} \nu 0 \nu \varsigma$, Sk. ǵán-as, ǵán-as-as, etc.

Lat. $r=$ origl. $s$ (cf. sound-laws, § 77, 1. f.).
3. Origl. $v=$ Lat. $v$ (in writing undistinguished fr. $u$ ), $u$.

Lat. $v=$ origl. $v$, e.g. $\sqrt{ }$ vid in uideo (see), Sk. and origl. vid, Gk. Fi $\delta$; $\sqrt{ }$ rom for ${ }^{*}$ vem in uom-o (spue), Sk. and origl. vam, Gk. F $\epsilon \mu ; \sqrt{ }$ roo for ${ }^{*}$ rec in uoc-are (cry), $u \bar{c} c-e m$ (acc. voice), origl. vak, Sk. vak, Gk. $F \in \pi$; $\sqrt{ }$ veh in ueh-o (carry), origl. ragh, Sk. rah, Gk. Fe $\chi$, Goth. rag; $\sqrt{ }$ rol in uol-t (he wills), Sk. and origl. var (uelle); oui-s (sheep), origl. avi-s, Lith. avi-s, Sk. áci-s, Gk. ôFıs; nouo-s (new), orig. and Sk. nára-s, Gk. $\nu \in ́ F o-s$, etc.

Note.-Though quis, quod, anguis, suauis are the usual ways of writing those words, yet here, too, $u=v$ (thus quis, quod, angvis, scauis), because this $u$ is not metrically=vowel.

Lat. $u=$ origl. $v$ after mom. consonn. and $n$, e.g. quatuor (four), $\S 74$.
 väras; this $u=v$ seems secondarily to have the force of a conson., whence e.g. the lengthening by position of the short $a$, expressed in the spelling quattuor; esp. often $u=$ origl. $v$ in the origl. st.-fmative sf. $-v a=$ Lat. $-u o$, $-v 0$, later $u u, v u$, which in Lat. were sounded - $-u 0$ (later $-u u$ ), fem. $-u a$, after most consonn., except $r, l, q$, e.g. $a l-z i o-s$ ('the nourishing -'), $\sqrt{ }$ al (al-o, nourish); $a r-u o-m$ ('the ploughed-'), $\sqrt{ }$ ar (plough) ; eq-uo-s (horse), origl. $a k-v a-s$, Sk. aç-va-s (' the running -'), origl. $\sqrt{ } a k$ (run), etc. ; but uac-uo-s (empty), $\sqrt{ } u a c ;$ noc-uo-s (hurtful), re-lic-uo-s (left over) bes. re-liq-vo-s, $\sqrt{ } n o c$, lic (altogether usage often wavers betw. $v$ and $u$, as aqüae, acuam, bes. aqva; tenvia, genva, bes. tenuia, genua, etc.) ; con-tig-uo-s (contiguous), $\sqrt{ }$ tag (tango) ; de-cid-uo-s (falling off), $\sqrt{ }$ cad (cad-o); in-gen-uo-s (inborn, free), $\sqrt{ }$ gen (gi-gn-o, gen-us) ; süd-or (sweat), sūd-are (sweat), prob. for *suid-or, *suid-are (as e.g. gen. senatus for senatuis), and this for ${ }^{*} s v i d-$ or, ${ }^{*}$ svid-are, $\sqrt{ }$ svid, cf. iठí $\omega$ for ${ }^{*} \sigma F \iota \delta-\iota \omega$, Sk. svid-yämi, O.H.G. swizzan, sweiz, swiz, earlier scit, origl. scid (sweat), etc.

Note-suos (his) is not=sra-s, but was sounded soros in the earlier lang.; accordingly we have also tuis=tovos; in Lat. and in Gk. there is here a step-fmn. of $u$ to $e u$, ou (éós, $\tau \epsilon \sigma^{\prime}={ }^{*}$ seu-os, *teu-os), whilst the other langg. show $v$.

Not unfreq. $v$ disappears entirely, thus e.g. se, si-bi (himself), etc., for ${ }^{*} s c e,{ }^{*} s c i-b i$, fr. st. origl. sca-; te (thee), ti-bi (to thee), for ${ }^{*} t v e,{ }^{*} t v i-b i$, cf. Sk. tva-m (n. sg.); for origl. initial sva-, sooccurs regularly (v. supr. § 33) ; canis (hound) for ${ }^{*}$ cvan-is, cf. $\kappa v ́ \omega v$, Sk. st. şıan, f.f. kran-; suadeo (recommend) for *suadveo, fr. suauis (sweet) $={ }^{*}$ suadv-i-s, cf. G. $\dot{\eta} \delta \dot{v}-\varsigma$, Sk. scädú-s; deus (god) $={ }^{*} d \bar{e} u s,{ }^{*} d \bar{e} v o-s,{ }^{*} d e i v o-s,{ }^{*} d \bar{\imath} i o-s$, f.f. daiva-s, cf. Sk. dēēic-s, Lith. dềva-s. The later lang. permits frequent loss of $v$ from betw. vowels, e.g. suus, suum, for earlier (inscrr.) souos, souom (*suvus, *suvum) ; fluunt, earlier (inscrr.) flouont; fui=*fuvi, and so, too, in other like cases; boum for bouum; prudens fr. prouidens;
§74.nōlo=*neuolo; amarunt=amauerunt, etc. Yet noulos, ouis, etc., with $v$ preserved, are the only fms. found.
Note.-On the alleged change of $v$ to $b$ in Lat. v. Corss. Krit. Beitr., 157 sqq. Only in ferbui, pf. fr. pres. ferueo (boil), $v$ after $r$ and bef. $u$ has become $b$; bubile bes. bouile (ox-stall) seems caused by the analogy of bu-bulus (ox-); opilio, upilio (shepherd), stand for ${ }^{*}$ oui-pilio, cf. Pal-es, aì- $\pi 0 \lambda-o s, ~ \beta o u ́-\pi о \lambda-o s$ (Corss. ib. 152; Krit. Nachtr., p. 180 sqq.).
§75. Nasals.

1. Origl. $n=$ Lat. $n$. As in other Indo-Eur. langg., so also in Lat., origl. $n$ bef. gutt. consonn. becomes gutt., bef. labb. it becomes lab., i.e. $m$, ( $\dot{n}=$ gutt. $n, \S 4$ ). Exx. : ne (negation), in ne-c, $n e-f a s$, etc., Sk. and origl. $n a$; in-, Umbr. an-, Gk. $a^{\nu} \nu$-, Sk. and origl. an- (neg. in composn.); $\sqrt{ }$ nec in nec-are (kill), noc-ēre (hurt), Gk. $\nu \varepsilon \kappa$, Sk. naç, origl. nak; st. noc-ti (night) in noc-te-m, origl. nak-ti-, cf. Lith. nak-ti-s, Gk. st. $\nu v \kappa \tau-$, Sk. nákta-m (adv. by night) ; nãuis (ship), Sk. and origl. nāus, Gk. vâ̂s; V gen in gen-us (race), gi-g(e) $n-0$ (beget), Gk. $\gamma \in \nu$, Sk. ǵan, origl. gan; $n$ is common in suff., e.g. origl. $-n a$ in $p l e \bar{e}-n u-s$ (full), f.f. $p r \bar{a}-n a-s$, origl. par-na-s, $\sqrt{ }$ par (fill), $n a$ fms. the perf. part. pass., but has also various other functions, e.g. som-nu-s (sleep) for ${ }^{*}$ sop-nut-s, origl. and Sk. stáp-na-s, Gk. v̂̃ $\pi-\nu o-s$; sf. -man, e.g. in ${ }^{*} g n o-$ -men, nō-men (name), Sk. nā-man-, origl. gnā-man-; -nti, -nt, fm. 3 pl. vb., e.g. ${ }^{*}$ fero-nti, feru-nt, $=\phi$ '́ $\rho o-\nu \tau \iota$, Sk. and origl. bhára-nti, etc.

