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a vigorous intellect and an earnest soul is contending for the Christian faith. Not that the work before us is a polemic against pantheism, or any heresy. It is the product of positive and independent thought ; its negative results are not, however, on that account, the less valuable.

That this delineation of so peculiar and original a course of thought has been, in all respects, successful, is too much to hope. If, however, it does not correctly express the leading features of the system examined, to those used to the peculiar phraseology and mode of thought of modern German philosophical writers, it is not because a conscientious and painstaking endeavor has not been made.

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## ARTICLE II.

### COMPARATIVE PHONOLOGY; OR THE PHONETIC SYSTEM OF THE INDO-EUROPEAN LANGUAGES.

BY BENJAMIN W. DWIGHT, CLINTON, N. Y.

[Continued from Vol. XVI., p. 722.]

#### *A Brief View of the Sanskrit Consonants, in their relations to the Other Classical Languages.*

THE different classes of consonants, in the Sanskrit, are as follows :

(1) Gutturals. These are k, kh, g, gh, and n pronounced like our nasal n in ng and nk, as in sing and sink. This nasal n is found only before gutturals: as in the middle of a word, or at the end of a word in place of m, if that word is succeeded immediately by one beginning with a guttural. K is represented, in Greek, by κ, and in Latin by c (k) and q: as in Sansk. kapâlas, the skull; Greek, κεφαλή; and Lat. caput. Kh is represented, in Greek, by χ: as in Sansk. nakhas, a nail; Gr. ὄνυξ stem ὄνυχ (the o being euphonic); and

so khan, to dig, Gr. *χαλνειν*, pure stem *χαν*. G is equivalent to the same sound in Greek and Latin: as in Sansk. *sthaḡ*, to cover; Gr. *στέγω*; Lat. *tego*. Gh, as in Sansk. *gharma*; Gr. *θερμός*; Lat. *formus*; Eng. *warmth*; is represented by the aspirates of different organs in other languages. In the case of *laghu*, light, it is represented, in Latin, by the labial *v*, in the word *levis*, light; while yet in the German *leicht* and English *light*, the original guttural form is preserved.

(2) Palatals. These are *ch*, *chh*, *j*, *jh*, and *n*. This class of consonants may be viewed as derivative from the preceding, and but as a mere softened form of it. They occur only before vowels and weak consonants, as semivowels and nasals; while before strong consonants they fall back at once into the class of gutturals from which they came. In the various cognate languages, we find this class of letters represented oftenest by gutturals; next, by labials, on account of the mutual etymological sympathy so apparent in various languages between gutturals and labials; next in frequency, by some *t*-sound, as this is the initial element of the palatal sounds generally; and, last of all, by the sibilants. Thus compare

SANSKRIT.	GREEK.	LATIN.
<i>panchan</i> , five.	<i>πέντε</i>	<i>quinque</i> .
<i>pachâmi</i> , I cook.	<i>πέσσω</i> (for <i>πέσσαμι</i> )	<i>coquo</i> (for <i>coqua-</i> <i>mi</i> ).
<i>jânu</i> , the knee.	<i>γόνυ</i>	<i>genu</i> .
<i>jam</i> , to unite with.	<i>γαμειν</i>	
<i>jribh</i> , to open or draw apart.	<i>γράφειν</i> , to scratch, to write.	

*Chh* finds its equivalent, in Greek and Latin, in *σκ* and *sc*: as in *chhâyâ*, a shadow, and *σκιά*; and also in *chhinadmi*, I cleave; and Lat. *scindo* (for *scindami*); *chhauna*, a covering, and *σκηνή*, a tent, as well as *chhali* and *σκύλος*, the hide of an animal. When terminal in a root, it appears as *g*: as in Sansk. *prachh*, to ask; Lat. *rogo* for *progo*, stem *prog* (cf. also Lat. *precor*, Eng. *pray*); and German, *fragen*.

(3) Linguals of a special sort, peculiar to the Sanskrit.

These are written as t, th, d, dh, n, each with a dot underneath, to distinguish them from the ordinary dentals having the same symbols in their natural form.

(4) Dentals. This class embraces the common linguals of other languages, both simple and compound: as d, dh, t, th, and n. D is sometimes interchanged with l in Greek and Latin: as in *δάκρυμα*, a tear, and *lacryma* for *dacryma*; *δαήρ* (for *δαFήρ*), a brother-in-law, and *levir* (Sansk. *dêvaras*); and *lingua*, the tongue, archaic, *dingua*; and *δάφνη*, a laurel, with its parallel form *λάφνη*. Bopp regards similarly, and with good reason therefore, *λαμπάς* as representing the Sanskrit *dîpa*, a lamp, in a strengthened form; and so, *-λικος* in *ήλικος* he compares with *drisa* Prâkrit *disa*, like. Compare also, in the same way, *licet* and *δίκη*, custom, right; and *lorum*, a thong, with *δορά*, a skin. The Sanskrit d, besides being represented by its own simple equivalent in Greek and Latin, is, like dh, often represented by θ (th); while dh itself, in addition to such an equivalent in Greek, is represented, also, by f and b in Latin. Thus compare:

SANSKRIT.	GREEK.	LATIN.
dêvas, a shining one.	Δεός.	deus.
dvar, a door.	Δύρα.	
duhitri, a daughter.	Δύγατηρ.	
dadhâmi, I place; stem, dhâ.	τιθημι, stem, δε.	
madhu, an intoxicating drink.	μέθυ.	mel.
dhumas, smoke.	θυμός.	fumus.
ûdhar, a teat.	οὔδαρ.	uber.

Th, in Sanskrit, is never represented by θ in the Greek, but always by τ: as, in Sansk., *stha*, to stand, in the present, from *tishthami*, I stand, compared with *ιστημι* for *σίστημι* (root, *στα*), Lat. *sto*, *stare*, stem, *sta*. So, compare Sansk. *asthi*, a bone, with *ὀστέον*, Lat. *os*, stem, *oss* for *ost*; and also *rath*, a carriage, Lat. *rota*, a wheel.

(5) Labials. These are p, ph, b, bh, and m. Ph occurs rarely, while bh is, like dh, of frequent occurrence. In Greek, φ, and in Latin, f, represents, commonly, this aspirate, as in

Sansk. *bhar*, to bear, Gr. *φέρω*, Lat. *fero*; and also in *bhû*, to be, Gr. *φύω*, Lat. *fui*. In the Germanic languages, Sansk. *bh* becomes also *b*, as in (*ge*)*bären*, to bring forth, Eng. bear; compare, also, German *fahren*, to carry, Eng. ferry; and Germ. *bin*, I am, Eng. *be*, and Sansk. *bhû*.

In the dative plural ending *-bus*, Sansk. *-bhyas*, we see *bh* represented by *b*, as its equivalent in Latin. In the interior of a word, indeed, the Latin prefers the medial labial (*b*) to the aspirates. Compare, in connection with Sansk. *tubhyam*, to thee, Lat. *tibi*; also, Sansk. *abhi*, both, Gr. *ἄμφω*, and Lat. *ambo*; and Sansk. *nabhas*, *rabh* and *lubhyati* with their Latin equivalents, *nubes*, a cloud, *rabies*, rage, and *libet* or *libet*, it pleases. Sanskrit *p*, *b*, and *m* are each abundantly represented by their own simple equivalents in Greek and Latin.

(6) Semivowels. These are *y*, *r*, *l*, *v*. *Y* is, in sound, our *y*, as in *year*. In Prâkrit, as in Persian and Latin, it often passes into *j*; as in Sansk. *yuvan*, young, Persian *javân*, Lat. *juvenis*. In Greek, its equivalent is *ξ*. Thus compare *yuj*, to bind, and *ζευγνύσαι* and *ζωννύσαι*, Lat. *jungere*, stem, *jung* and *jug*, as in *jungo*, and *jugum*; also, Sansk. *yava*, barley, and *ζέα* for *ζέφα*; as also *yas* and *ζειν*, to boil. So the termination *-αζω* (for *-αζαμι*) corresponds with the similar Sanskrit verbal ending *-ayâmi*. *R* is commonly represented by *r* in the other languages; and *l* sometimes passes over into *r* in them: as in Sansk. *lup* and *lump*, to break, Lat. *rum-po*, perf. *rupi*. *V* has the sound of our English *v*, except after consonants: as in *tvâm*, where it is sounded like *w*. Neither *v* nor *y* can stand at the end of a word, since the voice cannot rest on them. As the semivowels are of so flexible and flowing a nature, they easily interchange one with the other, in the different languages, as not only an original *l* with *r*, as has been already indicated, but also an original *n* with *l*. Thus compare Sansk. *anyas*, another, and Gr. *ἄλλος* (for *ἄλιος*) and Lat. *alius*; and also Sansk. *antaras* and Lat. *alter*.

(7) Sibilants. These are *ç*, *sh* and *s*. *H* is also classified here. The sibilant *ç* is very slightly aspirated. It ap-

pears to have sprung from an original k; and, in Greek and Latin, k and c regularly correspond with it. The Gothic substitutes for it h, while the Lithuanian represents it by a compound sibilant sz, pronounced like our sh. Thus Sansk. çyan, a dog, gen. çunas, is, in Greek, κύων, gen. κυός; in Gothic, hunds; and, in Lithuanian, szuo, gen. szuns. So, açvas, a horse, is, in Latin, equus (pronounced, originally, as if written ekus) and Lithuanian, aszwa. At the end of a word, and in the middle before strong consonants, it usually reverts to its original k-sound. With the tendency of this sibilant to vibrate between a hard and soft sound, compare the double sound of c in our language, as s and k, or hard and soft; as, likewise, in the French. In Italian, also, it has a double sound, as k and ch.

The sibilant sh is pronounced as in English. Combined with k as in ksh, it is represented, in Greek, by ξ, and in Latin by x: as, in Sansk. dakshina, Gr. δεξίως, Lat. dexter, Lith. deszine. It occurs sometimes initially and sometimes terminally: as in shash, six; where it is represented, when initial, by s in Latin and the aspirate in Greek; and when terminal by x (ξ) in both languages; as in ξξ and Lat. sex; compare Lithuanian szeszi. At the end of a word, and in the middle before a strong consonant, as t and th, it passes into k and t, in Sanskrit. So, in Greek ὀκτώ; Lat. octo; Italian otto; as compared with the Sansk. ashtau, eight; a similar style of interchanges appears in the other languages. The sibilant s is the ordinary s of other languages. It is changed, in different cases, according to special euphonic rules, into ç, sh, r, and other letters, and only remains unaltered before t and th.

H was never admitted at the end of words, or in the middle before strong consonants. When coming into such positions or conjunctions, it passed, according to definite rules, into subdotted t or d, k or g; which it would be of no value to state or illustrate here, as they lie so exclusively within the bounds of specific Sanskrit scholarship, as such. The Sansk. h is represented, often, by κ in Greek and c in Latin: as in Sansk. hard, hrid, and hridaya, the heart; Gr.

