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THE
BIBLIOTHECA SACRA.

ARTICLE I.

THE TWOFOLD FUNDAMENTAL LAW OF RHYTHM AND
ACCENTUATION; OR, THE RELATION OF THE RHYTH-
MICAL TO THE LOGICAL PRINCIPLE OF THE MELODY
OF HUMAN SPEECH.

TRANSLATED FROM THE GERMAN OF PROF. HUFFELD BY REV. CHARLES M.
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THE investigations hitherto made in regard to the principle of Hebrew accentuation — growing out of the conviction that the cantillation now practised in the Jewish synagogues does not correctly represent it, and that its real significance can not be chiefly musical — have established the fact that the main principle underlying this accentuation must be a logical one, a division according to the sense, but that in connection with this there is also a phonetic or musical element, belonging to the sphere of modulation, which is not to be overlooked. But the significance and extent of the latter element and its relation to the first were not clear, and continued to be a subject of controversy. Years ago I deduced this element from the nature of rhythm, and sought to find in it the higher principle in which logic and phonetics meet together.¹ But in order to a clear understanding of the subject, and a

¹ In the "Geschichte der Hebr. Sinnabtheilung" (3d Part: Beleuchtung dunkler Stellen der alttestamentlichen Text geschichte) in the "Theologische Studien und Kritiken" of 1837, No. 4; also in the first number of my Heb. Grammar, §§ 23, 24.

definitive settlement of the long-disputed question, relating, as it does, to so difficult and remote a department of philology and anthropology, great clearness and distinctness of ideas is necessary; and in order to gain this, a more minute and exhaustive discussion is required than I was then able to give. First of all, we must find the law of nature out of which the phonetico-musical, or physical, element in human speech proceeds, in order to gain an understanding of its relation to the logical principle of speech, and of the co-operation of both elements in the rhythm and accent of melodious language. To this end we proceed first to examine more particularly accent, in which the phenomena in question most clearly come to view.

Accent or tone is, as all know, that emphasis or stress (*τόνος*), i.e. that raising of the voice, by which one part of the discourse—one syllable or word—is raised above the others and distinguished as the chief syllable or chief word. It is the simple and wonderful means by which the mind (whose business it is in general to penetrate and illuminate the vast quantity and multitudinous forms of matter, and thus to simplify them and assimilate them to itself) points out and enforces that, in a series of words and sentences, which for its purpose is most essential; that in which the chief idea, and so the unity, of the whole series lies. It describes to the ear the course of the mind above the discourse, and its several strokes are, as it were, the audible footsteps of the mind's march. Without it language would form a crude, lifeless mass of sound. It is this which breathes life and soul into that mass of sound, by presenting to the ear smaller and larger members or parts of speech, of which each constitutes by itself a notion, and by constructing out of these members the meaning of the whole, forming them into a sort of organic body, proceeding in a regular gradation from the smaller to the greater members. At the lowest stage it constructs words, by reducing to one single notion an aggregate of sounds and syllables, together with the distinct elements of root and inflection involved in them, by means of emphasis

laid on the principal syllable (verbal accent).¹ Next, by emphasizing the principal one of a series of words (i.e. the principal syllable of this word, by means therefore of the verbal accent) it unites the series into a single sentence. In like manner several sentences, by the prominence given to the principal sentence, are made to form a period. And even beyond this limit, accent operates in still greater divisions, according as the mind by means of it is able to master the quantity. This depends, on the one hand, on the mental clearness and vivacity of the speaker or reader; on the other, on his power over his voice — on his elocution. That which constitutes the principle of unity in these divisions of speech is also the principle of their separation; and it is accordingly accent which effects the division of the sense — the separation of the words and the division into sentences and periods — which is designated in writing partly by inter-spaces, partly by punctuation.² But the influence of accent is by no means limited to giving prominence to those parts of spoken language which (in the way just described) receive the intonation, and form the exponents of the contents of a whole series, the illuminated peaks, as it were, which tower up out of the obscure mass of words. It embraces within its sphere the whole mass of words, its intonations being graduated and classified according to their logical relations. And only by this fact can be explained the secret of its power,

¹ Cf. Wm. von Humboldt: Ueber Entstehung der grammatischen Formen, in den Abhandlungen der Berliner Akademie 1824, p. 423. According to its principle the accent ought strictly always to fall upon that syllable which is for the notion the chief syllable, which constitutes the logical centre and the kernel of the word, therefore the stem syllable. But this is the case actually only in the German language, where the terminations have been by degrees subdued and suppressed. In other languages, where this has not been accomplished, the accent must depend on the strength of the final syllables, according to a phonetic (rhythmical) law. See below.

² But only the Hebrew writings of the Old Test. in their present form designate the divisions of the sense within the period (the so-called verse) simply by its system of accents, and so by that which constitutes the principle of the division. Respecting the ancient designation of the larger sections and their historical development into the present accentuation, see the above-mentioned Essay in the *Stud. und Krit.* 1837, p. 836 sq., and *Heb. Gram.* §§ 16-22.

viz. that it is able to blend a plurality of sounds into unity, and to mark single sounds as exponents of the contents of the whole series. This is done simply by making prominent one of a series of sounds, and thus giving to the others a point around which they may group themselves (in ascending and descending gradation), forming, therefore, a centre and kernel, and thus producing a unity of sound, which represents to the ear the unity of idea. In the case of the verbal accent, as related to the other syllables of the word, this is at once obvious. Inasmuch, now, as the accent of the sentence is nothing else than the verbal accent of the principal word, and therefore, in order to be the accent of the sentence must make itself more prominent than the verbal accent of the other words of the sentence, and inasmuch as the same is true in a still higher degree of the accent of the leading sentence in a period, there results at once a gradation, a rank, among the accents, according to the logical importance of the sphere of each in relation to the whole. At the same time, however, it is, as a matter of course, to be inferred from this that the gradation is not confined to the tones of the principal words of the sentence, but extends to that of all the other words; in short, that *the tone of every word accords with its logical relation to the whole*. And this is fully confirmed by a closer consideration and comparison of the accents with which the separate words are spoken.¹ Furthermore, a similar difference will show itself in respect to the *duration* of the tone, or of the rapidity of the movement of the voice among the different parts of the discourse. As in every word the unaccented (earlier) syllables hasten towards the accented syllable, so in every sentence the accent hastens from one word quickly to another more closely connected with it in sense, or dwells longer on another, and separates it from the rest, in accordance with the notion it is aiming to express; here pressing towards the chief word of the sentence as its highest point; there calmly passing it by, and gradually sinking down. Thus, out of the rough image

¹ Of this more below, in treating of the rhythmical principle of speech.

of articulate sound there rises up a finer, more spiritual, as it were a rectified image, which, with its infinitely fine gradations and shades, presents exactly the order of the notions (the logical relations), as well as the relations of the feelings, involved in the discourse. These gradations of the accent are primarily gradations of the *force* or *strength* of the tone of the voice; but, since every increase of force is also connected with a slight raising of the scale, there results at the same time a certain melody in speech.

Thus far the principle of accent, and of the melody which it introduces into speech, seems to be a purely mental one, concerning merely the understanding and (in so far as the emotions participate in it) the feelings. Accordingly one might think that accent is something voluntary, arbitrary, which may be used or omitted at pleasure; an ornament, or an accomplishment, without which, indeed, speech does not fully express what is in the mind (therefore essential to the perfection of speech), but which one may in many cases forego. But this would be a complete error. Accent is rather a physical necessity, which in speaking we cannot avoid, even if we would. Even when one takes pains to speak without accent (e.g. for the sake of affecting gentility, or of concealing his feelings), he can do no more than to diminish the gradations of it as much as possible and make them unnoticeable, but cannot entirely suppress them. Accent must therefore grow out of a law of nature, to which the voice in its progress is bound. And this law is in physics well known as the law of motion in all fluids. It is the law of undulation, of fluctuation.¹ That the voice also moves according to this law, that its course is "undulatory," i.e.