Exx. of change of $n$ to $\dot{n}, m$, are found in pres. fimn., e.g. $i u-n-g o$ (join), $\sqrt{ } i u g$, ru-m-po (break), Sk. lu-m-páani, $\sqrt{ }$ rup, Sk. lup, which in f.f. were prob. yug-nāmi, rup-nāmi; only later did the nasal pass into the root, whereby arose yuingāmi, rumpāmi, i.e. iungo, rumpo.

Note.-On $g n$ v. supr. § 72, 1, n. 5.
2. Origl. $m=$ Lat. $m$, e.g. $\sqrt{ } m e n$ in me-min- $i$ (remember), men-tem, mens (mind), moneo (warn), Gk. $\mu \in \nu$, origl. and Sk. man (think) ; mă-ter (mother), $\mu \dot{\eta}-\tau \eta \rho$, Sk. mã.tá , origl. māatar-s;
$\sqrt{ }$ mor in mor-i (die), mor-tuos (dead), Sk. and origl. mar; $\sqrt{ }$ uom § 75. for ${ }^{*}$ uem in uom-o (spue) (§ 33 ), Gk. $F \in \mu$, Sk. and origl. ram, etc. In sff. also $m$ often occurs, e.g. sf. -men, origl. man, as in *gnō-men, nō-men, Sk. náa-man-, origl. gnä-man; origl. sf. -ma, an intensitive, most often forming superl., esp. in combination with sf. -ta, as $t a-m a$, Lat. e.g. in pri-mu-s, optu-mu-s; -m 1 pers. sg., $-m u s 1$ pl., e.g. (e) $s-t-m i$ fr. *es-mi, Gk. $\epsilon i-\mu i$ fr. same f.f., Sk. and origl. às-mi ; feri-mus, Gk. ф'́ро- $\mu \epsilon \nu$, Dôr. ф'́ $\rho o-\mu \epsilon \varsigma$, Sk. and origl. bhárā-masi ; -m of acc. sing., e.g. equo-m, Sk. áçva-m, cf. Gk. "i $\pi \pi 0-\nu$, with $\nu$ for $\mu$, acc. to Gk. sound-laws of termn., origl. akva-m, etc.

Note.-In tene-brae (darkness), prob. for *tenes-brae, *temes-brae, $\checkmark$ tam in Sk. tám-as (darkness), O.H.G. dëm-ar (dawn), etc., $n$ has arisen by dissimiln. fr. $m$, to avoid the labialism *temebrae ; in nōnus (ninth) for *nōmus, *nouimus, cf. nouen (nine), septimus bes. septem, decimus bes. decem, primus, etc., the init. $n$ has had an assimilating influence; gener (son-in-law) does not stand for *gemer on acct. of $\gamma a \mu \beta \rho o{ }^{\prime}$ (on which cf. $\S 66,1, \mathrm{n} .1$ ), because *gemer would have stood its ground like nomer (ploughshare), also Sk. g' $\overline{\bar{c}}-m \bar{a} t a r-$ (son-in-law) proves nothing, because it is a compd. of $\dot{g} \bar{a}$ (come after) from $\sqrt{ } g a$, origl. $g a$ (gi-gn-ere), and $m \bar{a}-$ tar - (bearing, bringing forth) ; gen-er, st. gen-ero- for gen-ro-, is derived rather fr. $\sqrt{ }$ gen (beget), sf. $r a$, in this case with auxil. vowel $i$, pronounced $e$ bef. $r$ (§38).

$$
r \text { - and } l \text {-sounds. }
$$

Origl. $r=$ Lat. $r, l$.
Lat. $r=$ origl. $r$, e.g. rex (king), i.e. ${ }^{*} r e \bar{g}-s$, origl. $r a \bar{a}-s$, ct. Sk. st. $r a \bar{g}$ - (id.) ; $\sqrt{ } r u b$ in $r u b-e r$ (red), $r u b-r u-m$, cf. $\epsilon$ - $\rho u \theta-\rho o ́-s$, $\epsilon$ є́- $\rho \theta \theta-\rho o ́-\nu$, Sk. rudh-i-rá-m, origl. rudh-ra-s, rudh-ra-m; $\sqrt{ }$ rup in $r u-m-p-o$ (break), rup-tu-s, cf. Sk. lup (rumpere) in lu-m-p-ámi, lup-tú-s, Lith. lup in lùp-ti (flay); Vor in or-ior (rise), or-tus, cf. ő $\rho-\nu v \mu \iota$, Sk. and origl. ar; $\sqrt{ } a r$ in $a r-o$ (plough), cf. à $\rho$-ó $\omega$, Scl. or-y! ar-atrum (plough), cf. ă $\rho$-otpov, O. Buig. or-alo for *or-adlo ; $\sqrt{ }$ fer, 1 sg . pres. fer-o (bear), Gk. $\phi \epsilon \rho, 1 \mathrm{sg}$. pres. $\phi \epsilon \in-\omega$, Sk. and origl. bhar, 1 sg. pres. bhár-āmi; frā-ter (brother), $\phi \rho a ́-\tau \omega \rho$, Sk. bhrātāa, origl. bhrā-tar-s, etc. $r$ is frequent in
§ 76. stem-formative particles, thus in sff. ro, ru, origl. ra (rub-ru-m, origl. $r u d h-r a-m)$; tōr, origl. tār (da-tōr, origl. da-tar-s, n. sg.); tro, tru, origl. tra; in word-formative particles, i.e. in case- and person-termns., it does not occur.

Lat. $l=$ origl. $r$ (cf. 'sound-laws,' upon Lat. interchange of $l$ with $r$ for purposes of dissimiln.), e.g. $\sqrt{ }$ loc (speak) in loqu-or, loc-utus, Gk. $\lambda a \kappa$, Scl. rek (rek-a, loquor), origl. rak; Vluc in luc-erna (lamp), lūc-em (acc. light), Gk. $\lambda v \kappa$, Sk. ruk', Goth. luh, origl. ruk; $\sqrt{ }$ lic in linquo (leave), re-lic-tus, Gk. $\lambda_{\iota \pi}(\lambda \epsilon i \pi \omega)$, Sk. $r i k$, origl. rik; $\sqrt{ }$ lig in lingo (lick), Gk. $\lambda \iota \chi(\lambda \epsilon i \chi(\omega)$, Sk. lih, origl. righ ; $\sqrt{l}$ lub in lub-et (it pleases), Goth. lub (liubs, love), Sk. lubh (desire), origl. rubh; leuis (light) fr. ${ }^{*}$ legu-is, cf. Gk. є́-入axú-s, Sk. laghí-s, origl. raghu-s ; plēe-nu-s (full), f.f. prā-na-s, parall. fm. to par-na-s, Zend perenō, Sk. pürná-s, i.e. origl. par-na-s, Goth. fulls for *ful-na-s; sollus (whole, Fest.) for *soluo-s, parall. fm. to sal-uo-s (whole), Gk. *ödFos, Sk. and f.f. sár-ra-s; $\sqrt{ }$ uol, uel, in uol-t (he wills), f.f. var-ti, uel-le (will), for *uel-se (v. post), Sk. and origl. var (choose), etc. In st.-formative particles also $l$ is common.
§77. Sketch of some Sound-laws which are mportant for Comparative Grammar.