*καρδία* and *κῆρ*; Lat. *cor*, stem *cord*, with which compare Gothic *hairto*; Germ. *hertz*; Eng. *heart*; and Lith. *szirdis*. In Greek, *χ* is often, also, the equivalent of the Sansk. *h*: as in Sansk. *hima*, Gr. *χειμων*, Lat. *hiems*; and also *brish*, to rejoice, Gr. *χαίρω*; *hansas*, a goose, Gr. *χῆν*, Lat. *anser* for *hanser*; and *hyas*, yesterday, Gr. *χθές*, Lat. *heri* for *hesi*; with *hesternus*, the adjective form of which, compare Germ. *gestern* and Eng. *yesterday*.

2dly. The Consonantal System of the several Classical Languages, viewed pathologically.

The true laws of consonantal combinations, in reference to their proper euphonic effect, are better developed in Greek than in any, not to say all, other languages, besides the Sanskrit. In no direction was their acute sense of the fitness of things more exact and artistic; and in none was their skill more vigorously employed, than in their mode of constructing word-architecture, and adorning it according to their ideas of true taste. In the forms of words that they moulded and chiselled, or, in other language, in the additions, accommodations, abrasions, contractions, and prosodial changes, that they left as the marks of their skill upon them, we see as in fixed type, the rules of art that they discovered and applied, in the mutual arrangement and harmonious distribution of sounds. Phonetic complications occur but on a very limited scale in Latin, whose laws of life and growth, in this part of its framework, are very simple.

That department of philology, which concerns itself with the affections or changes of letters and syllables, constitutes the pathology of language, and embraces the whole range of mutilations and corruptions, whether effected by time, or dialectic causes, or the influences of climatic agency; as well as the whole range of euphonic additions, substitutions and suppressions, wrought by earnest determined hands, according to real or supposed rules of art.

Letters once radical and characteristic of words in their original state, have dropped from their place, under the pressure of phonetic instincts and tastes upon them, like boughs encumbering the parent stem of a tree, beneath the pruning

knife; so that, in the scientific study of etymology, it becomes often necessary to know, not only the course of the changes that have occurred, but also the laws that have determined their rise and progress.

The consonantal, like the vowel, elements of speech, have their different degrees of weight; and their weight is but another name for the amount of their phonetic force, or the density, as it were, of their phonetic substance. The breathing *h* is lighter even than the vowels; to which the aspirates and semi-vowels stand next in order; then follow the liquids and in the following sequence, from light to heavy, *r, l, n, m*. The heaviest of all the consonantal sounds are the mutes; and in the order for increasing weight of middle, smooth and rough. So also labials and palatals of the same several classes, smooth, middle and rough, as *p* and *k*, *b* and *g*, are heavier than the corresponding dentals of each class respectively, as *t* compared with *p* and *k*, and so also *d* compared with *b* and *g*. These subtle mechanical relations of sounds to each other, indicate the directions in which the inward forces at work upon language, to modify its combinations, exert their energy.

As the facts and laws that pertain to consonantal combinations are intimately interwoven with those pertaining to consonantal changes, they must, many of them, in order that either should be properly comprehended, be exhibited together in one view.

(1) Generally: with a view of the general laws of change in word-forms. These laws of change are the following:

§ 1. The tendency is always, in the course of time, and in the passage of words from one country to another, forwards from complicated to simple forms, and not backwards from simple to complicated. Time abrades and rounds off words in its perpetually flowing stream, as it does stones and boulders on the floor of the ever heaving sea.

§ 2. The greatest mutilations in the volume of words occur in their terminal, rather than in their initial syllables; although in the latter, changes of single letters occur more frequently than in the former.

§ 3. Vowels are much more sensitive to changes in the volume of a word, and correspond more instinctively with them, than consonants.

§ 4. In vowel-changes the course of change is, for the most part, from the primary to the secondary vowels, and not backwards. The primary vowel, a, can be transformed into any of the other vowels; but they do not revert to it. So in Latin, e and o often settle down into the weaker vowels, i and u.

§ 5. The interchanges of consonants with each other, which constitute a very large class of all phonetic changes, are made on the following principles:

1. Inasmuch as sounds made by different organs would, when proximate, often jar phonetically upon each other, or, which is the same thing, would require special effort to be distinctly uttered in conjunction, they are harmonized on the principle that a smooth mute must precede a smooth, a medial a medial, and a rough, a rough: as in *ἑπτα* and *ἕβδομος*, *ὄκτω* and *ὄγδοος*, *γράφω*, *γραπτός* and *γράβδην*. The law, stated in its simplest form, is this: consonants brought into immediate juxtaposition must be made homogeneous. Thus, *κδ* and *χδ* become *γδ*; *κδ*<sup>1</sup> and *γδ* become *χδ*; *γτ* and *χτ* become *κτ*; *πδ* and *φδ* become *βδ*; *πδ* and *βδ* become *φδ*; and *βτ* and *φτ* become *πτ*.

2. Homogeneous consonants of different organs are often exchanged for each other.

(a) Semi-vowels and aspirates, one with the other; as h and s, in *ἕξ* and *sex*, *ἑπτά* and *septem*; and h and v, in *ἕσπερος* (*Ἔσπερος*) and *vesper*. So f in Latin becomes h in Spanish, as in Lat. *filius*, Span. *hijo*; and *filum*, Span. *hilo*.

(b) Different liquids, one with the other, as l and r, l and n, m and n; examples of which will be furnished hereafter, under the head of Substitution of Sounds for each other.

(c) Different mutes, one with the other, in each of the three kinds respectively, smooth, middle, and rough; abundant illustrations of which will be furnished hereafter.

<sup>1</sup> In the preposition *ἐκ*, κ remains unchanged before δ, as in *ἐκδραίσις*.

3. Homorganous consonants, or those of any one specific class, as labials, palatals or dentals, severally, may readily pass into others of the same class, that is, others made by the same organs. The following are a few among many specimens: βούλωμαι and volo, I wish; χείμα and hiems, wintry weather; χόρτος and hortus, a garden; σύ (Acol. τύ) and tu, thou; μέσος and medius, middle; βροτός (for μροτός, Cf. Sanskrit martas, Lat. mortuus, dead, from Sansk. mri, to die, Lat. mori); and τύπτουσι, Aeol. and Dor. τύπτοντι and τύπτονσι.

The styles or forms of consonantal changes are various, as

A. Substitutions.

B. Insertions and Additions.

C. Suppressions.

D. Weakened Consonantal Forms.

E. Strengthened Consonantal Forms.

A. Substitution. This is of two kinds:

1. Literal, or pertaining to a mere change of letters.

2. Topical, or pertaining to a change of place or order, in respect either to a mere letter, or an entire syllable.

1. Literal Substitution. This is of two kinds:

(1) General, or weak.

(2) Directly assimilative, or intensive.

Assimilative substitution occurs, when, by the strong phonetic attraction of another letter preceding or succeeding it, a consonant is changed to the same letter, or to one directly homogeneous with it; while, by general or weak substitution is described any other change of a consonant, made under the influence of weak phonetic attraction, or of indeterminate subtle affinities of any kind, or for the mere sake of avoiding phonetic monotony.

As the modes and forms of substitution are so often the same in both Greek and Latin, and these two languages are so cognate and correlated in every way, illustrations will be drawn indiscriminately from them both.

(1) General or weak substitutions occur in each of the different classes of consonants.

I. Palatals or Gutturals. These are in Greek κ, γ, χ, and in Latin c, g, ch.

§ 1. The gutturals when followed by  $\sigma$  become in Greek  $\xi$ , which, therefore, always represents as a double consonant either  $\kappa$ ,  $\gamma$  or  $\chi$  compounded with  $\sigma$ . As in Latin  $g$  is exchanged before  $s$  and  $t$  into  $c$ ,  $x$  commonly represents  $c + s$ , but often also  $g + s$ , and sometimes  $v + s$ , as in *vixi*, perf. of *vivo*, for *vivsi*, and *nix* (gen. *nivis*) for *nivs*.

§ 2. The gutturals, when originally followed by  $\iota$ , were afterwards changed to  $\sigma$  or  $\tau$ ; and the vowel was itself also subsequently assimilated to the same letter, which thus become double. This is the true analysis of stems ending in  $-\sigma\sigma$ , or  $-\tau\tau$ . Thus,

<i>τάσσω</i> ,	stem <i>ταγ</i> ,	is for <i>ταγιω</i> .
<i>φυλάσσω</i> ,	" <i>φυλακ</i> ,	" <i>φυλακιω</i> .
<i>ταράσσω</i> , <sup>1</sup>	" <i>ταραχ</i> ,	" <i>ταραχιω</i> .
<i>ὀρύσσω</i> ,	" <i>ὀρυχ</i> ,	" <i>ὀρυχιω</i> .

So *μείζων* for *μεζίων* is for original *μεγιών*, and *ὄσσε* (stem *οκ*) is for *ὄκιε*. Accordingly  $\sigma\sigma$  represents not only  $\tau\iota$ , as in many instances, but also  $\gamma\iota$ ,  $\kappa\iota$ ,  $\chi\iota$ . Sometimes, as in *κράζω* (stem *κραγ*) for *κραγιώ*,  $\gamma\iota$  passed into  $\xi$ .

§ 3. In Latin,  $c^2$  becomes, several times,  $g$ : as, (1) After  $n$ : as in *quadringenti* and *septingenti*, compared with *ducenti*, *sexcenti*, etc.

(2) Before  $n$ . Thus: *salignus*, willow, from *salix* (stem, *salic*), is for *salicnus*, as *dignus* is also for *dicnus*; for the proper appreciation of which, compare *δική*, *δικαιος*, and *dico* (stem, *dic*), and *disco*.

(3) Before  $l$ : as in *negligo* for *neclego*. (4) Before  $m$ : as in *segmentum* from *seco*. (5) Before a vowel: as in *negotium* for *nec-otium*. So the Latin *lacus*, a lake, has become the Italian *lago*.

In such words as *ignarus* (= *in-gnarus*), *ignavus*, *cognosco*, and *ignosco*, the  $g$  represents an original guttural belonging to the simple root in Latin, but now lost: as in

<sup>1</sup> The form *τέτρηχα*, formerly thought to have come from an imaginary verb *τρήχω*, was shown by Buttman to be derived from *ταράσσω*.

\*  $C$  and  $g$  were pronounced hard in Latin;  $c$  like our  $k$ , and  $g$  as our hard  $g$ .

gnosco, the archaic form of nosco and gnavus, of navus. Compare *γινώσκω* (stem *γνω*) and *γένναιος*.

§ 4. G becomes c before t: as in actum and rectum from ago and rego; c (for k) being the smooth mute with t, another smooth one.

## II. Linguals.

These are, in Greek, τ, δ, θ, λ, ν, ρ, σ; and, in Latin, d, t, th, l, n, r, s.

1st. The Substitution of Greek Linguals for each other.