¹ This, by the way, is etymologically the fundamental notion of the words for motion: In German *bewegen*, related to *wogen*, *wage*, *wiege*, *wagen*, etc.; Latin, *ago* (properly *vago*, Aeol. *βάγω*, from which *vagus*, *vacillo*, *wackeln*, cognate *veho*, *ἔχορ*, wagon, *nectis*, scales); from it *agina*, scales, *axis*, axle, *axilla*, shoulder (contracted, *ala*), especially of things which move around a fixed centre; again, *ἔξω* (i.e. equiponderant); *oculus*, Sanscr. *akshas*, eye (from its rolling, axle-like motion), etc. Cf. my Essay in A. Kuhn's *Zeitschrift für vergleichende Sprachforschung*, VIII 370 sq.

constantly rises and falls, is elevated and depressed, was long ago observed,¹ and the law in this application known by the name of *rise* and *fall*.² But how does the voice come to be subject to this law? The more immediate cause lies in the so-called beating of the pulse or heart, i.e. in the undulatory strokes of the blood, and of the breathing which stands in reciprocal relation to it. For speaking is an action connected with expiration, and is produced by sounds of various kinds being elicited from it, as the air passes through its canal at two principal points (the head of the windpipe and the mouth) through the co-operation of the organs there situated. The tones produced at the first place are clear tones (vowels); the others are sounds, more or less perceptible, which serve as accompaniments to the former (hence called consonants), and together with them form a single sound or syllable.³ It is consequently clear that, when one speaks, the supply of breath (i.e. of the air thrown out after each inhalation) which is expended in the production of articulate sounds, is divided into as many parts or single expulsions of the breath as there are separate members or single sounds in the discourse. Since, however, the breath expelled proceeds from a source characterized by undulation, i.e. from the beating of the heart, its separate expulsions cannot flow out in a uniform, smooth stream, but must constantly rise and fall in waves, like those of the blood in the beating of the pulse, i.e. exhibit a constant alternation of strength and weakness, elevation and depression. And this alternation expresses itself, of course, in the tones produced by it, primarily therefore in an alter-

¹ E.g. by DeWette, *Introd. to Commentary on the Psalms*, No. VII., p. 52 of ed. 3. (It is wanting in the 4th ed.)

² Probably borrowed from the term used by the Greek grammarians, *ἔπος* and *θέσις* which is applied by Priscianus and modern writers on metre (especially by Bentley, in the *Schediasma de metris Terentianis*, I.) to the voice, but properly refers to the movement of the foot or hand in beating time, and has, therefore, just the opposite meaning, viz. *θέσις* is the stroke of the foot or hand (*Latin ictus*) which accompanies the accented part of the measure; *ἔπος* is the unaccented part. *See sublatio and positio in Quintilian.*

³ Vid. my *Essay "Von der Natur und den Arten der Sprachlaute"* in *Jahn's Jahrbücher der Philologie*, 1829, Vol. I. No. 4, p. 451 sq.

nation of strong and weak syllables, and thus manifests itself as a law of the movement of the voice.¹ This is the natural law from which the so-called accent or tone proceeds, which, in this aspect of it, is nothing else than those elevations (summits) of the waves of the breath and voice, or of the stronger expulsions of the breath, which, alternating with weaker expulsions or depressions of the voice, produce in speech the antithesis of tone and tonelessness, of accented and unaccented parts of speech, like the antithesis of light and shade. Now, this antithesis, and its regular, constant return, is in speech, strictly speaking, what is designated by a Greek word, much used but little understood, *rhythm*² (Lat. numerus or numeri), and is the same thing as *measura*. Accent, as the climax of this, appears accordingly to be of rhythmical origin and nature; i.e. the origin of it, as well as the law of its movement, is not chiefly logical, but physical, i.e. traceable to the rhythm or undulation of the blood and breath, and hence of the voice.

That this is the origin and character of accent is shown by observing in all languages — at least in all which have long and short syllables and any definite accent at all — the rules respecting the position of the accent, or the determination of the location and quality of the stress. This — whatever influence etymology and composition may in particular cases have upon it — is everywhere subject to, and conditioned by, the higher law of rhythm or statics. Inasmuch as this law of accentuation has, so far as I know, not been sufficiently

¹ Voice is, properly speaking, the clear tone (so *vox*, *φωνή*) produced in the glottis, contained in the vowel (hence *vocalis*, *φωνησις*) and constituting the loud, sounding element of the language; then in a wider sense, instrument of speech in general. The breath in its modifications just mentioned works primarily only on the tone of the glottis, or a vowel which it produces; but, since this is the soul of the syllable, and of language in general, it works by means of it on the whole language.

² Etymologically it denotes (from *ῥέω*, to flow) a stream = *ῥέμα*. Applied to the flow of speech, it must designate either, as Buttman thinks, an easy, flowing motion, or, since that is too vague for the figure and the thing meant, the wave-like, rocking, uniform rise and fall of the motion, and so just the essence of the so-called rhythm. Cf. above, note 4.

noticed or recognized, I have undertaken to give a more particular demonstration of it in the appended excursus.

Before following the rhythmical principle of accentuation in its wider application to the larger divisions of speech, it may be well to illustrate briefly its manifestations in other expressions of human life. It is self-evident that the same law must hold especially with regard to other tones produced by the breath — to singing and to the music of wind instruments, in all of which, together with the alternation of high and low tones (melody), is observable a constant antithesis of loud and soft tones. This antithesis and regular alternation — which, on account of the stronger intonation and unfolding of the voice, is here much more prominent than in speaking — has here long ago been noticed and known by the name of *measure*, designated in written music by the so-called bar, by which the musical strains are divided into parts, all equal to each other in length. The rationale of measure, however, is to be found in nothing else than this constant alternation of loud and soft tones, or of accented and unaccented tones. Between these, however, at the same time is observable, much more than in speaking, a relation of equilibrium or parallelism. For, since this antithesis flows from the undulatory pulsation of the blood and the breath, both parts, according to the law of hydrostatics, balance each other; and of this that regularity of movement in music is only a consequence although not a necessary one; and accordingly in many ancient rhythms and melodies, Greek as well as German, the measure is looser. Now it is well known that the so-called measure or rhythm is not only characteristic of singing and the music of wind instruments, but is common to all music, even to that of instruments played by the hand, nay, even to all movements of the human body (of the feet in walking and dancing, of the hands, arms, etc.); and is the more conspicuous in proportion to the force and amount of these movements. How is it, now, in these cases to be explained? Just as in the others, by the pulsation of the blood and breath, because these are the sources of all our physical

life, and hence their movement communicates itself to all the movements and actions, or vital functions of man. Nay, it passes over in its influence into those expressions and states of the emotions which stand in more immediate connection with the physical state (of this more below), and it stamps upon them the law of parallelism, measure, rhythm, i.e. of the constant alternation of two antithetic movements, corresponding to, and counterbalancing, each other.¹

Returning now to the proper subject of our investigation, language, we should be led by the foregoing discussion to