## Medial.

1. Assimilation. We omit here the assimilns. which occur in prepositional compds.; they bear a subordinate meaning for Compar. Gr., and belong to the Special Gr. of Latin. Further, except that they are treated as well known, they are not at all, or only briefly, mentioned.
a. Complete assimiln. of foregoing to following consonn. This occurs after long vowels, after which doubled consonn. cannot easily be made audible, and can scarcely be distinguished from evanescence (ejection) of the former conson.; whilst after short vowels the doubling of the conson. is the distinctive mark of real assimiln. As, however, the evaporation of one conson. bef. another can hardly be conceived of as con-
ditioned in any other way than by assimiln. to the follg. cons., we § 77. likewise treat here of cases where consonn. are lost before consonn.

The doubling of consonn. was not characterized in writing before Ennius; in inscrr. it does not appear in frequent use until after 640 A.v.c.

Note--Upon the doubled tenuis in Lat. cf. C. Pauli, Zeitschr. xviii. 1 sqq., where many words of difficult etymol. are considered. Acc. to Pauli the doubling is not seldom unorigl., and arises 'through sharpened pronunciation.'

Exx. of complete assimiln. of foregoing to follg. consonn. after short vowels are found in sum-mu-s for *sup-mu-s, cf. sup-er, sup-erior, sup-remus; flamma fr. ${ }^{*}$ flag-ma, cf. flag-rare ; serra (saw), prob. fr. ${ }^{* s e c-r a, ~ c f . ~ s e c-a r e ~(c u t) ; ~ s e l l a ~ f r . ~}{ }^{*}$ sed-la, cf. sed-ere; lapil-lus fr. *lapid-lus, cf. lapid-em; puel-la fr. ${ }^{*} p u e r-l a$, ${ }^{*} p u e r u-l a$, cf. puer; asel-lus fr. ${ }^{*} a s i n-l u s,{ }^{*} a \sin n-l u s$, cf. asinu-s (ass) ; esse fr. ${ }^{*} e d-s e$, cf. ed-o (eat) ; penna fr. ${ }^{*} p e s n a$, and this fr. ${ }^{*} p e t-n a, \sqrt{ }$ pet, origl. pat (fly), etc.

Complete assimiln. of foregoing to follg. consonn. after long vowels; the spelling does not show the doubling in these cases. The assimiln. (dropping out) of $d, t$, and often $n$ before $s$, is well known; a foregoing short vowel therefore becomes long, wherein we believe we see an evidence that a doubling of the conson. was once really in existence, e.g. sū̄si fr. ${ }^{*} s u \bar{a} d-s i$, pf. fr. suād-eo, etc.; pēs=* ${ }^{*}$ èd-s, cf. pĕd-em; milēs, milĕs only later, fr. *milët-s, cf. milit-em; formösus fr. *formonsus, sf. origl. -vans fr. -vant, whose $v$ disappeared ; equōs fr. ${ }^{*} e q u o n-s$, i.e. acc. sg. equo- $m+\mathrm{pl} .-\mathrm{sign} s$; consul bes. cōsul ; quotiens=*quotient-s bes. quoties; censor, censeo, bes. rarer cēsor, cèseo, etc. Thus the lang. has sometimes decided early in favour of loss of $n$, whilst at others the $n$ has stood exclusively for a longer time, and until a later period of written lang.

A follg. $j$ assimilates itself not seldom to precedg. $g ; j$ is then written indivisibly, but the foregoing vowel, if short before, now becomes long (cf. §39, 1), e.g. mā-ior fr. ${ }^{*}$ măg-yor, cf. mag-nus, $\sqrt{ } \mathrm{mag}$, origl. magh (wax) ; $\bar{a}-i o$ fr. ${ }^{*} a g-y 0$, cf. $a d-a ̆ g-i u m$,
§ 77. $\sqrt{ } a g$, Sk. $a h$, origl. $a g h$ (say); mē-io by dissimiln. (cf. § 38) fr. ${ }^{*} m i-y o$ for ${ }^{*} m$ ľy-yo, cf. $m i-n-g-o, ~ \sqrt{ } m i g$, Gk. $\mu c \chi$, origl. migh (cf. $\S 74,1$ ). Bef. origl. sf. $-y a, g$ remains, because here $y$ changes into $i(\S 74,1)$, e.g. ad-ăg-iul-m, nau-frăg-iu-m. Cf. the extensive loss of consonn. before $y$ with compensatory lengthening in composition, e.g. se(d)-iungo, pe(r)-iero, di(s)-iudico, tra(ns)-icio, etc.

Loss of $g$ bef. $v$ without compensat. lengthening occurs, e.g. in brè̌-is for *bregu-is, cf. $\beta \rho a \chi$ v́s; lěu-is for *lĕgu-is, of. $\epsilon$ є- $\lambda a \chi{ }^{v}-s$; $n i u-i s$ for ${ }^{*} n i g u-i s$, cf. nix $={ }^{*} n i g-s$, ningu-o; accordingly the same process must be assumed in uïuo for *uïgu-o, of. uixi, i.e. *uig-si, $\sqrt{ }$ uig (v. §§ 72, 1; 73, 1).
$d$ disappears bef. $v$ in suāu-is for *suãd-uis, cf. Gk. $\dot{\eta} \delta \dot{u}-\varsigma$, Sk. scādì-s.

Bef. nasals sometimes $g$, oftener $c$, disappears ( $c$ may also remain and become $g$, v . c in this section), more rarely without, more often with compensatory lengthening, $c$ was evidently softened to $g$ before it fell out (v. c), e.g. stï-mulus (goad), stï-mulo (I goad), $\sqrt{ }$ stig, raised a step to stīg (in-stīg-o, urge), nasalized in $i_{n-s t i n c-t u s(u r g e d)}={ }^{*} i n-s t i n g-t u s$, cf. Gk $\sigma \tau i \chi \omega($ prick $)={ }^{*} \sigma \tau \iota \gamma-y \omega$; ex-ā-men (swarm of bees, rank) for *ex-ăg-men, $\sqrt{ }$ ag in a-gere bes. ag-men, teg-men, seg-mentum ( $g$ is common bef. $n$, e.g. lig-num, dig-nus, mag-nus, etc.) ; uā-nus (empty) fr. *uăc-nus, cf. uăc-uos (empty); dē-ni (ten apiece) fr. *dëc-ni, cf. dĕc-em ; pī-nus fr. püc-nus, cf. pix, pı̌c-is (pitch; pinnus, on acct. of the vowel, cannot be akin to $\pi \epsilon \epsilon^{\prime} \kappa-\eta$, Germ. vich-te, which point to a $\sqrt{ }{ }^{2} u k$ ); nc disappears thus in quī-ni (five apiece) for *quinc-ni, cf. quinque (five).

Before $m, c$ disappears in $l \bar{u}(c)-m e n$ (light), where it is doubtful whether the vowel is simple or whether it is raised in the scale, whether fr. ${ }^{* l u c c-m e n ~ o r ~}{ }^{* l o u c-}$, ${ }^{*} l \bar{u} c-m e n$; $c s$, i.e. $x$, disappeared bef. $m$ in sē-mestris (six-monthly) for *sex-mestris, prob. also in tē-mo (pole) for ${ }^{*} t e x-m o$, cf. O.H.G. dihs-ila, and Sk. $\sqrt{ }$ tak

Bef. $m, b$ disappears, e.g. glūma (shell) for ${ }^{*} g l \bar{u} b-m a$, cf. glūb-cre (pare); grëmium (lap) for *greb-mium, cf. Sk. gárbha- (masc.id.), etc. (Corss. Krit. N. p. 236).

Bef. $l, x$ has died out in $t \bar{e}-l a(w e b)$, which, however, can only $\S 77$. be explained as prob. coming fr. ${ }^{*}$ tex-la, cf. tex-ere (weave).