§ 1. The liquids are interchangeable with each other: as, (1) λ and ρ. Thus: *κεφαλαργία*, headache, is for *κεφαλαλγία*, and *ἀργαλέος*, difficult, is for *ἀλγαλέος*. Compare, similarly, *ἐρέβινθος* and *λέβινθος*, pulse; *συγγλός* and *συγγρός*, silent; *λείριον* and Lat. *lilium*, a lily; and also Lat. *rumpo*, perf. *rupi* (stem, *rup*), and Sansk. *lup* and *lump*, to break. In the same relation stand *ἔρις*, strife, with Lat. *lis*; *mille* and *millia*, a thousand, with *μύριοι*; *gramia*, a humor in the eyes, with *γλάμη*. So *coerulus*, from *coelum*, is for *coeluleus*. In French, similarly, r often represents the Latin l: as in *épître* from *epistola*; *apôtre* (*apostolus*) and *rossignol* (*lusciniola*). Gibraltar is said, likewise, to stand for *geb el Tarik*, the mountains of 'Tarik. So, our English word *frock* is derived from a Middle Latin word *flocus*, a monk's garment. The Latin *peregrinus* (*per-ager*) is the Italian *pelegrino*, French *pélerin*, German *pilger*, Eng. *pilgrim*; so that *peregrinate* and *pilgrim* come, immediately, from the same root. In the English word *purple* (Gr. *πορφύρα*, Lat. *purpura*, Fr. *pourpre*), we have a similar substitution of l for r.

(2) λ and ν: as *πλεύμων*<sup>1</sup> and *πνεύμων*, the lungs; *λίτρον* and *νίτρον* (Lat. *natrum*), soda. In double forms of this sort, the Doric had a preference for the ν, and the Attic for the λ. So compare Lat. *lympha* and *nympha*, water, with *νύμφη*. Ancient Panormus, in Sicily, is now called Palermo; and the name of the modern Bologna was, originally, Bononia.

The Spanish *nivel* and French *niveau*, correspond, in the

<sup>1</sup> In the Latin *pulmo(n)* there is a metathesis of the l.

same way, with the Lat. libella, a level; as do the Latin lutra and Spanish nutria, the otter, and the Latin venenum, poison, and its Italian equivalent veleno.

(3)  $\mu$  and  $\nu$ : as  $\mu\upsilon\upsilon$  Ionic, and Doric  $\nu\upsilon$ , in the sense of  $\alpha\acute{\upsilon}\tau\acute{\omicron}\nu$ . So compare  $\mu\acute{\eta}$  and Latin ne, not;  $\mu\acute{\omega}\nu$ , whether, and Latin num; and also Sansk. accusative suffix -am, Gr. -ον, Lat. -um. Final  $\nu$ , in Greek, is generally an alternate for  $\mu$ , as in the 1st pers. sing. of the imperf. act.  $\acute{\epsilon}\tau\upsilon\pi\tau\omicron\nu$  for  $\acute{\epsilon}\tau\upsilon\pi\tau\omicron\mu(\iota)$ ; and in the acc. sing. ending  $\nu$  of nouns; but sometimes it springs from  $\sigma$ , as afterwards shown.

(4)  $\nu$  and  $\rho$ . Compare the masculine comparative forms of Latin and Greek adjectives: as  $\acute{\omega}\kappa\iota\omicron\nu$  and ocior,  $\mu\acute{\epsilon}\iota\zeta\omicron\nu$  (for  $\mu\epsilon\gamma\acute{\iota}\omega\nu$ ) and major; also  $\delta\epsilon\iota\nu\acute{\omicron}\varsigma$  and dirus, terrible, and  $\delta\acute{\omega}\rho\omicron\nu$  and donum, a gift.

§ 2. The other linguals (the dentals and sibilant, which is but the dental aspirate) are interchangeable with each other.

(1) A radical  $\delta$  or  $\tau$  before  $\iota$ , becomes generally  $\sigma$ , and sometimes  $\zeta$ , while in Sanskrit it remained unchanged; as in  $\pi\lambda\acute{\omicron}\upsilon\sigma\iota\omicron\varsigma$  for  $\pi\lambda\acute{\omicron}\upsilon\tau\iota\omicron\varsigma$  (from  $\pi\lambda\acute{\omicron}\upsilon\tau\omicron\varsigma$ ) and  $\omicron\upsilon\sigma\acute{\iota}\alpha$ , being, essence, for  $\omicron\upsilon\tau\acute{\iota}\alpha$ , and  $\gamma\epsilon\rho\upsilon\sigma\iota\alpha$ , a senate, for  $\gamma\epsilon\rho\upsilon\tau\acute{\iota}\alpha$ . So,  $\acute{\epsilon}\zeta\omicron\mu\alpha\iota$  (stem,  $\acute{\epsilon}\delta$ -) is for  $\acute{\epsilon}\delta\acute{\iota}\omicron\mu\alpha\iota$ , with which compare Lat. sedeo; and  $\delta\zeta\omega$  (stem  $\acute{\omicron}\delta$ -) is for  $\acute{\omicron}\delta\acute{\iota}\omega$ ; and  $\sigma\chi\acute{\iota}\zeta\omega$  is for  $\sigma\chi\acute{\iota}\delta\acute{\iota}\omega$ . In a few cases, double forms of the same word in - $\sigma\iota\alpha$  and - $\tau\iota\alpha$  exist, as in  $\nu\alpha\upsilon\sigma\iota\alpha$  (from  $\nu\alpha\upsilon\varsigma$ , a ship) and  $\nu\alpha\upsilon\tau\acute{\iota}\alpha$ , Lat. nausea, sea-sickness.

The change of  $\tau$  to  $\sigma$ , in feminine adjective and participial forms, originally ending in - $\tau\iota\alpha$ , is especially interesting. Thus the feminine suffix - $\sigma\alpha$ , of participles ending in - $\omega\nu$ , - $\alpha\varsigma$ , and - $\epsilon\iota\varsigma$ , as  $\tau\upsilon\pi\tau\acute{\omicron}\upsilon\sigma\alpha$ ,  $\tau\upsilon\psi\acute{\alpha}\sigma\alpha$  and  $\tau\upsilon\phi\theta\acute{\epsilon}\iota\sigma\alpha$ , stands for - $\tau\iota\alpha$ . The proper feminine ending is here, as in  $\acute{\eta}\delta\acute{\upsilon}\varsigma$  (stem  $\acute{\eta}\delta\epsilon$ -), that of - $\iota\alpha$ ; and the final letters of the stem are, in each case, - $\nu\tau$ . So that

$\tau\upsilon\pi\tau\acute{\omicron}\upsilon\sigma\alpha$  is for  $\tau\upsilon\pi\tau\acute{\omicron}\nu\tau\text{-}\iota\alpha$ , originally.

$\tau\upsilon\psi\acute{\alpha}\sigma\alpha$ <sup>1</sup> "  $\tau\upsilon\psi\acute{\alpha}\nu\tau\text{-}\iota\alpha$ , "

$\tau\upsilon\phi\theta\acute{\epsilon}\iota\sigma\alpha$  "  $\tau\upsilon\phi\theta\acute{\epsilon}\nu\tau\text{-}\iota\alpha$ . "

<sup>1</sup> So in  $\pi\acute{\alpha}\varsigma$ ,  $\pi\acute{\alpha}\sigma\alpha$ ,  $\pi\acute{\alpha}\nu$  we have represented with several changes the following original forms:  $\pi\acute{\alpha}\varsigma$  for  $\pi\alpha\nu\tau(\varsigma)$  —  $\pi\acute{\alpha}\sigma\alpha$  for  $\pi\alpha\nu\tau\iota\alpha$  —  $\pi\acute{\alpha}\nu$  for  $\pi\alpha\nu\tau$ .  $\acute{\Lambda}\nu\alpha\iota\sigma\theta\eta\sigma\iota\alpha$ , likewise is for  $\acute{\Lambda}\nu\alpha\iota\sigma\theta\eta\tau\iota\alpha$ , from adj.  $\acute{\Lambda}\nu\alpha\iota\sigma\theta\eta\tau\acute{\omicron}\varsigma$ ;  $\phi\alpha\sigma\acute{\iota}$  is for  $\phi\alpha\nu\tau\acute{\iota}$ , in which origi-

The true analysis of the changes that have occurred in the above forms, is the following:  $\tau$  was changed to  $\sigma$  before  $\iota$ , and the  $\iota$  afterwards rejected; while also  $\nu$  was, according to uniform Greek custom, cast away before  $\sigma$ , and the previous vowel was lengthened by way of etymological compensation. Stems in  $-\epsilon\upsilon\tau$  preceded by a vowel, as  $\chi\alpha\rho\acute{\iota}\epsilon\upsilon\tau$  (stem  $\chi\alpha\rho\acute{\iota}\epsilon\upsilon\tau$ ) for  $\chi\alpha\rho\acute{\iota}\epsilon\upsilon\tau\iota\varsigma$ , have, in the feminine, the ending  $-\epsilon\sigma\sigma\alpha$  for the original  $-\epsilon\upsilon\tau\iota\alpha$ . Here, not only is  $-\tau\iota\alpha$  changed to  $-\sigma\alpha$ , as above, but  $\nu$  also, instead of being dropped, is assimilated to it, and changed to  $\varsigma$ . In such feminine forms as

$\mu\acute{\epsilon}\lambda\alpha\iota\nu\alpha$ , of  $\mu\acute{\epsilon}\lambda\alpha\varsigma$  (for  $\mu\epsilon\lambda\alpha\nu\varsigma$ ) stem  $\mu\epsilon\lambda\alpha\nu$ ,  
 $\tau\acute{\alpha}\lambda\alpha\iota\nu\alpha$ , of  $\tau\acute{\alpha}\lambda\alpha\varsigma$  (for  $\tau\alpha\lambda\alpha\nu\varsigma$ ) stem  $\tau\alpha\lambda\alpha\nu$ ,  
 $\tau\acute{\epsilon}\rho\epsilon\iota\nu\alpha$ , of  $\tau\acute{\epsilon}\rho\eta\nu$  (for  $\tau\epsilon\rho\epsilon\nu\varsigma$ ) stem  $\tau\epsilon\rho\epsilon\nu$ ,

the same feminine suffix,  $-\iota\alpha$ , really exists, but the  $\iota$  is placed, by metathesis, before the final letter  $\nu$ , of the stem, because probably, as that is one of the strongest of all the consonants in itself, the Greek ear forbade its being weakened in the feminine, compared with the other genders, by having two vowels after it, one of them the soft  $\iota$ : so that  $\mu\acute{\epsilon}\lambda\alpha\iota\nu\alpha$  represents an original  $\mu\epsilon\lambda\acute{\alpha}\nu\iota\alpha$ .