¹ In the details, however, i.e. in the individual members and functions of the human organism, the correspondence of their motions with that of those sources cannot be mathematically proved, i.e. cannot be traced to the same number or to a definite mathematical ratio; nor indeed is there an exact equality in the undulatory strokes of those sources themselves, the blood and the breath (to one inhalation there are ordinarily three or four beats of the pulse). Hence the physiologists whose investigations are directed almost exclusively to the mechanical and chemical structure of the human organism, and who measure, weigh, and count everything, entirely ignore the above considered phenomena of the higher organic life, — accent, rhythm, measure, etc., — or if they incidentally speak of them, yet know scientifically nothing about their origin and laws, as little as they do about the reciprocal action of mind and body and the resultant mixed states and phenomena of this border region, which equally concern physiology and psychology. The law above laid down is rather to be derived from the whole, grand antithetic character which pervades the human organism — and in a lower degree all organic existences — in its countless members and activities, both in the structure of its mechanism, i.e. in the composition and adaptation of its limbs and organs and in the mixture of their elements, and in its movement and activity, i.e. in the individual functions and the co-operation of those organs, in other words, in the life of the organism. Everywhere is seen here reciprocal action, oscillation, regular alternation of opposite qualities, activities, motions or stages of motion, in order constantly to preserve or restore equilibrium and harmony among them; and just herein consists the peculiar and wonderful character of organic life. To this is to be added the great expansibility and elasticity of the organs as influenced by the mind, as is best to be seen in the breath, which by artificial means can be used so much more extensively than is essential to life, and can be adapted to other motions. Hence, however various and diverse the mathematical relation or the exponent of the motion in the several members may be, yet in the general effect the particular deviations and incongruities are lost in the general harmony, in such a way that the organism as a whole exhibits in its movements the great law of rhythm, and stamps it on all organic actions, and thus makes man, so to speak, a rhythmic creature, whose movements however, as may readily be conceived, cannot be mathematically calculated and determined.

confine rhythm and the accent belonging to it to the syllables, or the smallest parts of speech, and thus make it a mere syllabic rhythm and its accent merely a syllabic accent, returning with each couplet of syllables, without regard to the sense and the corresponding divisions naturally made in a discourse. But rhythm does not end with this; and now there presents itself a new, higher aspect of accentuation — that from which we started — its being used by the mind for its own purposes. It serves, as we have seen, as a means by which the mind by making prominent certain leading syllables, reduces to smaller or greater wholes, or single conceptions, the variety of sounds and syllables of which language, outwardly considered, is composed (which, as it were, constitute the body of language), or rather by which the mind animates these structures or members of the dead body of language, and pictures outwardly to the ear its inner unity. This is done by elevating the accent (raising it to a higher power), applying it to words and sentences as well as to syllables; adapting it by various gradations and distinctions to the sense, in the way described above. Thus, to the simple rhythmical principle of accentuation, a second, complex, logical, or intellectual is joined. These two are quite different from each other. The former is a mechanical one, measuring off the tones with mechanical regularity according to the number of syllables. The latter is an organic one, by which the accentuation is divided into various members and, as it were, built into an organic structure. Hence there arises between them a conflict, especially at the lower stage, in regard to the single word. For the former demands, in accordance with the rhythmical law, the repetition of the accent in polysyllabic words as often as two syllables occur, and on the other hand refuses to give it to a monosyllabic word which immediately follows an accented syllable, in order to avoid such a concurrence of two elevations of the voice as is contrary to the rhythmical law. The latter, on the contrary, can allow to the longest word only one accent, as the exponent of the one notion contained in it, and cannot refuse it even to the small-

the rhythm, which brings the rise and fall of each smaller or larger logical member into parallelism with one another, by which means the stream of the discourse is broken up, in accordance with the logical division, into larger or smaller waves, from whole sentences and periods down to the single parts of the sentence and to the words, of which the former very nearly correspond to the breaths drawn in and expelled, the latter to the beating of the pulse; which rhythmical division, however, is variously limited and modified by the amount of breath inhaled, by the expense of power in the use of the voice, and by the law of rhythm. At the same time all these divisions are separated from each other by proportionate suspensions of the voice, or pauses, which, in accordance with the static law, form a series corresponding to the length of the several divisions, and are therefore in a certain sense the exponents of these, as are on the other hand the force and elevation of the rising slide in them (accents). We will now more particularly consider this division, passing in order from the smaller to the larger parts of a discourse.

1. At the first or lowest stage, where the syllabic accent assumes the character of verbal accent, the syllabic rhythm also becomes verbal rhythm, i.e. a parallelism between the accented and unaccented part of the word;¹ this becomes, in polysyllables, especially in compound words, an antithesis between the primary and secondary accent. Furthermore,

¹ In Hebrew this parallelism — conformably to the rigorously rhythmical character of the ecclesiastical elocution marked by the accentuation — is developed into a decided equilibrium between the accented syllable and the foregoing unaccented part of the word, which determines the quantity of the vocalization. On the one hand, in forms which have before the accented syllable only one open syllable, the latter is prolonged, e.g. לְבַרְכָּתְךָ , מִן־בְּרָכָתְךָ . On the other hand, in forms which have several syllables before the accent, the open ones are as far as possible rejected, in order to preserve the dissyllabic character; this is done unconditionally with the third syllable from the accent, as חִיּוֹתֶיךָ , מִן־חַיּוֹתֶיךָ ; conditionally with the syllable next preceding, as מִן־לְבַרְכָּתְךָ (with —), whereas — in forms like מִן־לְבַרְכָּתְךָ remains. Similarly in English, where the quantity, and accordingly the pronunciation, of the same open syllables changes according as they stand alone or in pairs before the accent, e.g. *déprive*, *dúlte*, *prépare*, *restóre*; but *déprivation*, *dúldútion*, *préparation*, etc.

the different position of the accent occasions likewise various forms of rhythm. If it falls on the first syllable or, at least, on the fore part of the word, and one or more syllables follow, so that the elevation precedes and the depression follows, then the rhythm is trochaic or dactylic. If however it rests on the final syllable or on the latter part of the word, so that the depression begins the measure and the elevation succeeds, then the rhythm is iambic or anapestic. Inasmuch as in every language the accent has a general tendency towards either the fore or the latter part of the words, in each language one or the other of these movements is the prevailing one.¹

2. A second stage is presented when two words, or rather two notions, are united into one compound notion, either into a sentence (in its simplest form) or a part of a sentence. Then the elevations (accents), in accordance with the law of rhythm, assume the character of intensified elevations and depressions, i.e. of high and low tones, or rather of higher and lower tones, or of the preliminary tone and the principal tone, according as the first or second word is to be emphasized. Such cases are especially the following: The construction with the genitive, as, lord' of the land, or, on the contrary, with the emphasis on the genitive, as, king'dom of God'', voice' of the peo''ple; logically identical with this is the case of compound words (the status constructus of the Semitic languages), only with the order reversed, as, Volks'stim'me. Further, when similar things are paired, or put into apposition with each other, as, heav'en and earth, God' and Lord; but on the other hand, come' and see'', God' the Fa''ther (in

¹ In languages which, like the Sanscrit, Arabic, and Ethiopic, for the most part have weakened the words with open and short syllables, or their terminations (the present German, and still more the English), and hence draw the accent back as far as possible, the movement is principally dactylic or trochaic, as *kātālā*, *jāktālō*, *σώμάρως*. In others, in which, through the apocope of the vowel of the final consonant, the compound or (for other reasons) long final syllable has the accent (as in Hebrew, Syriac, and, among modern languages, in Spanish and French), the movement is generally iambic (or anapestic), cf. *kātāl*, *jiktāl*, *māger*, (from *mūlēr*), *āntmāl*, (from *āntmāl*), *solvēr* (from *solvērē*), *sabēr*, *savotr* (from *sāpērē*).