Bef. $c, d$ and $t$ disappear in hoc for *hod-c, ${ }^{*} h o d-c e$, cf. quod; $a c$ for ${ }^{*} a t-c$, cf. atque.

Bef. sonant consonn. $s$ disappears, thus e.g. bef. $n$ in $p \bar{o}-n o$ for ${ }^{*} p o s-n o$, cf. pos-uí; cē-na for *ees-na, cf. Umbr. द̧es-na; penis for ${ }^{*}$ pes-nis, cf. $\pi \epsilon \in o s$ for ${ }^{*} \pi \epsilon \sigma-o s$, Sk. pás-as; in penna for earlier pesna the assimiln. has been kept, pesna stands for ${ }^{*}$ pet-na ( v . c), $\sqrt{ }$ pet, $\pi \epsilon \tau$, Sk. pat (fly), cf. prae-pet-es (aues; Fest.), O.H.G. fëd-ara, fëd-ah, Gk. $\pi \tau-i \lambda o \nu, \pi \tau \epsilon-\rho o ́ \nu$ (feather, wing), etc.

Bef. $m, s$ is lost in rē-mus (oar), cf. tri-resmus (three-oared) Col. Rostr., res-mus stands for ${ }^{*}$ ret-mus, cf. $\epsilon-\rho \epsilon \tau-\mu o{ }^{\prime}$; $s$ is lost without compensatory lengthening in Că-mēna for Cas-mena, $\sqrt{ }$ cas, cf. car-men, Sk. $\sqrt{ }$ ças, çãs (count, say).

Bef. $n$ and $m, s$ also becomes $r$. v. e.
Bef. $l, s$ is lost in corpu-lentus for *corpus-lentus, cf. corpus, corpor-is.

Bef. $d, s$ is lost in, e.g. $\bar{u}-d e x$ for ${ }^{*} i \bar{u} s-d e x, \bar{i}$-dem for ${ }^{*}{ }_{i s} s$ dem, di-duco for *dis-duco, etc., but it remains in trans-dūco, trans-do, bes. $\operatorname{tr} \bar{a}-d \bar{u} c o, \operatorname{tr} \bar{a}-d o$, further in cases like eius-dem, cuius-dam.

Bef. $b$, also, $s$ is lost, e.g. tene-brae for tenës-brae, and the like; v. post.

Bef. $d, r$ is lost with compensat. lengthening in $p \bar{e} d-o, p \bar{o} d-e x$, bes. $\pi \epsilon \in \rho \delta-\omega$, Sk. $\sqrt{ }$ pard, O.H.G. farz, Lith. perd (1 sg. pres. pérḋ̀u=* ${ }^{*}$ er $\left.d-y u\right)$.

The change of $r$ to $s$ by assimiln. is well known, e.g. $r \bar{u} s u m$, russum, bes. rur-sum, sū-sum bes. sur-sum, retrō-sum bes. retrorsum, etc.

Bef. sc, consonn. are lost, prob. only to make pronunciation simpler and easier; thus in $d i-s c o$ for ${ }^{*} d i c-s c o$, cf . di-dǐc-i; po-sco (where $s c$ became fixed, though origl. only in pres., cf. po-posc-i), prob. for ${ }^{*}$ porc-sco, cf. $\sqrt{ }$ proc, prec, in proc-ax, proc-us, prec-or, cf. Germ. frah, frag (in Goth. fraih-nan-, N.H.G. frag-en) ; mi-sceo for ${ }^{*}$ mig-sceo, cf. $\mu^{\prime} \boldsymbol{\gamma}-\nu v \mu \iota$ (here, too, has the sc in Lat. grown into the root).
§77. Similarly mis-tus stands for and bes. mics-tus, mix-tus, and this prob. for ${ }^{*}$ misc-tus, cf. misc-eo; tos-tus for ${ }^{*}$ tors-tus, cf. torr-eo for ${ }^{*}$ tors-eo, Germ. durs-t, Sk. $\sqrt{ }$ tarš (thirst), i.e. tars, to which prob. belongs tes-ta (crock, jar) for *ters-ta (lit. 'baked,' ' burnt') ; cf. terra (dry land) for *ters-a.

It is certain that certain groups composed of more consonn. were lightened by the evaporation (ejection) of one of these consonn.

Thus after $r, l$, are lost gutt. $c, g$, when folld. by $t$ or $s$, e.g. sar-tus for *sarc-tus, cf. sarc-io; tor-tus for *torc-tus, cf. torqu-eo; ul-tor for *ulc-tor, cf. ulc-iscor; in-dul-tus for *in-dulc-tus, and this for ${ }^{*} i_{n-d u l g-t u s ~ f r . ~ i n-d u l g-e o, ~ a n d ~ s o ~ o t h e r s ; ~ s a r-s i ~ f o r ~}{ }^{*}$ sarc-si, cf. sarc-io; tor-si for *torc-si, cf. torqu-eo; mul-si, mul-sus, for ${ }^{*}$ mulg-si, ${ }^{*}$ mulg-sus, fr. mulg-tus, cf. mulg-eo; spar-si for ${ }^{*}$ sparg-si, spar-sus for ${ }^{*}$ sparg-sus fr. sparg-tus, cf. sparg-o, etc. ; par-simonia for ${ }^{*}$ parc-simonia fr. ${ }^{*}$ parc-timonia, like the underlying fm. par-sus fr. ${ }^{*}$ parc-tus, cf. parc-o; thus also ursus for ${ }^{*}$ urcsus fr. ${ }^{*} u r c t u s$,


On the other hand, rcs was tolerated in fine, in arx, merx.
Also the combinations $s-b r, r-b r$ are avoided by the evaporation of the $s, r$, bef. $b$, e.g. mulic-bris for *mulier-bris (or *mulies-bris); fune-bris for *funes-bris bes. funer-a, funus; tene-brae for *tonesbrae, *temes-brae, (§ 75, 2, n.) ; fe-bris, he-bris, for ${ }^{*}$ fer-bris, $\sqrt{ }$ fer (in fer-uor, etc.), origl. ghar (§73, 1; Corss. Krit. Beitr. 204 sqq. ; Ebel, Zeitschr. xiv. 78; cf. L. Meyer, Comp. Gr. ii. 235, 241). Similarly in above-mentioned tos-tus for *tors-tus, etc.

Quintus for Quinc-tus is late, cf. common Quinc-tius bes. later Quin-tius; the same holds good in au-tor for auc-tor fr. *aug-tor, etc. Yet it cannot be doubted that $c$ was lost bef. $t$ sporadically even at an earlier period of the lang. in such cases as $i_{n-u i t u s ~ f r . ~ * i n-u i c-(i)-t u s, ~}$ vic, uec, Gk. Fєк ( $\left.\epsilon \kappa-\omega \nu\right)$, Sk. vaç, i.e. vak (will): in-uī-tare fr. *in-uic-(i)-tare, $\sqrt{ }$ uic, uec, uoc (uoc-are), Gk. Fє $\boldsymbol{r}$, Sk. vak, origl. rak (speak), etc. (cf. Corss. Krit. B. p. 4 sqq., and Krit. N. p. 47 sqq. where other views, however, are expressed). Also Vitoria, Vitorius, are supported
by inscrr. as by-forms of Victorius, $-a$ (Corss. Krit. N. p. 45 § 77. sqq.). v. another explanation of inuītare, etc., in § 39, 2.
b. Complete assimiln. of following to foregoing consonn. This branch of assimiln. is well represented in Lat.; thus e.g. $t$ of superl. termn. -timu-s (origl. and Sk. -tama-s, retained in op-timus) is assimild. to $s$ in -is-simus= *-is-timus; is, the shortest fm. of origl. -yans, which is in Lat. $i \bar{o} s, i \bar{o} r, i u s$, is accordingly the compar.-sf. to which the superl. is added, e.g. longis-simus fr. ${ }^{*}$ longis-tumu-s; so too $t$ of -timus becomes assimild. to $r$ and $l$ in those superll. which are fmd. fr. an unraised adj.-stem, e.g. celer-rimus fr. ${ }^{*}$ celer-timu-s, ${ }^{*}$ facil--limus fr.* facil-tumu-s, etc., unless these superll. stand (as G. Curt. conjectures in a letter) for ${ }^{*}$ celer-is-timus, *facil-is-timus, *celerstimus, *facilstimus, *celersimus, *facilsimus.
$s$ is assimild. to $r$ in torr-eo for *tors-eo bes. tos-tu-m for *tors-tu-m, terra for *ters- $a$, origl. $\sqrt{ }$ tars (be dry), as in Germ. dürr-e bes. durs-t; fer-rem, uel-lem, are fr. ${ }^{*}$ fer-sem, ${ }^{*}$ uel-sem, cf. ama-rem for *ama-sem, fac-sem, etc.' (cf. Corss. Krit. B. 402 sqq.).