(2) The sibilant ( $\sigma$ ) is also interchanged with  $\tau$ , in many forms where it would be final, and in some, also, where it would occur initially. For the exchange of  $\sigma$  for  $\tau$  final, compare, with  $\pi\rho\acute{o}\varsigma$ , the Homeric form  $\pi\rho\sigma\acute{\iota}$  (Lat. prod-), Sansk. prati. So the neuter suffix  $-\sigma\varsigma$ , of the perf. participle active, as in  $\tau\epsilon\upsilon\tau\phi\acute{o}\varsigma$ , is but an euphonic form of the radical  $-\sigma\tau$ , as the masculine suffix  $-\omega\varsigma$  ( $\tau\epsilon\upsilon\tau\phi\acute{o}\omega\varsigma$ ) is also of  $-\sigma\tau\varsigma$  ( $\tau\epsilon\upsilon\tau\phi\acute{o}\tau\varsigma$ ). So also the final  $\tau$  of those neuter stems which end in  $\tau$ , and do not, like  $\sigma\acute{\omega}\mu\alpha$ , drop it in the nominative, is changed, in that case, to  $\varsigma$ , as in  $\tau\acute{\epsilon}\rho\alpha\varsigma$  (stem  $\tau\acute{\epsilon}\rho\alpha\tau$ ) and  $\kappa\acute{\epsilon}\rho\alpha\varsigma$  and  $\kappa\rho\acute{\epsilon}\alpha\varsigma$  (stems  $\kappa\acute{\epsilon}\rho\alpha\tau$  and  $\kappa\rho\acute{\epsilon}\alpha\tau$ ). For the exchange of  $\sigma$  for  $\tau$  initial, compare  $\tau\epsilon\acute{o}\varsigma$ , epic and Ionic form of  $\sigma\acute{o}\varsigma$ , with the same; also, Sansk. tvam, Lat. tu, and Gr.  $\sigma\acute{\upsilon}$  and the

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nal form ( $-\nu\tau\iota$ ) of the third pers. pl. act. of all verbs in Greek (cf. Latin third pers. pl. ending in  $-\nu\tau$ ), the principal tenses are still found ending in the Doric dialect throughout. Compare also Attic  $\acute{\epsilon}\iota\kappa\sigma\iota$ , twenty, with Doric  $\text{F}\acute{\epsilon}\iota\kappa\alpha\tau\iota$ , Latin viginti, Sansk. vinçati.

Cretan *τρέ* (for *τFe*, Sansk. *tvam*) with *σέ*, acc. case. Compare, also, *τόσος*, so great, and Lat. *tot* and *totus*; and also *τέκος* offspring, and Lat. *secus* and *sexus*.

The interchangeableness of *τ* and *σ*, both phonetically and graphically, is a fact very noticeable in the pronunciation and orthography, one or both, of almost all languages. The interchangeable spelling of the Latin adjective suffix *-tius*, as such, or as *-cius* (as in *adventitius* or *adventicius*), and so of the nominal suffix *-tio*, as such, or as *-cio* (as in *conditio* and *condicio*), is noticeable in this direction. So, in the modern languages generally, *t* before *i*, in the same syllable, has a simple or mixed, *s*-sound. Thus, in French, *nation* is pronounced as if *nāsion*; in German, as if *nah-tsi-ōne*; and, in English, as if *na-shun*.

In the Laconic dialect, even *ϑ* was often changed into *σ*, as in *σιός* for *θεός*, a god, and *ἀγασός* for *ἀγαθός*, good, *σάλασσα* for *θάλασσα*; and *πάσορ* and *πίσορ* for *πάθος* and *πίθος* (when, also, *ς* final is changed euphonically to *ρ*).

(3) An original sibilant is also, itself, sometimes represented by *ν* final. Compare *ἦν*, he was, with the Doric *ἦς* and the Vêdic *as*. So, in the 1st pers. pl. pres. act. of the verb, *ν* final stands for *ς*: as in *τύπτομεν* for *τύπτομες* (Doric form); with which compare the corresponding suffix *-mas*, in Sanskrit, as in *dadamas*, we give, and the corresponding Latin form in *-mus*, as in *damus*, we give. The Greek dual suffix *-των* is the equivalent of the Sanskrit *-thas*. *Ἄιέν*, poetic form of *αἰέλ* (Eng. *aye*), always, is, in Doric, *αἰές*.

2d. The Substitution of Latin Linguals for each other.

§ 1. D. (1) *D* is sometimes substituted for *t*, especially before *r*: as in *quadráginta* for *quatraginta*, and *quadratus* for *quatratrus*. So, the ancient *Mutina* is now *Modena*; the river *Athesis*, of old, in Italy, is the present *Adige*; and *Padua* represents the ancient *Patavium*.

(2) Other letters are, in several cases, substituted for an original *d*: as,

(a) *R*, in one case: *meridies* is for *medidies* (*medius* + *dies*), noon. So *r*, in *parricida* for *patricida*, is equivalent in one case similarly to an original *t*.

(b) L, also, represents, in some cases, an archaic d : as in *lingua*, archaic *dingua*, and *lacrima*, archaic *dacrima* (Gr. *δάκρυμα*). So, the Spanish *cola*, a tail, is but another form of the Latin *cauda*.

(c) B, sometimes, represents an original d followed by u or v : as in *bonus*, archaic *duonus* ; *bellum*, archaic *duellum* ; and *bis* for *dvis* (Cf. Gr. *δῖς* for *δFῖς*).

§ 2. T. (1) T often becomes s, after r, as in the supines of many verbs. Thus *tersum*, *mersum*, *cursum*, *versum*, and other supines in -sum stand for *tertum*, *mertum*, etc., according to the analogy of the regular supine formation in -tum, of the various conjugations. The liquids, in fact, generally, except m, evince a special fondness for having s succeed them.

(2) T is in one case interchangeable with r, as in *parricida*.

§ 3. S. S is readily interchanged with r ; as in *arbor* and *arbos*, honor and *honos*. The archaic forms of *plurimus* and *melior* were *plusimus* and *melios*, as in *meliosem*. *Corpus* (stem *corpor*) is for *corpos*, and this for *corpor* ; and *genus* (stem *gener*) is for *genes*, and this for *gener*. So the Iacnians often changed σ to ρ in the end of words, as in *τίρ* for *τίς*, and *πόρ* for *πούς*. Ancient *Massilia* has become similarly the modern *Marseilles*. In German, a like interchangeableness of r and s is noticeable in the words *darum*, therefore, and *warum*, wherefore, which are compounded of *um* + *das*, reversed, and *um* + *was* ; as in English *therefore* stands for *that-for* ; and *wherefore* for *which-for*. Compare in the same way, German *Hase* and English *hare* ; German *Eisen* and English *iron*.

### III. Labials.

These are in Greek π, β, φ, and μ ; and in Latin p, b, v, f, ph and m.

As the changes and substitutions that occur in them belong, almost all, to the class of assimilative substitutions, they demand no full, distinct treatment here, except in the following general particulars :

§ 1. In Greek, initial μ is sometimes interchanged with β, as in *βλίττειν* for *μλίττειν* ; *βλώσκω* for *μλώσκω* ; and *βροτός* for *μροτός*.

§ 2. In Latin, v becomes u, or is vowelized before a consonant, as in *cautum* for *cavtum* (*caveo*); *fautum* for *favtum*, and *lautum* for *lavatum*. As b and v, like p and f or ph, are all correlated labials of but different degrees of hardness, the substitution of u for b in such words as *aufero* and *aufugio*, for *abfero* and *abfugio*, is of the same sort.

§ 3. One of the most frequent of all correspondences and interchanges in different languages is that of gutturals and labials, one with the other. Labials in Greek often correspond to gutturals in equivalent Sanskrit and Latin forms, as in *ἔπομαι* (stem *ἐπ.* for *σπ.*), to follow, compared with Sansk. *sach* and Latin *sequor* (pronounced as *sekor*), root *seq.*; *ἵππος*, Aeol. *ἱκκος*, and *equus* (as if *ekus*); *πέντε* and *quinque* (as if *kinke*). So the interrogative and indefinite words *πῶς*, *πότε*, and *ποῖος*, are in the Ionic dialect *κῶς*, *κότε*, and *κοῖος*, corresponding with the Sanskrit *kati*, *kadâ*, etc.

§ 4. In a few cases, also, linguals and labials interchange in different languages, especially τ and π (t and p); as *στάδιον*, Doric *σπάδιον*, Latin *spatium*; and so *σπεύδω* and Lat. *studeo*.

#### IV. The aspirate H.

The Latin h is a much harder aspirate than the Sanskrit h, which it sometimes represents. Before s they both become x; as in *vexit* from *veho*, Sansk. *avâkshit* from *vah*, to carry (cf. Greek *ὀχέω*). In *traxit*, perf. of *traho* (perhaps for *tra-veho*), the same fact appears.

(2) Assimilative Substitution. Assimilation is the result of a strongly determinative, phonetic attraction between one consonant and another, when in immediate juxtaposition. The law of assimilation commonly works backwards, or from the second consonant to the preceding one, as in *ἔστυμι* for *ἔστυμι* (for *ἔστυμι*, Lat. *vestio*), and *jussi*, perf. of *jubeo*, for *jubsi*. But sometimes the law works forwards, from the first consonant to the second, as in *ἔλλυμι* for *ἔλλυμι*, *θάρος* for *θάρος*, and *ἄλλος* for *ἄλλος*, Sansk. *anyas*, Lat. *alius*. So when *πρόσω* was changed by metathesis to *πόρσω* in the Attic dialect, it was ere long harmonized to *πόρρω*. Positive full assimilation is the literal change of one consonant

to the same as the other connected with it; as in *suffero* for *sub-fero*, and *illatus* for *in-latus*. A more incomplete assimilation occurs in the change of one consonant, in juxtaposition with another, to one of the same class with it; as in *imberbis* for *in-berbis*, and *impertio* for *in-pertio*: *m*, *b* and *p* being all labials. In *nihil* for *ne-hilum*, and *nisi* for *ne-si*, and *bubus* for *bobus* (for *bovibus*), we seem to have a few cases also of a retrogressive vowel-assimilation.

### I. Gutturals.

The law of harmonization is the same with them, as with all the other mutes, in Greek; that smooth mutes must combine with smooth, middle with middle, and rough with rough; except that, in reference to the rough mutes, there can neither be a duplication of the same mute in juxtaposition, nor a repetition of it even in successive syllables. *Σαφφώ* is accordingly changed to *Σαπφώ*, and *Βάχχος* to *Βάκχος*, and *τῆθημι* takes the place of *θῆθημι*, and *πεφίλληκα* of *φεφίλληκα*. Before *μ* a guttural of whatever degree becomes uniformly *γ*, or medial. Thus *διωκμός* becomes *διωγμός*, and *βέβρεχμαι* becomes *βέβρεγμαί*.

### II. Linguals.

#### 1. Greek.

##### § 1. The Dentals, τ, δ, θ.

(1) Before dental mutes, other dentals are changed into the semi-vowel *σ*; to which Pott, Curtius, and Heyse agree in giving the appropriate name of *dis-similation*; so that *ἀνυττός* becomes *ἀνυστός*; *ἀδτέον* becomes *ἀστέον*, and *πειθῆναι*, *πεισῆναι*.

(2) Before *μ* a dental becomes *σ*; as in *ἴσμεν*, first pers. pl. of *οἶδα* for *ἴδμεν*, and *ἤνυσμαι* for *ἤνυτμαι*, perf. pass. of *ἀνύτω*, Attic form of *άνύω*.