distinction from the Son). Again, substantives with adjectives or other modifiers ; as, the almighty God', God' in heaven ; or, on the other hand, great' God'' (exclamation). Likewise verbs, with adverbs or objects and other modifiers ; as, rule' justly, fear' God, bring' to nought ; or, govern wise'ly, fear' God'' (not men), etc. Finally, the union of subject and predicate in one sentence (when the predicate is complete in one word or notion) ; as, the sun' shines, the wind' blows', let-us-break' our-bands' ; or the boy' lies'', love' is blind''. The first rhythm, that of the high and low tone, as being the one adapted to the natural course and intonation of the voice, and as constituting in itself a small rhythmical period, is the most common and prevalent. The other, being occasioned by a special emphasis of the sense (especially by antithesis), produces a tension which requires to be relieved, in order that the sentence may have a rhythmical conclusion ; hence admissible only in the protasis or in a member of a longer period, not at the end of a series.¹

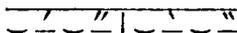
3. A third stage is presented, when more than two notions are united into one sentence or into an extended member of a sentence. From these compound, logical members of the sentence there result compound members of the rhythm, i.e. various stages of elevation and depression, which become here really (in the strict sense) high and low tones (in a narrower sense than that described in No. 2). If they form a complete sentence (completing the sense), so that the voice after rising sinks again to rest, then by its rise and fall it

¹ Corresponding to this stage of rhythm is in Hebrew the composition of a rhythmical member out of a so-called conjunctivus and a distinctivus, also of a subordinate distinctivus with a superior. Again, in classic prosody, the dipody, according to which the iambic and trochaic rhythms were measured (also in the Latin senarius, according to Terentianus Maur., six loci, but only three ictus were counted, hence called trimeter, "scandendo binos quod pedes conjungimus"), somewhat as the Roman *passus* in measuring distances are double steps. This measurement rests on the same rhythmical principle and impulse, viz. to bring two members ("feet") into the relation of rising and falling tone. Hence its scheme is to be constructed thus : $\cup \text{—} \cup \text{—}$ or $\cup \text{—} \cup \text{—}$ (Why the iambic rhythms are measured as trochees, is from a rhythmical point of view unintelligible, and seems to rest only on a conceit of Bentley).

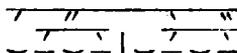
describes a complete bow or semicircle (periodus), consisting of two segments, and having its points or the boundaries of its segments where that part of the sentence comes which is most important in relation to the sense, i.e. where the strongest verbal accent (the high tone) falls. And the height to which it rises is determined partly by the number and importance (the emphasis) of the parts of the sentence, and accordingly of the intervals between the elevations and depressions, partly by the strength of the voice. Within this bow, however, and within each of its segments, this alternate rise and fall is repeated on a smaller scale (like ripples on waves), as often as pairs of closely related words or phrases occur in it (like those given in No. 2). These are accordingly only relative elevations and depressions, in contradistinction to the proper high and low tones which form a sphere of absolute rise and fall. As an example of a rhythmical sentence in four parts, where the rise and fall are uniform, we may take the first sentence in the Bible:

In the begin'ning created God" | the heav'en and the earth".

Here the boundary between the rising and the falling part is in the word "God," each part being composed of two rhythmical members or stages in the rise and fall of the voice, each of which, taken by itself, would consist of a relatively high and low tone according to the scheme $\sim \acute{\sim} \sim \grave{\sim}$; but united into a sentence the first consists of two stages of elevation, the latter of two stages of depression, somewhat as follows:

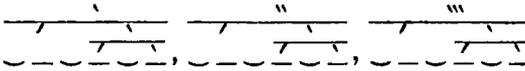


Nevertheless those smaller distinctions of relative rise and fall are faintly traceable in connection with the more prominent ones when one pays careful attention; and hence the figure of the rhythm, in order to be exact, must assume a form somewhat like the following:



In like manner the rhythmical member, "created-God," is, properly speaking, composed of two logical members which,

where furthermore in each of the three parallelisms the falling part is composed of a smaller elevation and depression : "all'-their-host'," etc. ; so that in that portion of the sentence which has the downward slide there is produced a compound rhythm having three gradations :



If, however, the expression "in the beginning" is to be emphasized, or, as in Neh. ix. 6 (where this expression does not precede), the subject, "Thou, *Jehovah*, alone | hast made heaven," etc., so that it alone has the rising inflection, and all the rest the downward, then the former part must rise all the higher, in order, as it were, to keep balance with the complex falling part, and to furnish the latter a sufficient height from which to fall. Thus :

"
In the beginning | cre[']ated God['] the heav[']en and the earth['].

"
Thou alone['] *Jehovah*['] | hast made['] heav[']en and its host['], etc.

Sometimes the sentence is composed of two small ones (protasis and apodosis, etc.) with the same melody, as,

He speaks['], and-it-is-done['] = his command['] is obeyed['].

When several notions belong logically together, as factors of a larger member of the sentence, and even when they are united in the same way (e.g. by the same grammatical construction) they separate again into pairs according to the strength of the attraction of each for the other, according to their affinities, e.g.

The voice | of the blood of thy brother ||

where the words "voice of the blood" naturally belong together, but the genitive is drawn away from this connection by a second genitive still more closely connected with it. And thus, through the enlargement of a sentence, or of a part of a sentence, by the addition of new factors, there result constantly among them new groupings, and consequently modifications of the rhythm and melody ; in regard to which

the change in the position of the words also has much influence.

4. As a fourth stage in the development of rhythm may be considered the case when two or more sentences, which are connected together as protasis and apodosis or in some other logical relation, and accordingly constitute a logical period, assume the relation to each other of elevation and depression (high and low tone) in the higher sense of the terms. Two sentences, e.g. antecedent and consequent :

$\overset{/}{\text{And God' spake' }} \mid \overset{''}{\text{let there be' light' }} \parallel \overset{''}{\text{and there was' light' }}.$

Antithesis :

$\overset{/}{\text{And God' called the light' Day' }} \mid \overset{''}{\text{and the dark'ness he called Night' }}.$

When more than two sentences form a period they unite according to their logical affinities in the rising or the falling scale, and constitute compound members in the parallelism. Examples of the most manifold logical relations and arrangements of sentences in a period — at the same time rhythmically controlled by the symmetry of the parallelism, and extending even to the strophe — are given in Hebrew poetry and in the discourses of the prophets (cf. the compilation in De Wette's Commentary on the Psalms, Introd. vii., or Introd. to the Old Test. § 129 sq.). As an example of a longer rhetorical period, composed of several smaller periods, we adduce only Isa. i. 15 :

When-ye-spread-forth your-hands, I-will-hide mine-eyes ; when-ye-make many prayers, I will not hear : || for your hands are full of blood.

$\overset{/}{\text{When-ye-spread-forth your-hands, I-will-hide mine-eyes ; }} \mid \overset{''}{\text{when-ye-make many prayers, I will not hear : }} \parallel \overset{''}{\text{for your hands are full of blood.}}$

Here two smaller periods, consisting of antecedent and consequent, compose the first member, the elevation preceding the concluding sentence, which contains the explanation (the reason) of what goes before ; the first period constitutes the first stage in the elevation ; the other, the second, or the climax of the rising tone. Within these again each antecedent rises while the consequent falls ; but these depressions are

only relative and are suspended because they belong to the rising part of the period (especially the latter, which belongs to the second stage of the rising scale); only in the concluding sentence is the fall an absolute one. In general, every depression is lower, the nearer it leaves the sense complete, i.e. the greater the whole is which it terminates, and *vice versa*.