Perh. $y$ has become similar to the preceding consonn. in pres. fmns. with doubled root-termns., as pello, fallo, curro, mitto, etc., though the combinations lio, rio, tio, are ordinary (v. pres.-st.).
$v$ seems assimild. to preceding $l$ in pallor, pallidus, for *pal-uor, ${ }^{*}$ pal-uidus, cf. O.H.G. falo, falaw-er, falw-er, Lith. and f.f. pàlv-as (fallow-of deer); mollis, prob. fr. ${ }^{*}$ molvis, ${ }^{*}$ moldv-is, =Sk. mrdú-s, f.f. mardu-s; sollu-s (totus) equal to saluo-s, Sk. sárva-s, Gk. ${ }_{o}{ }^{\prime} \lambda o s$ for ${ }^{*} \dot{\delta} \lambda F o s$. In these double fims. (sollus: saluos: :pello: alius) we must prob. recognize traces of a mixture of dialects.
$t$ after $s$ becomes assimld. to it, in censor, census, $\sqrt{ }$ cens +sff . -tor-, -tu-, cf. Osk. cens-tur, cens-tom = censum. Moreover, assimiln. of $t$ to foregoing $s$ occurs in the many cases where fr. $d, t+t$ arise (subsequently st, cf. 2, Dissimiln.); after short vowels the doubling is expressed in writing as well, after long vowels, and after consonn. we find regularly only one $s$; yet we find by their side spellings such as fussus, cassus, diuissio, rissus, etc.,-which have therefore a good foundation in the lang.,-
§ 77. e.g. fissus fr. ${ }^{*} f i d-t u s,{ }^{*} f i s-t u s, \sqrt{ }$ fid in findo, fivl-i; gressut-s fr. *gred-tu-s, ${ }^{*}$ gres-tu-s, cf. grad-ior; fossa fr. ${ }^{*}$ fos-ta, ${ }^{*}$ fod-ta, $\sqrt{ }$ fod in fod-io; passus fr. ${ }^{*}$ pat-tu-s, ${ }^{*}$ pas-tu-s, cf. pat-ior; èsum for *essum, which we might have expected, fr. *éd-tu-m, *es-tu-m, of. ěd-o ; clausus fr. * clautl-tu-s, *claus-tu-s, cf. claud-o; üsus (rarely $u s s u s$, inscrr.) fr. ${ }^{*} \bar{u} t-t u-s,{ }^{*} \bar{u} s-t u-s$, cf. oit-ier, $\bar{u} t-i$; tonsu-s fr. *tond-tu-s, *tons-tu-s, cf. tond-eo; uicensumus, uicēsumus, fr. *uicent-tumu-s, *uicens-tumu-s (unless here, as in deci-mut-s, only $m o$ was added, in which case the fm. would be ${ }^{*} u$ iginti-mu-s); uersus, uorsus, for ${ }^{*} u e r s-t u s,{ }^{*} u o r s-t u s, ~ f r . ~ * u e r t-t u s, ~ * u o r t-t u s ~$ (uert-cre), etc. On this Sound-Jaw, cf. Corss. Krit. B. 418 sqq.
c. Partial assimiln. of foregoing to follg. consonn.

It is well known that bef. mutes mom. sonant consonn. become mute; e.g. ac-tus for ${ }^{*}$ ag-tus, ef. ag-o ; scrip-tus, scrip-si, for ${ }^{*}$ scrib-tus, ${ }^{*}$ scrib-si, cf. scrib-o, etc.; in uec-tus bes. ueh-o, origl. vagh- $\bar{a} m i$, we must assume a representation of origl. $g h$ by Lat. g: origl. vagh-ta-s, Lat. *ueg-to-s, uec-tu-s. On the other hand, sec-are, salic-em, stand bes. seg-mentum, salig-nuts, etc.; the sonant consonn. $m, n$, here change $c$ to son. $g$.

Lab. moment. consomn. pass into their nasals bef. $n$ : som-nus, Sam-nium, for ${ }^{*}$ sop-nus, ${ }^{*}$ Sab-nium (cf. sop-ire, Sab-ini, Sab-elli).

The earlier lang. still shows $s$ bef. nasals, softened fr. $t$, as res-mu-s (rēmus) fr. ${ }^{*} r e t-m u-s(\dot{\epsilon}-\rho \epsilon \tau-\mu o ́-s)$; pes-na (penna) fr. ${ }^{*}$ pet-na ( $\sqrt{ }$ pet, fly, v. a).

Quadra-ginta bes. quatri-duo is peculiar; $t$ bef. sonant $r$ has become $d$.

From origl. $t r$ in Lat. there have arisen sometimes *thr, $d h r$, $b r$, through the aspirating force of the $r$ ( v . supr. Gk., also Zend), (on $b$ as a representative of origl. $d h$, v. § 73, 2), e.g. consobrinus (cousin) for ${ }^{*}$-sosbrinus ( $s$ bef. $b$ is lost regularly, v . sup.), and this for *sosdhrinus, *sosthrinus, *sostrinus, fr. ${ }^{*}$ sostor-$-\bar{i} n u-s$, st. ${ }^{*}$ sos-tor-, usu. *sosor-, soror- (sister); salūbris fr. *salus-bris, and this for *salus-dluris, *salus-thris, *salus-tris, *salut--tris (salus, salut-is). Cf. Ebel, Zeitschr. xiv. 78; Kuhn, Zeitschr. xiv. 222, xv. 238. On the other hand, Cors. Krit. N. p. 186 sqq.
d. Partial assimilation of following to foregoing § 77. consonants. This takes place esp. in the case of $t$, which, after nasals and liquids, commonly changes into spir. $s$; the same tendency is seen after gutt. (after $c$ ),-the latter occurs also in Sk. (v. § $52,2, \mathrm{n} .2$ ); e.g. man-sum for ${ }^{*}$ man-tu-m (man-eo) ; in Leu-cesic-important on acct. of eu, v. § $36-$ (voc.; title of Iuppiter) for *leucetie, fr. ${ }^{*}$ Leucentie, cf. Leucetios, Loucetios, for ${ }^{*}$ leucent-ios, *loucent-ios, further fmm. fr. *leucent-, loucent-, pres. part. act. fr. *leuc-o, *louc-o, f.f. rauk-āmi, $\sqrt{ } l u c$, origl. $r u k$ (Corss. Krit. B. 471); $t$ has become $s$ after origl. $n$, which afterwards was lost, in the same way; pul-su-s for *pul-tu-s (pel-lo, pe-pul-i), spar-sus for *spar(g)-tu-s (sparg-o), etc.; but by their side occur ten-tu-s (and ten-su-s), sepul-tu-s (sepel-io), tor-tu-s for ${ }^{*}$ tor (c)-tu-s, (torqu-co), etc.; *mac-simu-s thus is for ${ }^{*}$ mag-timu-s (mag-nus; cf. op-timu-s); fixus, i.e. fic-su-s, for ${ }^{*} f i g-t u-s$ ( fgo ) ; noxa, i.e. ${ }^{*}$ noc-sa, for ${ }^{*}$ noc-ta (noc-oo), etc., bes. ac-tu-s (ag-o), $f i c-t u-s(\sqrt{ } f i g$ in $f-n-g-o)$, and many others with retained $t$.