##### § 2. The Liquids.

(1) L. (a) The weak vowel *ι* (or *υ*) originally succeeding *λ* in many forms was afterwards converted into *λ*, as in *μᾶλλον* for *μάλιον*, comp. of *μαλα*; *ἄλλος* for *ἄλιος*; *ἄλλομαι* for *άλίομαι* (Lat. *salio* for *saliomi*); *στέλλω* for *στέλω*; *βάλλω* for *βαλίω*.

(b) In the Aeolic dialect *σ* was assimilated to a preceding

λ, as it was indeed also to μ, ν and ρ. We sometimes find this same style of assimilation in Homer, as in ὤφειλλα for ὤφειλα, Attic ὤφειλα, first Aor. of ὀφέλλω. In the Attic form the tense-characteristic σ is rejected; and the preceding vowel ε is lengthened by way of compensation.

(2) N. (a) Before λ or μ, ν is changed into the same liquid, as in συλλογίζω for συν-λογίζω, and ἐμμένω for ἐν-μένω. (b) Before ρ, ν is not thus changed, as in ἐνρίπτω, ἐνρήγνυμι; except in words compounded with συν, as in συνῥίω. (c) Before σ, ν is, in the word σύν, assimilated to σ, as in συσσεύω, or dropped, as in συσπάω (συν + σπάω). In πάλιν, also, we find ν changed to σ in the compound παλίσσυτος. (d) Before a guttural, ν is always written γ, as in συγκαλέω. If the guttural is itself γ, then it is to the nasal gamma (Eng. ng final) that ν is converted, as in συγγενής (σύν + γένω).

(3) S. Before the dentals, and the labial liquid m, any dental may be changed into σ, as in ὀσθα for ὀδθα, and ὀσμή for ὀδμή. So, in Latin est, he eats, third pers. Sing. of edo, for edt (for edit), we have d turned to s, before t.

## 2. Latin.

### The Dentals.

(1) The dentals, d and t and the liquid r, are sometimes before s assimilated to it; as in cessi, perf. of cedo, for cedsī, gessi, perf. of gero, for gersī, concussi for concutsī, possum for potsum, fissum for fidsū, for fidtū, and missum for mitsū, for mittū. Such perfects as sēdi, fīdi and scīdi, with supines in -ssum are undoubtedly contracted forms of original perfects in -si, as sedsī, fidsī, etc.; from which afterwards the s was rejected for better euphonic effect, and the short radical vowel, e or i, was lengthened by way of compensation.

(2) D was sometimes assimilated to l before l: as in sella for sedla, for sedela from sedeo, to sit, and lapillus (for lapidlus) for lapidulus.

(3) N was assimilated to l, m, and r: as in illino (in + lino, immineo (in + mineo), irruo (in + ruo).

In some of the modern languages, especially the Italian,

the law of assimilation is quite active: as in Ital. *atto*, an act (Lat. *actum*); *patto*, a pact (Lat. *pactum*), *fitto*,<sup>1</sup> trans-fixed (Lat. *fixus*).

The letters most frequently doubled by assimilation, in the middle of words, are the liquids.

### III. Labials.

#### 1st. In Greek.

§ 1. *M*. Whenever a labial precedes  $\mu$ , in the middle of a word, it is changed to  $\mu$ : as in *γραμμή* for *γραφμή* from *γράφω*.

§ 2. *Π, Β, Φ*. These all, when preceding  $\sigma$ , combine with it, into the compound consonant  $\Psi$ ; which, while having, analytically, either one of the labials for its base, has yet, to the ear, always the sound of the smooth mute  $\pi$ . So, in Latin, *scripsi*, perf. of *scribo*, becomes *scripsi*.

#### 2d. In Latin.

*M* is, in a few cases, changed to *n*: as in *tunc* for *tum-ce*; *princeps* for *primum* (sc. *gradum*) *capio*: *clandestinus*, adj. formed from *clam* (for *celam*); *tandem* (from *tam*); and so *quanquam*, *eundem*, etc.

The interchanges of the different labials, one with the other, in various languages, may be here advantageously recalled: as in

SANSKRIT.	GREEK.	LATIN.	GERMAN.	ENGLISH.	
upari.	ὑπέρ.	super.	über.	{ over. upper. super. hyper.	
saptan.	ἑπτα.	septem.	sieben.		seven.

#### 2dly. Topical Substitution.

By this is meant a change of place, in a letter or syllable, either by accident, if there be any accidents in language, or for better euphonic effect. Topical substitution is of two kinds:

(1) Metathesis. (2) Hyperthesis.

(1) Metathesis (from *μετατιθημι*, I exchange) is a change in the order of the letters of a word, in the same syllable.

#### 1st. In Greek.

<sup>1</sup> Webster's reference to *peto*, as the etymological radical of the noun *fit*, is absurd.

§ 1. It occurs in several, separate, individual words, that have no common elements of classification, unless it be that the consonant, before and after which the vowel plays interchangeably, is a liquid ( $\rho$ ): as *κάρτος* and *κράτος*, strength; *δάρσος* and *δράσος*, courage; *δρώσκω* (stem, *δωρ*), I leap; *κράδιη* and *καρδία*, the heart. In Homer we find both *κάρτερος* and *κράτερος*, strong. *Πρόσω* became, afterwards, *πόρσω*, and, still later, *πόρρω*, Lat. *porro*. So, compare Aeol. *τέρτος* (Lat. *tertius*), Eng. *tierce* and *tier*, with *τρίτος*.

§ 2. It occurs, frequently, in the perfect of verbs whose stems end in a liquid: as *τέτμηκα* from *τέμνω* (root, *τεμ* or *ταμ*), *βέβληκα* from *βάλλω* (stem, *βαλ*), *τέθνηκα* from *θνήσκω* (root, *θαν*). Compare, also, the perfects of *καλέω*, *κάμνω*, etc.

2d. In Latin.

§ 1. A few cases occur, in proper Latin forms, compared one with the other: as, *terō*, perf. *trivī*; *sterno*, perf. *stravī*; *ferveo*, supine *fretum*, *cerno*, and *cretum*, *sperno* and *spretum*.

§ 2. There are, also, a few cases of metathesis,<sup>1</sup> in equivalent forms to certain Greek words; as *σκέπτομαι*, I look around, and Lat. *specio*; *κρινω*, I judge, and *cerno*; *ψύω* and *spuo*, I spit.

(2) Hyperthesis.

This (derived from *ὑπερτίθημι*, I place or carry over) consists in changing letters from one syllable to another.

1st. In Greek.

§ 1. This occurs in a few single words: as in the genitive of *Πνύξ*, the *Pnyx*, *Πυκνός*, which case, from its resemblance to the adj. *πυκνός*, crowded, shows us the undoubted etymology of the word. Compare *δχλος* for *δλχος*, the people, Cretan *πόλχος*, Lat. *vulgus*, Germ. *volk*, Eng. *folk*.

§ 2. Many verbs, having now the diphthong *ει* in their stems, exhibit therein a change of place of the weak vowel *ι*,

<sup>1</sup> In English, an orthoepical metathesis often occurs, if not an orthographical; as in the pronunciation of *iron* and *fire*, and in the utterance of the aspirate first in its combinations with an initial *w*, as in such words as *which*, *what*, *where*, etc.

which originally followed, instead of preceding, the final consonant of the stem. Thus :

τείνω,	stem	τεν,	is for	τενώ.
χείρων,	"	χερ	"	χερίων.
ἀμείνων,	"	ἀμεν,	"	ἀμενίων.
βαίνω,	"	βαν,	"	βανίω (cf. Lat. venio).
μαίνομαι,	"	μαν,	"	μανίωμαι.
φαίνω,	"	φαν	"	φανίω.

§ 3. Several feminine adjective forms in *-αινα* exhibit the same change : as *μέλαινα* for *μελάνια*, *τάλαινα* for *ταλάνια*, etc.

2d. In Latin.

There is, in the word *nervus*, in Latin, as the equivalent of *νεῦρον*, a single instance of hyperthesis, in the one language as compared with the other.

So *Bosra*, in Africa, now represents the original *Bύρσα*. Some French derivatives from the Latin, exhibiting the fact of hyperthesis, will not be inappropriate : as, *tremper*, to temper, Lat. *temperare* ; *tout*, all, Lat. *totus* ; *noeud*, a knot, Lat. *nodus* ; *people*, the people, Lat. *populus*. In *raison* (*ratio*), *maison* (*mansio*), *palais* (*palatium*), we have undoubted instances of the same sort, in which the *ι* is to be regarded as radical, and not inserted, as in *faim* (*fames*) and *foin* (*fenum*), as a diphthongal compensation for a shortening of the original form.

In the case of some aspirated forms, there occurs a curious transfer, not indeed of a letter or syllable itself, but of a special affection belonging to it : as in *τρέψω* fut. of *τρέφω*, *ἔξω* fut. of *ἔχω* ; *πάσχω* (for *πάθσκω*), stem *παθ* ; and *δρίξ*, gen. *τριχός*. Compare, also, *δεσμός* with Doric *τεδμός*, a statute. Here the aspirate, when lost in one part of the word by contraction or flexion, is carefully borne, for preservation, to another part.

The next style of Consonantal Changes consists :

B. Of Insertions and Additions. These are of a threefold character :

1st. Prosthesis.      2d. Epenthesis.      3d. Epithesis.

1st. Prosthesis. This consists in prefixing a single letter or syllable to the beginning of a word, and for the purpose simply, in nearly every case, of better euphonic effect.

§ 1. The vowel prefixes of a prosthetic sort, in Greek, are *a*, *e*, and *o*, and, once or twice, *ι*.

(1) *a*. Compare *ἀμέργω*, to pluck, with its other form *μέργω*, and so *ἀμέρδω* and *μέρδω*, to bereave; *ἀμέλγω* and Lat. *mulgeo*.

(2) *e*. Compare *ἐρυθρός*, red; Sansk. *rohita*, Lat. *ruber*; *ἐχθές* (also *χθές*), Sansk. *hyas*, Lat. *heri* for *hesi*. In *ἐθέλω* and *θέλω* we have both a fuller and contracted form of the same original word, in which the *e* is radical and not prosthetic.

(3) *o*. Compare *ὀδούς* (for *ὀδοντες*), Sansk. *dantas*, Latin *dens* for *dents*; *ὄνομα*, a name, Sansk. *naman*, Lat. *nomen*; *ὄμχέω*, Sansk. *mih*, Lat. *mingo*, I void water.

(4) *ι*. As *ιαύω*; I sleep, compared with *αῦω*.

§ 2. The letter *σ* is found initial in some words, which appear at other times without it: as in *σμικρός* and *μικρός*, *τέγος* (Lat. *tectum*) and *στέγος*, *σμίραινα* and *μίραινα*. In some cases where *σ* thus occurs, it is radical to the original form; and in some cases it may be, possibly, the fragmentary representative of a lost preposition (*εἰς* or *ἐς*), serving to give the form to which it was prefixed a more strongly directive sense; just as, in words beginning with *νη-*, *ν-*, and *α-*, we often have fragments of an otherwise lost privative *ἀνευ*. Other prosthetic additions, particularly *ε*, may have sometimes originated in this way, and be but the remains, occasionally at least, of a primitive prepositional prefix.