This is the melody of speech, which was above simply shown to belong to the logical accent, but which is made complete only by the co-operation of the logical and the rhythmical principle, in which also is alone to be found the full notion of accent. Properly to express or render this melody is the business of elocution or declamation. On account of the manifold shades in the accent — which image forth the logical relations of the sense — this melody is richer than that of music; but its extreme high and low tones — even in the most elevated intonation of rhetorical feeling — are confined within smaller intervals of the musical scale, and its tones can accordingly no more be represented musically (by notes) than can these gradations or intervals. Not till rhetorical tones rise into musical tones does the voice rise and fall in intervals that are strictly musical.¹

¹ This relation did not escape the old Greek and Latin grammarians and rhetoricians, who exhibit in general, concerning everything relating to language and oratory (both as to essence and form), an accuracy and delicacy of observation, a perspicuity and definiteness of conception, which forms a mortifying contrast with the crudeness with which our modern (especially German) grammarians and writers view and treat their language. The most accurate treatment of it is to be found in Dionysius (Halicarn.), *De Compositione verborum*, chap. xi. (ed. Schaefer), p. 126, where he reckons the melody of an ordinary speech to embrace five notes, with the additional remark that it does not rise more than three and a half tones in the ascending; nor fall more than this in the descending scale: “ ἐνὶ μετρείται διαστήματι, τῷ λεγόμενῳ διάπεντε (as opposed to the musical octave, called *διὰ πασῶν*) ὡς ἑγγιστα· καὶ οὕτε ἐπιτείνεται πέρα τῶν τριῶν τόνων καὶ ἡμιτονίου ἐπὶ τὸ ὄξυ (rising slide), οὕτε ἀνίεται τοῦ χαρίου τουτοῦ πλείον ἐπὶ τὸ βαρὺ (falling slide). Dionysius treats minutely of the musical intervals (p. 130,) where he correctly defines the difference between musical melody (ἡ ὄργανική καὶ ψαλμική μουσική, i.e. instrumental and vocal music) and the melody of speech by saying that it τὰς λέξεις τοῖς μέλεσιν ὑποτάττειν ἔξει, καὶ οὐ τὰ μέλη ταῖς λέξεσιν (i.e. that here the rhythmico-musical element subordinates the logical

This leads now to the further question : What is the relation of the rhythm of common speech just considered, to that of poetry, or rhythmical discourse properly so called (of the *numerosa oratio* to the *numeris adstricta*) ; what is the relation of the melody of speech to strict melody, or that of song ; and how does the latter grow out of the former ? For if, as we have seen, rhythm and melody are not peculiarly the ornament of poetry and song, but belong by a general law to all human speech, how does it happen that men generally attribute them only to poetic language, and call it (exclusively or pre-eminently) "rhythmical," in contradistinction to ordinary language, as though the latter were unrhythmical and irregular (*prosa numeris soluta*) ? And if this, as being an error or an inaccuracy, needs no further consideration, why is poetry characterized by a rhythm so much more regular and palpable than that of prose, by a rhythm which even in its external features is so unmistakable, and strikes every one's eye and ear by the form of the words themselves and the sentences, (also in writing outwardly represented by breaks or lines), as well as by the whole movement of the thought, all of which are throughout shaped according to a definite rhythmical-

element, whereas in the former the rhythm and melody must accommodate themselves to the meaning and the logical relations) ; and then he gives an example of the deviation of the musical pronunciation from the ordinary intonation (*διαφορὰ ἢ διαφέρει μουσική, sc. φθῆ λογική*) in a passage from Euripides. P. 135 he expresses the character of the melody of ordinary language (*μέλος φωνῆς ψιλλῆς*) as distinguished from song (*φθῆ*) by apt adjectives : it is, he says, *εὐμελές* not *ἐμμελές*, *εὐρυθμον* not *ἔρρυθμον* (*καπορα*, but not *cantus* ; *numerosa*, but not *numeris adstricta*). Cf. also the fine observations on rhetorical rhythm, and its difference from the poetical, in Cicero, *De Oratore* iii. 43 sq., and especially in the *Orator*, chap. 16-20, 41-71. In modern literature I have found the above proposition, that language has far finer intervals, and hence a much richer "octave" (?) than song, in G. v. Seckendorff's *Vorlesungen über Declamation und Mimik*, i. 55-58 ; the best work on declamation that I am acquainted with ; the author was, as a practical speaker, a celebrated virtuoso. He considers language and declamation in general, especially from p. 116 on, constantly from its musical principle and in correct relation to musical melody. Only the ground of the relation to the musical tone is sought too one-sidedly in the strength of it. It will be seen below that the musical tone is specifically (qualitatively) different from that of speech, and arises from a peculiar intonation.

cal law and set form, and which seem to constitute the specific difference between poetry and prose? Is rhythm in this form and application nothing but an arbitrary, artificial ornament and embellishment of poetry? or is it the product of a law of human nature, the natural utterance of a particular state of the human mind, as was above demonstrated with regard to rhythm in general? If, now, only the latter can be assumed, what is the law or impulse of human nature which produces such a rhythm, and what is that state of the mind which naturally expresses itself in it? The question likewise presents itself: Of what mental state is song the natural utterance rather than common language, and how are its particular tones formed? To this more intricate question — a full answer to which would require a more extended anthropological investigation than I can here enter upon — we devote a brief discussion in conclusion.¹

Although rhythm, as a fundamental law of human speech, cannot be lacking in any kind of discourse, it is yet susceptible of very different degrees of development and cultivation. It is more prominent and distinct, the more forcibly the voice pronounces its intonations and, as it were, swells its waves, and thus increases the force and momentum of the movement; for then its elevations and depressions are separated more widely from each other and thus come more decidedly to balance one another, just as the wave rises the higher, the greater the quantity of water and the force which sets it in motion. This strength of intonation or of the undulation of the voice may indeed be arbitrarily produced, but it is naturally the effect of an elevated state of the mind; primarily, of a state of excitement or emotion, which raises the undulation of the blood, and hence increases the force of the voice, as well as of all other vital manifestations. But this only to a certain point. An intellectual element must interpose, by which the emotion is kept from breaking out into a wild tumult, controlled and con-

¹ Cf. in the Appendix to my Psalms Vol. iv. (*Untersuchung der Psalmen-sammlung überhaupt*), § 6, where this is somewhat more minutely treated.

ducted in a particular direction, and thus brought into a regular undulation; so that the modulation of the voice flows from a similar movement of the soul. Now this is the case in the poetic mood or enthusiasm. This is that state of the mind in which emotional excitement is produced by a poetic idea, i.e. by a conception which rouses the feelings and at the same time attracts to itself the intellectual contemplation, thus occupying at once both the intellect and the feelings; a state, therefore, in which neither the one nor the other one-sidedly sways the soul, but each permeates the other, and is thus held in balance; in which consequently the excited fountain of emotion, curbed and guided by the intellectual element of thought, is brought into an undulatory, vibratory (i.e. rhythmical) motion, swinging, as it were, upon which the soul can pour out its feelings and meditations in no other way than in wave-like or symmetrical (i.e. rhythmical) sentences.¹

This rhythmical movement of the soul in the poetic mood seizes the whole man with irresistible force, and hence expresses itself through all the human organs which are capable of movement or activity, external or internal, bodily or mental. Externally (physically), in the first place, by the rhythmical movement of the feet, and accompanied by corresponding movements of the whole body, i.e. by dancing, in its original significance — the rudest and most expressive utterance of the poetic mood in a state of nature. Next by rhythmico-musical tones or sounds of the voice, i.e. by singing, which even without words serves to express poetic moods, especially joyous moods. This is an elevation or intensification of common language, yet specifically different from it, i.e. not only in the degree of force, but also in the kind of intonation. Its tones arise not only from the stronger intonation of the voice (which is produced also in crying or shouting in a still greater degree, yet without becoming song), but also from the peculiar swell and oscillation which the

¹ This may be both psychologically and physically more particularly shown; but there is no space for it here (vid. my Psalms, as quoted p. 21, note).