Regularly $t$ does not pass into $s$ after $n$, when $n t$ belongs to one and the same word-formative particle, e.g. feru-nt, fere-nt-em, etc. (yet cf. above-mentioned Leucesios for ${ }^{*}$ Leucentios).

Lapsus for *lap-tu-s, *lab-tu-s, is singular (cf. lab-i), bes. scrip-tu-s (scrib-ere), ef. Corss. Krit. B. 420 sqq. (Ebel, Zeitschr. xiv. 245 sqq. here assumes an inserted $s$ : *lap-stus, ${ }^{*}$ man-stum, to which $t$ was assimild.)

Note.-Yet mend-ax belongs prob. to ment-iri, according to the system laid down by Schuchardt, Vocalismus des vulgärlateins, Lpz. 1866; cf. however on this point Aufrecht in Zeitschr. ix. 232 ; Corss. Krit. B. 117 sqq.
e. Change of $s$ to $r$ betw. vowels, or betw. vowels and sonant consonn., also after vowels in termination (in the lang. in question). The sonant consonn. here change the mute $s$ into sonant $r$. The same process takes place, e.g. in Germ. also (war, wāren, for was, wāsen, $\sqrt{ }$ was, cf. ge-wēs-en, etc.), and in Sk. So, e.g. in gener-is (genus) for old Lat. ${ }^{*}$ genes-os; maiores fr. ${ }^{*}$ maioses; erat fr. ${ }^{*}$ esat, $\sqrt{ }$ es, etc.;
§ 77. ueter-nus fr. *uetes-nus (uctus, ueter-is) ; car-men fr. ${ }^{*}$ cas-men, cf. Old-Lat. Cas-mena, $\sqrt{ }$ cas; diur-nus, ho-dier-nus, from an otherwise lost st. *dios-, *dies-=origl. divas (in dies, diei, the final $s$ of the root has been lost), etc.; arbor for earlier arbos; amor fr. *amos, *amo-se, etc. In fine this $r$ for $s$ is caused through analogy of the other fms. (arbor-is, amar-is). Betw. vowels $s$ has remained but rarely, e.g. nasus, cf. Sk. nas, Scl. nosü, etc., miser, uasa, posui; regularly $s$ only remains instead of $s s$, e.g. casus for cassus fr. *cad-tu-s, etc. (v. b).
f. Loss of consonn. betw. vowels. Here too we see a kind of assimiln., in that sonant consonn. become thereby similar to the surrounding vowels, and are swallowed up by them, so that only the attendant accent remains.

In the Romance langg. this process is very common (e.g. ducatus, It. ducato, Sp . ducado, Fr. duché). The commonest case is the loss of $y$ and $v$, as moneo, monēs, fr. *moneyo, *moneyis, f.f. mānayāmi, mānayasi; amasti fr. *amaisti, amanisti; fluont, fluunt, fr. flouont, etc. Exceptionally $s$ has been lost betw. two vowels (Corss. Krit. Beitr. 464 sqq.), thus e.g. in uēr (spring) fr. ${ }^{*}$ veser, cf. Gk. ${ }^{\text {éa }}$ for ${ }^{*} F \epsilon \sigma a \rho$, Lith. casarà (summer), Sk. ras-antá-s (spring), O. Bulg. ves-na; ū̄s, uin, bes. uires, uirium, st. uisi-, uiri-; prob. through analogy fr. origl. *divas- arose a fm . diēs, diēi, bes. ho-dier-nus, fr. ${ }^{*}$ dives-ro-s; fr. origl. and Sk. nábhas-, nūbēs, nūbi-s; fr. origl. and Sk. sadas- (cf. Gk. éoos), sēlēes, $s e \overline{d i-s}$, and other like forms. Further, loss of origl. bh, Lat. $f, b$, has certainly occurred in ama-ui for *ama-fui, etc.; in dat. pl. e g. equis, f.f. akva-bhya (m)s (v. § 73, 3). On the doubtful loss of $c$ betw. vowels, cf. $\S 39,2$; $\S 77$, a, sub fin.; on loss of $h$, cf. $\S 73,1$.
g. Evident insertion of conson. betw. concurrent consonn. The change fr. $m$ to $m p$, for the accommodation of $m$ to the follg. $s, t$, is well known ; it occurs in the best MSS. (e.g. in Cod. Medic. Vergili), e.g. hiem-p-s, sum-p-si, sum-p-tus, etc. Bef. the $s, t, m$ became an audible conclusion, i.e. changed to $m p$.
2. Dissimilation.
$t, d$, before follg. $t$, change into $s$ (as in Zend, Gk., Scl.-Germ.),
e.g. eques-ter, pedes-ter, for ${ }^{*}$ equet-ter, ${ }^{*}$ pedet-ter, cf. equit-is, § 77. pedit-is; es-t, es-tis, for ${ }^{*} e d-t$, ${ }^{*} e d-t i s$, cf. ed-o; claus-trum for *claud-trum, cf. claud-o ; st. potēs-tāti- (potestas) for *potens-tāti-fr.*potent-tāti-, st. potent- (potens) + sf. -tāti-, etc.

Likewise through the striving after dissimiln. -ali-s is interchanged with - $\bar{a} r i-s$; the latter is found in those cases where the word-st. to which this secondary sf. is added contains an l, e.g. mor-tali-s, but uolg-ari-s, popul-ari-s, epul-ari-s.

In the dislike of the immediate succession of two like sounds is found also the cause of the contraction of two like or similar consonn., which are separated by only one vowel, into one, through evanescence of the intervening vowel (cf. Gk. § 68, 2 ; a similar phenom. in M.H.G. has been mentioned by me in Kuhn's Zeitschr. x. 160); thus consuētūdo for *consuêti-tūdo (con-suētu-s), st. aestāti- for *aestitäti- (aestu-s), st. nütrīc- for nütri-trīc- (nutri-re), stipendium for *stipi-pendium (stip-s, stip-is), uenēficus for ${ }^{*}$ uenēni-ficus (uenēnu-m), etc. (L. Meyer. Comp. Gr. i. 281).

## Initial.

In Lat. more than in the other kindred langg., where loss of initial consonn. occurs in the main only sporadically, initial consonn. are exposed to evaporation : of two initial consonn. the former often falls away, yet even one single conson. is found to disappear bef. a follg. vowel ( $c$ bef. $u$ ).

Thus no Lat. word begins with $s n, s m$, $s r$; where these combinations origl. occurred initially, the $s$ is lost, and only the second conson. remains, e.g. nix, niuis, fr. *snig-s, *snigv-is (v. supr. § 72, 1), cf. Zend $\sqrt{ }$ çniz (snow), O. Bulg. sněg-̌̆ (snow), Lith. snig-ti (snow, v.), snëg-as (snow, n.), Goth. snaiv-s (snow); nurus (daughter-in-law) fr. *snurus, cf. O.H.G. snur, Sk. snušáá, me-mor (mindful) fr. *sme-mor (cf. spo-pond-i, ste-ti for ${ }^{*} s t e-s t i$, etc.), and this fr. *sme-smor, as Sk. and origl. $\sqrt{ }$ smar (bethink; on $\sqrt{ } f u=$ origl. sru, v. § 71, 3 n .).