Prosthetic additions to the original radical elements of a word often occur in French and Spanish. In Spanish, as in French, *e* is prefixed to words derived from the Latin beginning with *sc*, *sp*, and *st*: as in

SPANISH.	FRENCH.	LATIN.
escribir,	ecrire (originally, escrire),	scribere.
espeso,	epais,	spissus.
estado, <sup>1</sup>	état	status.

<sup>1</sup> In this way English orthography has been complicated with French-Latin forms of Latin words, as in *estate* (Lat. *status*), *espouse* (*sponsa*), *especial* (*species*), *establish* (*stabilio*).

## 2d. Epenthesis.

This is the insertion of a letter in the middle of a word, for the purpose of a better dynamical or musical effect. In the Sanskrit, after the prepositions *sam*, *ava*, *pari*, and *prati* and some words beginning with *k*, an euphonic *s* is introduced between them and the words with which they are compounded. With this euphonic use of *s*, a similar addition of it to *ab* and *ob*, in Latin, before *c*, *q*, and *p*, remarkably agrees. *Ob* sometimes retains it even when alone.

## 1st. In Greek.

§ 1. Σ has an affinity for τ, ϑ, and μ, and often occurs before them, after short vowels : as, in the 2d pers. dual and plural person-endings passive of verbs, before ϑ : as, -σθου and -σθε ; and in the 3d dual passive person-ending of the historical tenses -σθην ; with which compare the corresponding person-endings του, τε, and την, in the active voice.

§ 2. We find also, in Greek, other epenthetic uses of different consonants : as, (1) Of β after μ ; as in *μησημβρια* (= *μηση+ήμερα*) and *θάμβος*, astonishment, compared with *θαύμα*, wonder. In French, a similar fact appears in some words : as in *chambre*, Lat. *camera* ; *nombre*, Lat. *numerus*.

(2) Of δ after ν : as in *άνεπος*, contracted *άνδρός* ; with which also compare Fr. *genre* and Lat. *gener*.

(3) Of ϑ after σ : as in *ιμάσθη*, a thong ; with which compare *ιμάσσω* and *μάστιξ*. The ϑ serves, in such cases, to facilitate, phonetically, the union of μ or ν and σ with the succeeding λ or ρ.

## 2d. In Latin.

§ 1. N. In the Latin equivalents of some Greek and Sanskrit words an epenthetic n, or an n inserted for mere euphony, occurs : as in *anguis*, a snake, Gr. *έχης*, Sansk. *ahis*. The nasalization of various verb-stems, in the present and imperfect tenses of the different voices of the verb in both Greek and Latin, as in *fundo*, perf. *fudi*, and *κυνέω*, fut. *κύσω*, will be considered, by itself, under another head ; and is therefore not embraced in this section.

§ 2. P is epenthetically inserted between m and t or s : as in *sumpsit* and *promptus* from *sumo* and *promo*. Compare Fr. *dompter*, to subdue, and Lat. *domitare* ; and also the English word *tempt*, and its Latin original, *tentare*.

§ 3. R is euphonicly inserted, by epenthesis, in the genitive plural, between the stem-vowels a and o, of the 1st or A-declension and of the 2d or O-declension and the proper plural genitive case-suffix -um : -arum being for -aüm, and -orum for -oüm ; with which compare -ων, gen. pl. suffix in Greek : as in *μουσά-ων*, contracted *μουσῶν*. The r epenthetic, in Latin, prevents the unpleasant hiatus otherwise made by the concurrence of a+o in the one case, and by o+o in the other.

§ 4. S is used epenthetically, with ab and ob, in compound forms : as in *abstineo*, *abstrahō*, *obstinatus*, and *obsto*. In *subscus* (sub+cudo) compared with *incus*, we see a similar use of it with sub.

Caution : D, it is often said, is also epenthetically inserted between two vowels : as in *prodeo* (pro+eo), and in the 2d pers. sing. and pl. of *prosum* (*prodes* and *prodestis*), and elsewhere in that verb. The same fact is cited, also, in reference to *redeo* (re+eo), *reddo* (re+do), and *redarguo*. The d, however, in these forms, is not epenthetic, but radical. The Sanskrit original of both forms is *prati*. Its Greek equivalent, *πρός*, was accordingly, at first, *πρωτι*, in which form we find it in Homer, and from which, τ being interchanged for σ, it became *πρός* by contraction. Prod- and red- are, therefore, nearer their originals than pro- and re-, their shorter forms. In such forms as *præeo* and *deerro*, no difficulty was felt by the Latins, on account of the hiatus caused, as there should have been, on the supposition that d, in the prefixes prod- and red- is of a mere euphonic origin.

### 3d. Epithesis.

This consists in adding a letter or syllable, at the end of a word, for better euphonic effect.

The ν *ἑφελκυστικόν*, in Greek, is an addition of this sort, which, from its inherent phonetic strength, furnishes a good

staff on which the voice may rest, at the end of a clause or sentence.

No epithetic addition of letters, in the modern languages occurs to the author. There are, however, in French usage, frequent instances of phonetic, if not of graphic epithesis, in the utterance of the final letters of words which, by themselves, are silent whenever they are in regimen with words immediately following them, which begin with a vowel. So, too, the cardinal numerals, in French, which end with a consonant, as six, sept, huit, dix, have their last letter, otherwise silent except before a vowel, distinctly pronounced when at the end of a clause or sentence.

The third class of Consonantal Changes we term :

C. Suppressions and Abridgments. These may occur in the three different parts of a word : its beginning, middle, or end. Such suppressions are denominated, according to their nature and position, by the following different names : aphaeresis, elision, syncope, ecthipsis, and apocope.

1st. A suppression of a letter in the beginning of a word. This is termed aphaeresis.

I. In Greek.

§ 1. Σ often vanishes entirely, in Greek, at the commencement of a word ; or, more frequently, is replaced rather by an aspirate, when a vowel follows. Sometimes both forms occur, as in *σὺς* and *ὑς* (Sansk. *sūkara* (s), Lat. *sus*, Germ. *sau* and *schwein*, Eng. *sow* and *swine*.) So also *σύλασσα* (Doric) and *θάλασσα*, the sea (for *ἄλασσα*) from *ἅλς*, salt, Lat. *sal*, Sansk. *sara*, salt. In respect to *θάλασσα* and *ἅλς*, compare *ἄμα* and *θαμά*. The Romans liked the letter σ much better than the Greeks ; and the aspirate is, accordingly, often initial in Greek where, in the equivalent forms of the Latin and the Sanskrit, the sibilant occupies its place : as in *ἑπτα*, seven, Lat. *septem*, Sansk. *saptan* ; and *ἕξ*, Lat. *sex*, Sansk. *shash*.

§ 2. In a few words λ was dropped when initial : as in *ικμάω* for *λικμάω*, to winnow, and *ἕδη*, mortar, for *λίγδος*. So, in the Aeolic dialect, μ was dropped from *μία*, one, which thus became *ἰα*.

## II. In Latin.

§ 1. We often find *s* suppressed or wanting, initially, before other consonants; which is retained in the equivalent Greek forms, as found in the Sanskrit; or, in some cases, prosthetically applied in Greek: as,

LATIN.	GREEK.	SANSKRIT.
tego, I cover.	στέγω	sthaḡ.
fallo, I deceive.	σφάλλω	sphal.
fides, a cat-gut.	σφίδη (cf. φείδομαι)	bhid, a filament.
cavo, I hollow.	σκάπτω	
vespa, a wasp.	σφήξ	

§ 2. There are some interesting cases of aphaeresis, in individual Latin words:

LATIN.	GREEK.	SANSKRIT.
sum is for esumi.	Cf. εἶμι (for ἐσμι)	asmi.
nosco “ gnosco.	“ γινώσκω	jñâ (desiderative form,
navus “ gnavus.	“ γενναῖος	[jijnâsâ.]

So the English word *stranger* (Lat. *extraneus*, Span. *estrangero*, Fr. *etranger*) has lost its initial *e*: as in *estrange*; as also the word *story* (Gr. *ἱστορία*, Lat. *historia*, Ital. *istoria* and *storia*), has lost the initial syllable *hi*.

2d. A suppression of a letter or syllable, in the middle of a word. This is called by different names, according to circumstances.

§ 1. *Elision*. This occurs when a vowel is removed from before another vowel: as in *nullus* (= *ne+ullus*), *nunquam* (= *ne+unquam*), *ἀνέρχομαι* (= *ἀνά+ἔρχομαι*).

§ 2. *Syncope*. By this is meant the removal of a vowel from between two consonants: as in *patris*, gen. of *pater*, for *pateris*; and so *πατρός*, gen. of *πατήρ*, and Homeric *τίπτε* for *τίποτε*. *Valde*, in Latin, is for *valide*, by syncope.

§ 3. *Ecthlipsis*. This is the removal of a consonant, or of an entire syllable, from the middle of a word.

1st. In Greek.

In Greek, *σ* is often rejected by ecthlipsis; sometimes in

nouns, and sometimes in verbs: as in *γένεος* for *γένεσος*, gen. of *γένος*, and *βουλεύη* for *βουλεύει* for *βουλεύεσαι*.

While in Sanskrit euphonic principles ruled with a force greater than in any of the cognate languages, still many harsh combinations were allowable, which seemed to the Greeks and Romans, even when occurring in a regular way, altogether too dissonant. In the case accordingly of verbs, having roots terminating in a consonant, it was an almost universal rule, in both Greek and Latin, although not in Sanskrit, to connect the personal terminations with the stem, by means of an union-vowel. In the following roots, however, the connecting vowel was suppressed, when the personal ending was affixed: in Greek, the roots *ἐς*, to be, and *ἰδ*, to know; and in Latin, *es*, to be; *fer*, to bear; *vel*, to wish; and *ed*, to eat; so that we have the forms *ἐστί*, *ἐσμέν*, *ἴστε* and *ἴδμεν*, and also *est*, he is, *fert*, vult, and *est*, he eats.

As in Sanskrit, before the personal terminations beginning with *t*, *th* and *dh*, roots that end with a consonant other than *n* reject *s*, in order to avoid a harsh combination of three consonants; so, in Greek, roots terminating with a consonant abbreviate in the perfect passive the terminations *-σθον*, *-σθε*, to *-θον* and *-θε*, as *τέτυφθε* for *τέτυφσθε*, and *τέταχθε* for *τέταχσθε*. Compare in Sanskrit the form *sthâ*, to stand, with itself as it is when compounded with the preposition "ut," up, as in *utthita*, upstood for *ut-sthita*.

Before *σ* the dentals and the dental liquid *ν* are dropped; as in *λαμπάς* for *λαμπάδς*, *κόρυς* for *κόρυδς*, *σώμασι* for *σώματςι*, and *δαίμοσι* for *δαίμονςι*. In *πούς*, stem *πόδ*, not only is *σ* dropped, but *ο* is lengthened also by way of compensation, as likewise in the perf. act. participle in *-ως*, as in *βεβουλευκώς* for *βεβουλευκότς*.