voice assumes, in a noticeable undulation, on which the voice pours out distinctly vibratory (elastic) tones, which rise and fall at great intervals, i.e. musical tones. Song can, it is true, be at any time arbitrarily produced; but, as a free and natural utterance, it is exclusively characteristic of the poetic mood, and is its specific language, so that this mood may be properly defined and illustrated by designating it as the mood in which one "sings." These tones and strains, when produced by an instrument, instead of by the voice, give us instrumental music, which is likewise primarily an expression of the poetic mood. This mood finds its most spiritual expression, when it gives utterance not only to a general, vague feeling in rude tones of melody or music, but to a definite idea, consisting of distinct notions, in words, i.e. in song. This is poetry in its full development, i.e. brought before the consciousness and spiritually transfigured, and is the most perfect expression of the poetic mood. This mood manifests itself most strikingly in the union and harmonious co-operation of all the three modes of expression — dancing, music, and singing, as it is found among people in a state of nature; but this union is natural and feasible only at a certain stage of cultivation; when this is passed, music and singing are separated from dancing; instrumental, further, from vocal music; and song becomes a mere poem not to be sung. By this separation the several arts receive more cultivation, but are in danger of becoming too artificial and of degenerating, i.e. of passing beyond the bounds of the truly poetical, of being removed from their original source, and of forgetting their proper nature and design.¹ In so far, however, as singing and dancing are an expression of poetic feeling, which consists in a rhythmical, undulatory movement of the soul, the law of their movement and their essential character must consist in the parallelism of their members. This parallelism, however, is susceptible of various degrees of development, according as it relates to the larger series or the smaller members of the series. This is most clearly

¹ Cf. Herder, *Spirit of Heb. Poetry*, ii. 7, p. 266 sq.

seen in the dance, where either the only discernible rhythm consists in parallel rows (circular dance, chorus) as in the dances of rude people and the old national dances of Germany, which dramatically represent a poetic mood, situation or experience of the human heart and life, and so involve the soul of dance without measuring off its separate movements; or the movement is likewise rhythmically regulated and divided off, down to its smallest parts, the single steps, by the constant return of a uniform parallelism of the step, i.e. by the alternation of heavy and light treads in the same measure; or, finally, there remains nothing but the dancing steps without any larger rows, and so without expressing any poetic thought (body without soul), like our waltzes, etc. The same distinctions are to be seen in the rhythm of music and of other tones (e.g. of the drum), which must assert itself not only in the minutiae, by means of the so-called measure, i.e. the constant recurrence of the parallelism of accented and unaccented tones, but also on a larger scale, by means of the parallelism of the musical strains and periods. And this is found in its most perfect and noble form in poetic utterance, in song. This, as a marrying of the inward with the outward, of thought with tones or words, includes two methods by which the poetic mood expresses itself, therefore a twofold rhythm. First, an inward rhythm, that of the thoughts themselves. For since the essence of the poetic mood consists in a regular undulation of excited feeling, the course of poetic thought must also be undulatory, consequently must consist in a continuous parallelism of thoughts and sentences. This is the soul of poetry and the foundation of all rhythm. This inner rhythm, or rhythm of the thoughts, manifests itself outwardly in language (song) in gradations similar to those of the rhythm of dancing and of music. At first it only brings the larger series, the sentences and periods, into parallelism, making verses and strophes, the latter sometimes outwardly represented by responding choruses (Heb. רָצָף of the chorus, Exod. xv. 21; 1 Sam. xviii. 7). This is the oldest and most essential form of

rhythm, further than which the poetry of the Old Testament did not get. In modern poetry it is distinguished by rhyme, i.e. by the similar sound of the termination of the corresponding series, in order to make the parallelism strike the ear more distinctly. Or the separate words and syllables are also rhythmically regulated (syllabic rhythm) by the regular recurrence of the undulation of elevated and depressed syllables ("foot," *pes*, more correctly, verse-step, analogous to the dancing-step, *pas*, from *passus*); in which case the syllables are either measured according to their length (metre), or only counted, with or without regard to the verbal accent. This is the most perfect rhythm: a thorough-going division of articulate language from the largest down to the smallest parts. Descending (analytically) it is attained by a continued dichotomy or dissection of the periods (of the verse), by means of an incision in the middle (the so-called caesura of classical prosody), into parallel members or antitheses, then into hemistiches, then into dipodies (parallel double steps). Then, in an ascending direction, the verses are united into groups of verses (strophes), first into distiches, then into various other combinations; but everywhere is parallelism. Even when the rhythm in all its gradations and forms is tripartite (compound), the fundamental law of parallelism, or of the antithesis of two members, is not abolished; because then two parts always stand over against a third, often in the completed form of thesis, antithesis, and synthesis, which seeks to reconcile the opposition in a higher unity.¹ And as there are dances which consist merely in dancing-steps

¹ The same law appears in the region of visible things as the law of symmetry — a fundamental condition of every manifestation and form of the beautiful, the perfect analogue of rhythm for the ear, not transferred from the latter to the eye, but proceeding from the same fundamental law of human life. And whence the bewitching charm which everything that conforms to this law has for us? Whence in particular the wonderful power of music over man, celebrated even in the myths of antiquity? What is there in it that makes us so proud and buoyant and quickens every pulse? It is not the tickling effect of the tones, but its *rhythm*, which, *proceeding from the quickened pulse of the source of our life, excite the same pulsation of elevated life in every hearer*; it rests therefore on agreement with the law of our life.

which are not united into larger choral dances, so there is a rhythm in speech which prevails only in the separate words and their syllables without extending to the sentences and periods, as, e.g. when one writes prose in iambs.¹

Next to poetry, the language of elevated oratory presents the most marked and distinct development of rhythm. It too flows from an excited, elevated mood (so-called pathos); but, in so far as the stimulating idea is a general truth or a moral good, it seeks to fill others with enthusiasm for it and incite them to action; hence it aims at an effect on the outer world, and serves accordingly an intelligent design; whereas poetry proper has no other end than to discharge the contents of its feelings in words, and thus to satisfy itself. In case of preponderating emotion, at the highest point of oratorical enthusiasm, the language will rise into almost the musical flow and rhythm of that of poetry, and will advance in parallel sentences, nay, even periods, which, as a general rule, are distinguished from those of lyric poetry only by a greater fulness in thought and expression (so with the prophets or orators of the Old Testament). When the intellectual element preponderates, on the other hand, it will approximate to prose, and the rhythm or parallelism peculiar to every elevated mood will manifest itself only in a more free and unconstrained form, in a general striving after parallelism and fulness of expression, sonorousness in the final words, etc. (so-called oratorical numerus); while at the same time the increased strength of the voice calls up the logical antitheses involved in every discourse, and finely unfolds them in series of sounds rhythmically controlled, i.e. as much as possible made to balance each other. In ordinary discourse, or so-called common prose, where, in the total lack of emotional excitement, the stream of the discourse glides along calmly and without any visible undulation, so that in it the

¹ These various grades of rhythm, as also the analogy of dancing, have been already pointed out by De Wette in the *Introd. to his Commentary on the Psalms*, § viii., where in general excellent observations on rhythm are to be found.

logical members and antitheses sink and disappear, rhythm seems to be wholly wanting, and it is generally designated, in distinction from poetry and rhetorico-rhythmical prose, as unrhythmical. But, as has been already observed, this is only relatively correct. In fact there is rhythm here as well as accent, but in such fine and obscure gradations that they are for the ear scarcely perceptible. But the concealed rhythm of prose discloses itself at once, as soon as the voice pronounces stronger intonations, and by this means all prose, even the most speculative and profound, may be spoken and read in perfect rhythm (in which case, to be sure, there is presented a ridiculous incongruity of matter and delivery). Such a rhythmical elocution, and that too, of the most solemn kind, has become customary among the Jews, as also among other people, especially in reading the scriptures, all parts of them, even the purely historical. And after it had for a long time been verbally handed down as an acquired art of the prelectors and grammarians, it finally received a fixed designation in the text of the sacred books, as we find it now in the manuscripts of the Old Testament. To prepare the way for a correct understanding of this, is the object of this investigation.