Neither does initial $v r, v l$, occur in Lat., e.g. laqueus (noose), cf. Goth. vruggō (sling), *eriggan (wring, wind); lacer (torn),
 (tear); radix (root), cf. $\dot{\rho} \not \zeta a$, Lesb. Bpíб $\delta a$, i.e. Fpi $\zeta a$, ${ }^{*} F \rho \iota \delta-y a$, Goth. vaúrts (root), O.H.G. wurza, vurzala, f.f. of root therefore $=r r a d$, etc.

Bef. $f, s$ has disappeared in fallere (deceive) bes. $\sigma \phi a ́ \lambda \lambda \epsilon \iota \nu$, fungus (id.) bes. $\sigma \phi o ́ \gamma \gamma o s, f u n d a(s l i n g)$ bes. $\sigma \phi \in \nu \delta o ́ v \eta$, files (lyre) bes. $\sigma \phi i \delta \eta$; on the conjectured loss of $s$ bef. $p$, v. Corss. Krit. B. 457.

More singular, on the other hand, are cases like teg-o (cover) for ${ }^{*}$ steg-o, cf. $i$-steg-a for ${ }^{*} i n-$ steg- $a$ (cover), Gk. $\sigma \tau^{\prime} \gamma-\omega$, $\sigma \tau^{\prime} \gamma-\eta$, bes. $\tau^{\prime} \gamma-\eta$, Lith. stógas (roof), in Germ. likewise the $s$ is lost, cf. deck-en, dach; tundo (thump), $\sqrt{ }$ tud, bes. Goth. stauta, $\sqrt{ }$ stut, but Sk. $\sqrt{ }$ tud ; taurus (bull), $\tau a \hat{\rho} \rho o s, ~ O . ~ B u l g . ~$ turŭ, but Goth. stiur, Sk. sthūra-s ; cau-ere (beware) bes. Goth. us-skav-yan (be wakeful), origl. $\sqrt{ }$ skav, etc.; bes. freq. initial st, sc. Whilst, inversely, of sc only the $s$ remains in sirpeus (rush-), sirpea, sirpiculus, -la, (junket), sirpare (bind), bes. scirpus (withe), scirpeus, scirpea, etc., cf. O.H.G. scilaf, sciluf, N.H.G. schilf, and perh. in some others (Corss. Krit. B. 31 sqq.). Also in lā-tum for *tlätum, cf. $\sqrt{ }$ tol (tollo), init. $t$ is lost. $p$ bef. $l$ has clearly been lost in lien (milt) bes. Sk. plihán-, plīhán, $\sigma \pi \lambda \eta \dot{\eta} \nu$; perh. in lanx, lanc-is (dish), bes. $\pi \lambda a ́ \xi, \pi \lambda a \kappa-o ́ s$ (flat-, plate), O.H.G. flah; whether lae-tus (glad) is for ${ }^{*}$ plai-to-s, and belongs to Sk. $\sqrt{ }$ pri (love, cheer), lau in lat-ere, lauare (wash), stands for ${ }^{*}$ plav, and here a causative fmn. of $\sqrt{ }$ plu is seen, may seem doubtful (lau belongs prob. to same root as luo, and not to root $p l u)$. Upon loss of $c$ bef. $l$, which is not yet beyond doubt in my opinion, cf. Corss. Krit. B. p. 2 sqq., Krit. N. p. 35 sqq. On the whole there is still considerable doubt and uncertainty in this branch, because we are confined to a few examples.

It is well known that it was not till historic times that men simplified $g n$ into $n$, as e.g. in $n \bar{o}-s c o, n \bar{o}-t u s, n \bar{o}-m e n$, fr. older gnö-sco, cf. co-gnō-sco, gnō-tus, gnō-men, cf. co-gnō-men; narrare fr. earlier gnā-rigare, from same $g n \bar{a}-r u s$, where the initial conson. is fully preserved, fr. same root as gnō-sco, origl. gna fr. gan (nosse: cf. $\gamma \iota-\gamma \nu \dot{\omega}-\sigma \kappa \omega$, Sk. g'ía, Germ. kan and kna, etc.):
$n \bar{a}$-tus for earlier gnā-tus, preserved in co-gnā-tus, $\sqrt{ }$ gna fr. gan § 78 . (gignere), cf. gen-us. The same sound-law, by which an initial gutt. $+n$ becomes $n$, occurs also in Eng. : the old initials $g n, k n$, are still noticeably written in Eng. of this day, in words like gnat, gnaw, knowledge, etc., but $g$, $k$, are no longer heard. Cf. loss of gutt. bef. nasals medially (§ 77,1, a).

Similarly at a later period of the lang. st was lost before $l$ (Corss. Krit. B. 461, cf. 149) in st. stleiti-, sleiti-, leiti-, liti- (lis, suit), bes. which we place O.H.G. strìt, N.H.G. streit (in st.terminations, it is true, this does not occur in Lat. words), in Inscrr. slis is seen, stl thus becomes $l$ through sl : stlätu-s, làtu-s (broad), which is derived from origl. $\sqrt{ }$ star (ster-no, strä-tius, $\sigma \tau o \rho-\varepsilon ́ \nu \nu v \mu \iota$, etc.)-thus the origl.•word means "spread"; stlocu-s, locu-s (place), which we refer to Sk. $\sqrt{ }$ sthal, further fmn. of stha, origl. $\sqrt{ } s t a$ (stand), and others whose derivation is not quite clear.

As suāuis for *suaduis (§ 77, 1, a), so uiginti for *duiginti, cf. $d u o$, Sk. $d v a$; the dropping away of the $d$ occurs nevertheless in Gk. too ( $\epsilon^{\prime} \kappa \kappa \sigma \iota$ ), in Kelt. (Erse fiche, fichet, i.e. uiginti), in Aryan (Sk. viçáti, Zend vīçaiti), and thus dates from the earliest times. If *duiginti had stood its ground to a later time, *biginti would have arisen, as bis fr. ${ }^{*} d u i s$, bellum fr. duellum, bonus fr. duonus (duonoro; Epit. Scip. Barb. f.): here through mutual influence $b$ has arisen, as an assimiln. of $d$ and $v$, since $d$ became assimilated to $v$ as regards quality (labial quality), and $v$ became like $d$ as regards quantity, i.e. became a momentary sonant conson.

Bef. $y, d$ is lost in Iouis, etc., for * Dyouis, cf. Old Lat. Dioue (Ioui), and Osk. Diutreí (Momms. Unterital. Diall. p. 255), Sk. $d y \bar{a} u-s$ (heaven), Gk. $Z^{\epsilon} u^{\prime} \varsigma=* \delta y \epsilon v-\varsigma$, etc., $\sqrt{ } d y u$ ( $=d i v$, shine). The same loss is seen in Iuno for ${ }^{*}$ Diou-no, fmd. fr. same root (Corss. Krit. N. p. 142).