When both a dental and *ν* are omitted before *σ*, the absorption is indicated by an elongation of the vowel, if *a*, or by its diphthongation, if *e* or *o*; *e* becoming in such a case *ει*, and *o* becoming *ου* and *ω*; as in *πάσι* for *πάντςι*, and *σπείω*, fut. of *σπένδω*, for *σπένδσω*, *τυφθείς* for *τυφθέντς*, *λέων* for *λέοντς*, and *ὄδους* for *ὄδοντς*.

2. In Latin.

Abridgments by ethlipsis, accompanied often by a subsequent contraction, are numerous : as, *debeo* and *praebeo* for *dehibeo* and *praehibeo* ; *promo* and *sumo* for *pro-emo* and *sub-emo* ; *malle* for *mavelle* (= *magis* and *velle*) ; *prudens* for *providens* ; *amavi* and *docui* for *ama-fui* and *doce-fui* ; *lumen* for *lucimen* ; *hodie* for *hoc die* ; *judex* for *jus-dex*, and *momentum* for *movimentum*. So the dative and ablative pl. suffix-ending *-is*, is a contraction, in the different declensions, of the original forms *-abus*, *-obus* and *-ibus* ; with which compare the double dative pl. forms, *queis* or *quibus* of the relative pronoun *qui*. So *poematis* is found in some authors for *poematibus*.

The above instances are of an individual sort, and better denoted by themselves, than by any attempted classification. The facts which remain, that are worthy of note, may be thus classified :

(1) *D* is often suppressed before *s*, and so sometimes is *t* ; as in *divīsi* for *divīdsi*, *mīsi* for *mitsi*, *clausi* for *claudsi*, and *laesi* for *laedsi*. In *divīsi* and *mīsi*, or any such case, the first vowel *i* is long by way of contraction, as it would otherwise be made by way of compensation.

(2) *C*, *g* and *q* sometimes disappear in the same way before *s* ; as in *sparsi* for *spargsi*, *mulsi* for *mulgsi*, and *torsi* for *torqsi*.

Even in English, words are sometimes softened by the rejection of a letter belonging to the original root ; as in our words *speak*, *spake*, and *spoken*, from the German *sprechen*, *sprach*, *gesprochen*.

§ 3. A suppression at the end of a word is called *Apocope*.

In the Sanskrit, in the final form in which it has reached us, two consonants were no longer tolerated, as they once had been, at the end of a word ; but the latter was rejected. That this feature of the language was not fixed upon it, until after the separation of the other languages from the common parent-stock, would seem evident from the fact, that it is not true of the Zend or of the European languages, old or new. The result to the Sanskrit is a mutilation in the present aspect of many of its original forms, which, if found

now as they were in their primeval state, would furnish much valuable light on many etymological questions and theories.

1. In Greek.

(1) All final mutes are apocopated from forms, where they would otherwise appear as a radical part of the word. Thus μέλιτ becomes μέλι; σώματ, σώμα; ἔτυπτετ, third pers. sing. imperf. act. (for fuller form ἔτυπτετι) becomes ἔτυπτε; and ἔτυπτοντ(ι), third pers. pl. of same tense, becomes ἔτυπτον; γάλακτ becomes γάλα, and ἦσαντ(ι) (compare erant for esant) becomes ἦσαν, and πᾶντ (neut. of πᾶς) becomes πᾶν. In such nominatives neuter, as κέρας, κρέας, τέρας, the final τ of the stem is merely changed to ς.

(2) No consonant can properly end a word in Greek, except ν, ρ or ς. Οὐκ or οὐχ is but a mutilation of οὐκε and ἐκ or ἐξ of ἐκίς (cf. ἕκας, ἐκεῖ and ἐκείνος); and they are properly but proclitics, never occurring at the end of a sentence; οὐκ always preceding a word beginning with a vowel, and ἐκ one commencing with a consonant. In respect also to the three letters, ν, ρ and σ, it is to be remembered that ρ occurs rarely, and that ν often represents σ, or contains it by absorption, and also that ς final cannot be preceded by a dental or the liquid ν. Even ν and σ were themselves so weak at the end of words, as to be often omitted. Thus ἐγώ is for ἐγών, Sansk. aham; and τοῦτο, neuter of οὔτος, is for τοῦτον. Compare also πρόσθε and πρόσθεν, νύ and νύν.

(3) The passive person-endings -νται and -ντο cannot occur after a consonantal stem; the ν accordingly is changed to α, and the forms become τετύφαται and ἐτετύφατο instead of τετύφνται and ἐτετύφντο; like the change of the accusative case-sign ν in the third declension to α, after consonants, as in πατέρα for πατέρν, and κόρυδα for κόρυδν.

(4) When occurring between two short vowels in the end-syllable of a word, σ and ν tend to vanish, as in μείζου for μείζο(ν)ες and γένους for γένε(σ)ος.

(5) In the third pers. sing. active of all the tenses, and in the third pers. pl. of both the imperfect and aorist tenses, an original τ, still preserved in Latin, is dropped. Thus τύπτει,

ἔτυπτε, τέτυφε, ἔτυψε are for τύπτει(ι), ἐτύπτει(ι), τετύφει(ι), ἐτύφει. Thus compare

SANSKRIT.	GREEK.	LATIN.
bharati, he bears,	φέρει(τ)ι,	fer(i)t(i).
abharat(i), he was bearing,	ἔφερε(τι),	ferē-bat(i).

(6) Unsigmatized masculine and feminine nominatives, or those which would normally have the gender-sign  $\sigma$  affixed, but which, on account of an  $\nu$  final in the stem, have rejected it, have their stem-vowel lengthened by way of compensation, as in ποιμήν for ποιμένος, and ἡγεμών for ἡγεμόνσ.

## 2. In Latin.

The number of final consonants in Latin, c, l, n, r, s, t, is somewhat greater than in Greek.

Apocope occurs in Latin in several interesting classes of cases.

(1) In the loss of the final letters of many consonantal stems of nouns in the nominative; as in cor, the heart, for cord; lac, milk, stem lact; os, a bone, stem oss (Gr. stem ὄστε); leo, a lion, stem leon; and mel, honey, stem mell.

(2) In the ablative singular form of all the declensions; in the dropping of its final characteristic d from them all; as domino for archaic dominod, and sermone for sermoned.

(3) In several imperatives, as dic for dice; duc for duce; fac for face; and fer for fere.

The next class of consonantal changes is composed of

IV: Weakened consonantal forms; or the weakening of individual consonants in certain specific forms or classes of forms.

(1) The very common one of  $\tau$  into  $\sigma$ . Thus the ending -ουσι in the third pers. pl. of the pres. and fut. active of Greek verbs, as in τύπτουσι and τύψουσι, represents an original -ουτι; which was the form also actually used by the Dorians. The analysis of the changes made in the form is this:  $\tau$  was euphonicly changed to  $\sigma$ , after which  $\nu$  was dropped, according to universal Greek usage before  $\sigma$ , and the vowel  $o$  was lengthened, by way of etymological compensation, into  $ou$ .

So in Latin, the proper supine-ending -tum is changed, when the stem of the verb ends in a dental, into -sum. After a long medial vowel the dental is thrown away, as in caesum for caedtum, from caedo, to kill, and laesum for laedtum, from laedo; as likewise in the supine and participial forms of cado and edo, to eat; in which the vowels a and e are accordingly lengthened by the contraction of the syllable to which they belong, as in cāsūm for cūdtum, supine of cādo, and the participles ambēsus and comēsus of ambēdo and comēdo. After a short vowel, the dental is also assimilated to the changed suffix, as in fissum for fidtum, and fossum for fodtum; supines of findo and fodio.

(2) That of the conversion of an original  $\sigma$ , in the beginning of a word, into the aspirate; as in  $\upsilon\sigma$  for  $\sigma\upsilon\sigma$ , which two forms are both found in use together; and of  $\zeta\sigma\tau\eta\mu$  for  $\sigma\iota\sigma\tau\eta\mu$  (Lat. sisto). This subject will, however, receive its proper treatment, under the subsequent head of Sibilation.

(3) That of the weakening of an original Digamma into various forms; another topic reserved for fuller discussion, by and by, alone by itself.

A special hint. It must not be forgotten, that some differences in the flexion-forms both of nouns and verbs are to be resolved, not by any mere phonological analysis, but on the theory of a manifest duplication of the stems of its different forms, and sometimes even by the aggregation of very different stems together, for grammatical convenience, into one form of conjugation. In such forms as  $\mu\acute{\epsilon}\gamma\alpha\varsigma$ ,  $\mu\epsilon\gamma\acute{\alpha}\lambda\eta$ ,  $\mu\acute{\epsilon}\gamma\alpha$ ;  $\mu\omicron\lambda\upsilon\varsigma$ ,  $\mu\omicron\lambda\lambda\acute{\eta}$ ,  $\mu\omicron\lambda\upsilon$ ;  $\mu\acute{\rho}\alpha\omicron\varsigma$ ,  $\mu\acute{\rho}\alpha\epsilon\iota\alpha$ ,  $\mu\acute{\rho}\alpha\omicron\nu$  we have two different original flexion-stems:  $\mu\acute{\epsilon}\gamma\alpha$  and  $\mu\epsilon\gamma\acute{\alpha}\lambda\omicron$ ;  $\mu\omicron\lambda\upsilon$  and  $\mu\omicron\lambda\lambda\acute{\omicron}$ ;  $\mu\acute{\rho}\alpha\omicron$  and  $\mu\acute{\rho}\alpha\epsilon$ . The two stem-forms of  $\mu\omicron\lambda\upsilon\varsigma$  and  $\mu\omicron\lambda\lambda\acute{\eta}$  we find used interchangeably in Homer in most of the cases. In the Lat. fero, perf. tuli, supine latum, we have two absolutely different stems aggregated, fer and tul; two, not three, as latum is for tlatum (cf. Gr.  $\tau\lambda\acute{\alpha}\omega$  and  $\tau\lambda\eta\tau\acute{\omicron}\varsigma$ , and Lat. tolero); and tlatum is from the same root with tuli.

#### V. Strengthened consonantal forms.

Neither learner nor teacher, it is believed, can be harmed by occasional repetitions of the same fact, in other relations

and for other uses. It is difficult, if not impossible, to survey phonology thoroughly on its different sides, and to do justice to each one of them by itself, without at the same time catching views of other parts already examined, or demanding afterwards more distinct and complete consideration.

The use of strengthened forms was one of the early features of language, abounding in Sanskrit and Greek, and of frequent occurrence also in Latin; but occurring less and less in subsequent and derived languages, as we go in them further and further from their primeval source. As the Latin preserves in most of its aspects more of the simple strong characteristics of the Sanskrit, than the Greek, its departure in this respect to a wider degree from its original than the Greek, is to be accounted for probably by the strong practical tendency of the Roman mind, which did not relish double forms of the same thing, and multiplied modes of reaching the same end.