EXCURSUS.

The rhythmical law manifests itself, in the first place, in the position of the accent, i.e. in the determination of the syllable which it shall affect. Here the general rule holds, that the verbal accent, without regard to the position of the root, rests, even in the longest word, only on one of the three last syllables, and according to the quantity or length of the two last. If these are both short, the accent rests on the antepenultimate; if both are long, or even only one of them (in Greek it is the last, in Latin the next to the last), on the penultimate (on the accent on the last syllable, see below); and afterwards the tone moves forwards and backwards. E.g. Greek: *στόματός, στομάτων; ἄνθρωπος, ἀνθρώπων; τύπτω, ἔτυπον, ἐτυπέτην.* Latin: *Macedō,*

*Macēdōnēs, Macēdōniā; pūērēs, puerōrum, puerōrumque; aūdiūnt, audiēbam, audiēbāmus.*¹ Arabic and Ethiopic: *kātālā, katalā, katalōnna; jāktōlō, jāktōlū, jāktōlna, jāktōlāna; jākālū, jākālāna; vāllādā, vāllādākā, vāllādtākā;* Substantives: *kātēlū, kātēlātu, katelina; medinātū, inātu, inātāni;* also with enclitics: *kōllāmā, 'ēndāmā,* but *'ēlāmā,* etc.² At first sight the Hebrew intonation, which puts the

¹ So in the Romance languages (N. B. in so far as the Latin quantity has been preserved, especially in Italian), as *crēdēt, credēva, credēvāno; amāba, ābāno* (in Spanish *ābānos*, because the penultimate is here shortened); *benefico*, but *putico*, etc.; in Spanish, even in case of apocope of the final vowel if the quantity is not thus, as usual, lengthened, as *ángel, órden, discēl, amān* (Ital. *amāno*, from *amant*). Even in English the Latin accentuation, under the same conditions makes itself felt; e.g. the words in *-itor, -ity, -ēty*, (Latin *-itas, -etas*), *-ent* (Latin *-ens*), *-imēn*; adjectives in *-ic, -ific, -id, -is*, etc., e.g. *prolytic, historic, mosaic, intrepid, illicit*, and many others which cannot be traced to any definite termination. It is true that in many other words from the Latin (or French) the accent, conforming to the English rhythm, which springs from the accent of the German element, and is applied to the Romanic, where it, of course, can only produce confusion, is thrown back further than in Latin. This, however, has always been first brought about by apocope, together with a shortening of the last syllables, while the rule for the position of the accent itself remains in general unshaken. Only in many forms, in which many syllables of formation are heaped together at the close, the German tendency to shorten these and draw back the accent as near as possible upon the root conflicts with the rule, e.g. *amīcābly, amīcāblenēs*, where the accent is crowded back upon the fourth and fifth syllable. The same thing is effected in Italian and Spanish, especially by the appending of short, unaccented suffixes to the verb; e.g. *mānda-vīsēnē, bācā-mēlō*. But these are consequences which, in a certain sense, are forced upon language against its will, and which in pronunciation are either as far as possible accommodated to the normal measure, or are entirely avoided, as for the most part in Italian. Since in all these languages the Latin quantity and accentuation is so powerful as to determine the pronunciation, the latter can of course be understood and fixed only by reference to the Latin forms; and it is quite preposterous to seek to fix it merely by mechanical rules — according to the general form of the final syllables without regard to derivation — rules which have just as many or even more exceptions, and are of no use at all, and through which thick volumes, especially on English pronunciation, are made fruitless and aimless.

² When this Essay was first published (1852) I assumed that also in Sanscrit — whose vocalization rivals the Arabic and Ethiopic in purity and trueness to its original character — the etymological principle of accentuation, as in Greek, stands under the rhythmical law, all the more inasmuch as the remarkable law running through all forms — the law of equilibrium between root and formation or inflexion endings — testifies to the power of this law. This assumption, never-

accent for the most part on the last syllable, and only by way of exception on the penultimate, never on the antepenulti-

theless, has not been confirmed by the later investigations respecting the actual Sanscrit accentuation as regards the final syllables, — in Benfey's *Grammatik* (Leipsic, 1852) and Bopp's *Vergleichende Accentuationssystem des Sanscrit und des Griechischen* (Berlin, 1854). Bopp makes it even exactly opposed to the rhythmical law, whose prevalence in the Greek language he considers a mark of degeneracy, and designates, as the principle of the Sanscrit accent, the "pushing back" of the tone as far as possible towards the beginning of the word, which, he says, was esteemed the "most dignified and forcible" accentuation (p. 16). This would surely be no principle at all; and so in his preface (p. v) he lays it down, over against the logical principle of the German languages and the rhythmical principle of the others, as a third, free or grammatical, in Sanscrit confined to no limits (without law therefore). Not having grasped the significance of the rhythmical law, which, as I have shown, is a law of nature, and finding, in the consequent fact that the accent is limited to the last three syllables, only an arbitrary confinement of the accent, he makes the principle of the Sanscrit accent only to consist negatively in freedom from this constraint, without stating clearly what the positive law is. This is, however, in fact, of a rhythmical character; for the Sanscrit accent, to express it briefly, follows the centre of gravity, i.e. that point in the word where the equilibrium between different elements or factors of the word rests. Only it is not merely mechanical, determined by the outward gravity (length) of the syllables, as in most languages, but chiefly organic, determined by the significance of the syllable in question in its relation to the whole word and the other factors, i.e. it rests upon the syllable which is for the form the most important (as the soul of the word), and the outward weight of the other factors operates only conditionally. Accordingly the accent rests: (1) on the root, on the kernel of the word (as in German), where the root appears strong (i.e. when the formation-endings are defective, strengthened from the simple root), either absolutely strong or conditionally so, according to the strength of the terminations that are added; (2) on the syllable of formation which determines the sense: either (a) derivatively, from the root to the particular form in appended vowels, *a*, *u* (*nu*), *nd*, these likewise partly absolutely, partly conditionally strong; or (b) derivatively, and at the same time serving as inflection syllables in prefixes — augment and reduplication (long and short); the first absolute and changeless, the latter conditioned by the strength of the inflection-endings, and hence changing except in the desiderative. But when the accent is conditioned and changeable, there is seen an oscillation between four elements (factors) — stem, vowel of formation, mode-vowel, and personal ending. First, between the mode-vowel and personal ending of weak stems, viz. in the *modus obliquus* (potential, subjunctive, where the significance of the word lies in the mode-vowel and the personal endings are shortened, as in the preterite); here the accent rests either on the strong mode-vowel before the weak personal ending, or on the strong personal ending after a shortened mode-vowel; on the other hand, in case of reduplication, on this; in the Subj. 1st Pers., either on the strong stem or vowel of formation, in spite of the strong mode-vowel *đ*, and in

mate—just contrary to the Arabic and Ethiopic intonation (cf. *katal*, *jiktól* with *kátala*, *jáktolo*)—seems to deviate entirely from this rule. Yet a closer view shows that the variation is only accidental, and that there is a substantial agreement. The reason why the Hebrew accent is limited to the last two syllables is the same as operates similarly in other languages, viz. because these syllables, like the syllables in general, according to the punctuation of the Hebrew language handed down to us, are always long or heavy, partly by position, partly by nature, or by artificial lengthening of the vowels. That it mainly rests on the ultimate, arises from the fact that this syllable, on account of the general apocope of the original final vowel (still retained in the Arabic and Ethiopic languages), has become in all radical words compound, i.e. the product of a contraction of two simple ones (*-tál* and *-tál* from *-tālā*, *-tél* from *-tēlā*, etc.), and therefore, in a language which has such rigid rules and so delicate a sense for syllabication in regard to the consonant as the Semitic have, must necessarily draw the accent to itself. And this holds true, of course, also of the inflected final syllables of the same kind.¹ The accent can fall on the

the Imp. (2d and 3d Pers. exc. 3d Sing.), when the stem is weak and without mode-vowel, on the personal ending. Next, the oscillation takes place between the vowel of formation and the personal ending: when the strong vowel *a* occurs, unconditionally upon it; when the weak vowels *u*, *nu*, *ni* occur, conditionally, according to the weakness of the personal ending. Finally, between the stem and the personal endings (when no vowel of formation comes between, and the personal endings are immediately appended), on the strong stem before weak personal endings, and *vice versa*.