Even the favourite initial sound $q u$ appears simplified to $u$ in uermis (cf. Germ. wurm) for ${ }^{*}$ quermis, f.f. karmi-s, Sk. krmi-s, Lith. kirn-elé (worm ; but cf. G. Curt. Gr. Et. ${ }^{2}$ p. 485 sqq.) ;
§78. so too $v$ appears to stand for $g v$ in $\sqrt{ }$ uen (uenire) $={ }^{*} g u e n$ for *ge-n (§77, 1), further fmn. fr. $\sqrt{ } g a$ (go), by means of $n$. At a very late period arose the loss of init. $c$ bef. $u$ in several fms. of interrog. pronn., e.g. in $u-b i$ for ${ }^{*} c u-b i$ or ${ }^{*} q u o-b i$, kept in compd. ali-cu-bi, cf. Umbr. pufe ( $p=$ Lat. $c$ ); u-nde for* cu-nde, kept in ali-cu-nde; u-ter for ${ }^{*} c u$-ter (compar. fm. st. $c u-=q u o-$ ), cf. Osk. puiturus-pid (i.e. utrique) with $p=$ Lat. $c, G \mathrm{Gk} . \pi o ́ \tau \epsilon \rho o s$, earlier Iôn. кóтєpos, Sk. and f.f. ka-tarás.

## Final.

The Lat. lang., as we have it, generally permits only single consonn. at the end of a word, but also groups of two and even three consonn., viz. nasal or liq. + mutes; mutes, $r, l, m, n+s$; $s+t$, e.g. ferunt, hunc, uolt, fert; scrobs, ars for *art-s, and so in similar cases (but uir for *uirs, quatuor for *quatuors, fr. *uiro-s, quatuor-es), fers (fr. feris), puls for ${ }^{*}$ pult-s (but uis for *uil-s, f.f. varsi, "thou wilt," sal for *sal-s, s lost), hiem (p)s, ferens for ${ }^{*}$ ferent-s, and so in such cases (but nouōs, nouās, for *nouons, ${ }^{*}$ nouans) ; the combinations $r s, l s$, $n s$, were therefore tolerated in these cases where they stand for $r t s$, $l t s, n t s$, i.e. when $s$ alone $=s s$; est ; nasal or liq. + mute $+s$, e.g. hiemps, urbs, arx, i.e. arc-s, falx, i.e. *falcs; indeed our present final consonn., for by far the greatest part, did not become final until vowels had evaporated, and were not compressed until vowels had been lost. Yet in no case was a doubled conson. tolerated, in fine, e.g. os, fel, not *oss, *fell, cf. oss-is, fell-is; moreover, the combination of two mom. consonn. was not admissible, e.g. lac for *lact, cf. lact-is, and $r d$, cor for ${ }^{*}$ cord, cf. cord-is; where these combinations should have been final, the latter conson. was discarded.

It was not until Lat. became a fixed written language in classical times that the termn. assumed a more definite existence. The earlier national archaic lang. shows in spelling a great indifference towards final consonn. In fact, the consonantal termns. $s, m, t$, important as they are for word-formn., were sometimes expressed in writing, sometimes omitted, which
we find to be the case in Umbr. also. This fact proves that in § 79. earlier times (and later also in the unformed branch of the Roman) the final consonn. were heard with difficulty, perh. as in many Romance langg. (e.g. $d$ in Span., $t, n t$, etc., in Fr.). The correct lang. here introduced a fixed rule, after the pattern of the Gk.; the conson. was now either always written (the rule), or regularly discarded (the exception). A few exx. of the unsettled treatment of the termn. have remained in spelling even as late as the classical period.

We will treat separately of the final consonants, origl. $s, m, t$, since they are most important for grammar.
$s$ is omitted in writing in the oldest inscrr. in cases like Tetio, Furio, n. sg. for Tetio-s, Furio-s; Corneli, Clodi, etc., for Cornelis, Clodis $=$ Cornelios, Clodios (Ritschl, Progr. of 12 March, 1861). Yet in the earliest lang. the loss of final $s$ is mainly confined to n . sg. It is well known that even at a later time the poets were wont to neglect final $s$ bef. initial consonn., and that the weak pronunciation of final $s$ is otherwise attested. The written lang. in most cases decided in favour of the retention of the $s$. Nevertheless the wavering betw. retention and loss of final $s$ in 2 p. sg. med. is obvious, e.g. amabaris, amabare; further in magi-s and mage, poti-s, pote, where, at the same time $i$ was dulled to $e$.

The loss of $s$ was regularly allowed, e.g. in n. pl. masc. of ost., which in the older lang. still shows the $s$ here and there, e.g. heis, magistreis, etc., bes. hei, magistrei; a later fm., as hi, mayistri, was the one afterwards exclusively fixed upon; the same process takes place in gen. sg. fem. of $a$-stems, e.g. suaes, dimidiaes, later ae only is found, etc.

Through evaporation of the vowel of the last syll. $s$ after $r$ is lost, as in puer, uir, quatuor, acer (with auxil. vowel bef. $r$ ), for ${ }^{*}$ pueros, ${ }^{*}$ uiros, ${ }^{*}$ quatuores (cf. $\left.\tau \in ́ \sigma \sigma a \rho \epsilon \varsigma\right)$, acris; more rarely this occurs after $l$, uigil for uigilis, *uigils.
$m$, only faintly audible in fine, is likewise often unexpressed in earlier monuments of the lang., e.g. oino, uiro, duonoro (Epit.
§ 79. Scip.), bes. pocolom, sacrom, etc. In popular diall. this faint pronunciation of final $s$ remains, as later inscrr. prove; the written lang., however, firmly maintained the letter in spelling. One effect of the weak pronunciation of final $m$ must here be noticed, viz. that in verse it was not considered a conson. bef. vowels.

Also final $n$ seems to have become only faintly heard, cf. alioqui bes. alioquin and the like (cf. however, Corss. Krit. B. 272).

Origl. final $t$ had in earlier Lat. a weak sound, like a scarcely audible $d$; accordingly it is freq. omitted in writing, e.g. patre (Epit. Scip. Barb.) bes. Gnaiuod, etc. In classical Lat. d for origl. $t$ was sometimes retained in writing, thus e.g. in ntr. pronl. decl. e.g. quo- $d=$ origl. $k a-t$, $i d=$ origl. $i-t$, etc. (the spelling in $t$ is rarer in these cases), sometimes completely discarded, as in abl. sg., where $d=$ origl. $t$ has been retained in archaic Lat. only, but was not written in class. Lat., e.g. equō-d, eqū̄ $=$ origl. $a k r \bar{a}-t$, Sk. áçcā-t ; in termn. -to of imper. $t$ has likewise been lost, e.g. origl. as-tāt, Osk. es-tūd, Lat. esto fr. ${ }^{*} e s-t \bar{o} d$. Final $t$ in Lat. is not origl., but has become final after vowelloss, and thus remains in class. Lat., whilst archaic Lat. does not show this $t$, e.g. $\bar{z} t$, f.f. *ei-ti, origl. ai-ti; uehit (i), uehunt (i), *uehonti, origl. vaghati, raghanti, etc., but archaically dede= dedet, dedit, and even indeed dedro=dedront, dederunt.

Thus $n t$ also in earlier times and colloquial lang. was barely audible in pronunciation; wherein lies the cause of the double fms. of the later fixed spelling of $3 \mathrm{p} . \mathrm{pl}$. pf., as fecermnt (with entire termn. retained) and fecere (with lost $n t$ and weakened vowel).

The clipping of final consonn. was even more prevalent in Umbr. than in Old Lat.; whilst the Osk. does not show this phenomenon, since there was a generally-received Samuite orthography before the time from which our earliest inscrr. date, and the popular variations in pronunciation were no longer followed in spelling.

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$$
\begin{array}{l|l}
\text { Enyiresi, Twi né Nkran } & \text { Enliši, Oť̌ŭi ke Gà } \\
\text { nsem - asekyere - nhoma. } & \text { wiemoi - assisitsomot wolo. }
\end{array}
$$

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