The modes of strengthening stems are various, as :

§ 1. By nasalization, as in *κάμνω*, stem *καμ*, and *τέμνω*, stem *ταμ*; and in Latin, *frango*, *findo*, *vinco*, compared with their simple bases *frag*, *fid* and *vic*. But the subject of nasalization must be treated afterwards by itself.

§ 2. By the reduplication of the radical syllable or sound.

A repetition or reduplication of words and syllables is the most natural and effective style of emphasizing their importance.<sup>1</sup> This occurs abundantly in Sanskrit and in Greek, but much less in Latin. See subsequent treatment of Reduplication by itself.

§ 3. By changing stems originally ending in one of the *κ* mutes or *τ* mutes, followed by the semivowel *ι* (as *γι*, *κι*, *χι*, *τι*, *θι*) into *σσ* or *ττ*; and stems ending in the liquid *λ* followed by *ι*, as *λι* into *λλ*. Thus : *τάσσω*, *λεύσσω*, *φρίσσω*, *λίσσομαι* are for the earlier forms *ταγίω*, *λευκίω*, *φρικίω*, *λιτίωμαι*; as, also, *βάλλω*, *μέλλω*, and *στέλλω* are for *βαλίω*, *μελίω*,

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<sup>1</sup> This idea lies at the foundation of some of our most expressive words, as *respect*, *regard*, *remark*; where the idea, as in the word *respect*, is, that the person or thing respected is worthy of being looked at a second time, or, again and again.

and *στελλω* ; with which compare *μᾶλλον*, comparative of *μάλα* for *μάλιον*.

The gemination of the final consonant of the stem, in this way, answers a double purpose : that of strengthening the stem, and that also of symbolizing, in a form so unusual in Greek, except as a special etymological contrivance, the previous changes that had occurred in these forms.

In Latin, the verbs in -io, of the third conjugation, represent the same class of verb-stems that, in Greek, were changed so as to present a duplication of the final letter of the stem : as *capio*, *cupio*, and *fugio*. In Greek, verbs and adjectives having *ν* or *ρ* for the final letter of the stem, followed by the half-vowel *ι*, a metathesis of the *ι* occurs, instead of a gemination of the final consonant ; as in *φαίνω*, stem *φαν*, for *φαίνω*, *βαίνω*, stem *βαν*, for *βανίω* (cf. Lat. *vevio*), etc. The half-vowel *ι*, or *υ*, of the original forms of these various words represents the Sanskrit *yâ*, properly meaning to go, occurring in verbs of what is called the fourth class, in that language, and characteristic, very extensively, of intransitive and passive verbs. But *y* was not a sound to be found in Greek ; and therefore it must either be vowelized, as if *ι*, or expressed by some other assimilated sound. In the adjective termination -ιος in Greek, as in *ἄγιος*, Sansk. *yajyas*, we see the equivalent of the Sanskrit adjective suffix *yas*. The Doric future suffix-form -σιω, answers, in the same way, to the Sansk. *syâmi*. The analogue, accordingly, in both Greek and Latin, of the fourth Sansk. conjugation-ending *yami*, is *ιω* or *ιο* (for -ιαμι). From such an original regular form in *ιω*, come not only the altered forms -σσω, ττω, -ζω, λλω, but also those in -αινω (for -ανιω) and -αιρω (for -αριω). So, in Latin, the adjective and nominal suffixes -ius, -ia, -ies, answer to the Sansk. *yas* and *yâ*, like the verbal ending -io to the Sansk. -yâmi.

§ 4. By the epenthetic insertion of *σ* in the midst of the stem : as in *μίσγω* (Lat. *misceo*) compared with *μίσγνυμι* ; *ἴσχω* and *ἰσχνέομαι* compared with *ἔχω* ; also *ἔσθλω* with *ἔδομαι*, to eat, Sansk. *ad*, Lat. *ed*.

§ 5. By adding to consonantal stems ending in *π* and *κ*

the letter  $\tau$ , and to vowel-stems  $\mathfrak{D}$ ; as in *τύπω* (stem *τυπ*); *κόπτω* (*κοπ*); *κρύπτω* (*κρυβ*); *πέκτω* (*πεκ*); and *τίκτω* (*τεκ*); and for vowel-stems *κνήθω*, *κλήθω*, *πρήθω* and *σήθω* (stems *κνα*, *κλε*, *πρη*, and *σα*). Such forms, in Latin, as *necto*, *flecto*, are of the same analytic origin.

Even in the forms of nouns, in Greek, the strengthening of the stem by the insertion of  $\tau$  appears: as in the epic forms *πτόλεμος* and *πτόλις* for *πόλεμος* and *πόλις*. Compare, also, *πτέρνα* and *πέρνα*, the heel.

We come, now, to some of the special pathological affections of the classical languages.

#### A. The Greek.

##### 1st. Its dialects.

Every language, covering an area of any considerable extent, for a long period of time, tends to break into separate dialects; determined, objectively, by different physical and local causes; and also subjectively, by difference of employment, development, and culture. The effects of time and space are as marked on men as on nature, and on the world of language and of letters, as on any part of the vegetable kingdom. In Greece, especially, dialectic developments were of the fullest and finest growth. Had ever a nation, in respect to all physical influences, so favorable a position, as such, for growth in all the elements of inward greatness? She was nursed in the mountains, among the giants. The air that she breathed was full of the seeds of life. In the broad blue sky above, and the bright blue sea below, she saw divine aspects of energy and beauty constantly mirrored to her view. Her eye and her heart were ever invited, by surrounding objects, to a perpetual festival. She laid the beams of her greatness on two continents: combining the stern strength of the one with the soft luxuriance of the other. She sat, as queen, on many waters, and girt around, as with a mantle of stars, with clusters of islands shining about her on every side.

On no spot upon earth can one be born, to this day, where Nature will bend down more lovingly and impressively over him, to breathe her life and beauty into all the opening ele-

ments of his being. The mountains and the sea have ever been the two greatest natural teachers of mankind. No people could come into more immediate contact with Nature, in either of these forms of her presentation ; none ever did so meet her constantly, in them both combined. Rome was, in some respects, similarly accoutred for greatness with Greece : with the mountains behind and the sea before ; but it was with no such fulness of preparation ; her home was, after all, upon a plain. Greece was, everywhere, a land full of broken and rugged surfaces, of bold shores, of short, dark, rapid, foaming streams, and of every variety of landscape, skirted, at ten thousand points of contact, with the sea, which not only surrounded it, but crept in, with its pulses of ever-quickening force, into all the folds of its physical and national life. Amid such influences, as each vegetable and animal have not only their special geographical zone, but also even a specific climate and locality, where they will best fill out the whole ideal outline of their being, man finds his most favored spot for a large growth of life and action.

When the western fracture was made from the common Graeco-Italic stock, which, under the long action of many favoring circumstances, was perfected, in the end, into the round orb of Roman life and law, the portion remaining behind, within the boundaries of Northern Greece and Asia Minor, began slowly to form a local character and language, as they settled more and more upon the same soil, into fixed communities and habits. No language can bear greater evidence of home-growth, than does the Greek. Hellenic outgrowths, of all kinds, began early to thrust forth themselves, in all the communities of Greece, with great force : so that, ere long, Hellenic, or civilized and cultivated, ideas, words, accent, and euphonism, with the power also of Hellenic arms, greatly changed the first character of the people and of their language. The Hellenes were, in a word, the Greeks, in a more cultivated period of their history, than the pioneer Pelasgi or first settlers. Thus readily is the great paradox solved, which has perplexed so long a succession of historical writers, of the connected existence, and yet supposed diverse origin,

of the two races, that peopled Greece, to which they really have themselves given, in their imagination, all the reality that they ever possessed; and which it was as easy, of course, for them to set in grand antagonism to each other, as it was, in the first place, to invent them at all. Grecian literature, art, history, genius, and advancement, are therefore, by necessity, all Hellenic.

The three leading dialects of Greece were the Aeolic, Doric, and Ionic. The Aeolic prevailed in Boeotia, Thessaly, and the colony of Aeolis in Asia Minor. The Doric, in the Peloponnesus and among the Dorian colonies in Asia Minor, Italy, and Sicily; and the Ionic, which was spoken by the Ionian race, and especially in Asia Minor, and also in numerous islands, and in the Ionian colonies. This was the first of all the dialects, perfected by poetic composition; and it burst forth, at different times, into three kindred varieties: the Old Ionic or Epic, as seen in Homer and Hesiod, the New Ionic of Herodotus, and the Attic, which became ultimately the standard of all the other dialects, throughout the whole of Greece. This is the dialect, in which the many chief builders of Athenian greatness erected their various structures of beauty and of strength.

The Aeolic and Doric are more simple, severe, and even rough, in their forms. In the Aeolic, Alcaeus and Sappho sang. This is the dialect with which the forms of the Latin are more correlated than with any other; and which also presents to us the patterns of Greek words very nearly as they were at the first, when unbroken, or fused and recast into other moulds. The Doric abounds more in consonants than the others. In it the Muse of Theocritus and Pindar robed herself.

The Ionic is full of vowels, and therefore soft; while, possessing also an uncontracted fulness of syllables, it moves before the eye like an Asiatic princess, with a Grecian face and smile, but sweeping a long train, and arrayed in the strong colors of the oriental world. The Attic dialect is the Ionic arrived at maturity. The hand of Time has here chiselled all its forms, according to the pure ideals of taste;

the rules of art have been effectively applied to every side of it, by a long succession of workmen, busying themselves one after another in perfecting the details of its structure; and it contains in itself all the plain, deep strength of the Doric, with all the real, upper beauty of the Ionic.

The Attic dialect had certain classes of peculiarities, in different ages, which have led writers sometimes, and yet with no very important results, to divide it into three periods: the Older, the Middle, and the Later Attic. The Older Attic flourished five hundred years before Christ, as found in the writings of Thucydides, Aeschylus, etc.; the Middle Attic, a hundred years later, as found in the works of Plato and Xenophon; and the Later Attic, in the succeeding age, as seen in the orations of Demosthenes. On the margin between the Later Attic and the common Greek dialect, that prevailed 300 B. C., appeared that wonderful philosopher, Aristotle, who influenced the great speculative tides of thought in the ancient world quite as much perhaps as Calvin has those of the modern. Some of the leading writers in the Common Greek, into which Classic Greek slowly, and with ever increasing dimness, faded away, were Plutarch, Strabo, Dionysius of Halicarnassus, and Lucian.

[To be continued.]

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NOTE. — Errata and additions in the portion of this Article (Vol. XVI.) previously published. Page 690, add after *râs*, in line 4, as part of the same sentence: or a representation of a + i, as in *amem* for *ama-im*. Page 691, lines 30, 31, for *dadâmi* read *dadhâmi*. Page 693, line 18, for *which* read *it*. Page 713, line 2 from bottom, for *going* read *agoing*. Page 722, transpose lines 3 and 4. Page 268, line 30, for *form* read *from*. Page 275, line 10, for *become* read *became*. Page 279, line 18, for *when* read *where*.