¹ The same phenomenon appears also in the Romanic languages, especially in the Spanish, where in consequence of apocope compound final syllables arise, which are now prolonged, and draw the accent to itself; e.g. *solvèr* from the Latin *solvērē*. In French this lengthening is often carried still further, so as to form diphthongs, as *sápèrè*, *sabèr*, *savoìr*. Also in Arabic and Ethiopic this rule must hold, although not recognized. That the Arabian grammarians say nothing about it, is quite explicable from the fact that the thing with them is only an exception; and, considering the defectiveness of their rules on this subject (in most languages the one least noticed; cf. the meagre, shallow, and disconnected statements in Silvestre de Sacy, Gram. Art. i. p. 145, ed. 1), this omission can prove nothing against analogy and the nature of the case. An indirect, although distorted, testimony for it is found, moreover, in the droll statement

penultimate only in two cases: either when a word originally monosyllabic and ending in two consonants receives, according to the rules for syllables, a second unaccented one, as *kódesch* from *kédseh*, *tóhu* instead of *tohv*, *chóli* for *cholj*; or when an inflection-ending, forming an open syllable, has been added. According to this simple law, its position changes in words to which new syllables are added, according to the character of the final syllables; e.g. verbs: *katál*, *katálti*, *ktált'm*, *ktált'ihu*, *ktált'ihém*; *jakámá*, *j'kumún*, *j'kumáni*, *j'kumúnáchém*; substantives: *kót'íl*, *ko't'lih*, *ko't'lim*; *m'dináh*, *m'dináth*, *m'dinátháim*; *dábàr*, *d'bārim*, *d'bréché'm*. Yet many inflection-endings with open final syllables — these being always long by nature — draw the accent to themselves; either unconditionally, by their greater length and importance, as, e.g. the feminine ending *áh* (אָה) in the noun (in contradistinction to the unaccented accusative ending *áh*) and the pronominal suffixes *í* and particularly *ó* and *áh* (אָה), which, as being contractions from *áhú* and *áhá*, must have the accent; or only in the connection of the sentence, when the open penultimate syllable, which strictly should have the accent, is thrown out; whereas at the close of the sentence (in pause) it reappears on the latter. Thus, *kat'lá*, *katá'lá*; *káb'dá*, *kábédá* (from *kábéd*); *vaj'hí*, *vaj'éhí* (cf. *παρὸς*, *παρέρος*). Sometimes also the accent is drawn back from the ultimate upon the open penultimate for particular reasons,

(in Silvestre de Sacy, *ibid.* No. 7), that every compound syllable, as often as it occurs in a word is to be accented, e.g. *éstáchrágtu!* (This Bopp also, *ibid.* Rem. 159, finds inconceivable.) That the compound final syllable of the imperative has the accent (e.g. *óktól*) is stated by Ewald, *Gram. Ar. i.* § 142. The same must be true of the Future apocop. and the pronominal suffixes *tom*, *kom* and *hom*, as well as of the paragogic Future and Imperative in *an* (for *anna*); with the penultimate compound syllable before open inflection-endings it is of course the case. In Ethiopic the unaccented pronunciation of the compound final syllable in the noun, as *mánfás*, *déngél* (nominative) from the full *mánfásá* of the Acc. and status constructus, remains; and so is to be explained doubtless also that of the Fut. (which is here always apocopated) *iyábét*, *j'éybár*, i.e. it arises from the prevailing accent of the full forms on the antepenultimate (cf. the above-mentioned extension of the opposite Hebrew rhythm beyond its limits). This is true perhaps also of the Arabic Fut. apocop. But I cannot believe it to be original and normal.

especially when an accented syllable immediately follows, e.g. *kárà, ló* (instead of *kārà*), *lâtèt, l'chè* (from *lâtèt*).¹

But all this accords entirely with the rhythmical law of the alternation and equilibrium of rise and fall, and indeed can be explained only by it. The reason why the accent can stand only on one of the last three syllables is that a simple rhythmical department, the elevation in which is marked by the accent, can, strictly speaking, include only two syllables, and can include three only when in the descending part two short syllables (or syllables shortened in pronunciation) are equal to one long one; so that the regulative scheme ' _ or ' _ here alternates with the variations ' _ _ , ' _ _ , according to the nature of the syllables; in which connection it is to be observed that the emphasis of the rising slide gives to the short syllables so much force that it can balance even a protracted downward slide, and that the lack of intonation in the downward slide shortens long syllables. In polysyllables the fore part of the word forms a sphere in which preliminary strokes introduce the accented part, and, when it consists of several syllables, secondary accents come in of themselves, which in most languages are recognized and fixed, and in many, as the Hebrew and the English, are rhythmically regulated. The verbal accent however must, in such words, select not the fore, but the latter, part for its sphere (which part, on account of the inflection-endings which modify the sense, is also the most important part of the word), because only here can the rhythm be prominent, since it would otherwise be destroyed again by the unaccented syllables following. So also the rhythm of a

¹ A real exception to the rule of accentuation in question is found however in the German language in its present form, in which, on account of a weakening of the former full, strong endings, and on the other hand a lengthening and contracting of short syllables in the middle, the accent has gradually come to be put always on the kernel of the word, on the root, and thus depends on the sense, not the length of the syllable. Yet even here the exception is not uniform; e.g. cf. *lebendig* with *lebend*, *wahrhaftig* with *wahrhaft*, *allmächtig* with *allmacht*. On this transition in general, vid. J. Grimm, *Deutsche Grammatik*, i. 12 sq. (2d ed.).

sentence (the so-called *numerus oratorius*) is satisfied with a development at the close of the sentence (cf. Cicero, De Oratore, iii. 46).

But also the difference in the kind of intonation in many languages, depending on the position and nature of the accented syllable, is explainable only by the nature of rhythm. This is true especially of the distinction of the acute (*ὀξύς*), grave (*βαρύς*), and extended or circumflex (*περισπώμενος*) in Greek, i.e. of elevated tone, depressed tone, and the tone composed of both, $\acute{\ } , \grave{\ } ,$ and \frown or \smile ; of which the last two are only special modifications and representatives of the first, as of the normal tone. That the so-called acute or rising tone stands only on the penultimate or antepenultimate, while on the ultimate it is exchanged for the grave or falling tone, is explained by the fact that it constitutes the elevation of the rhythmical undulation of the voice, and therefore requires and presupposes a subsequent depression as the necessary support of the elevation; consequently that, where the latter is wanting, as on the last syllable, it can, of course, not noticeably rise,¹ and becomes a low tone, or rather a relatively lower or depressed tone.² But it rises again and becomes a high tone, as soon as a syllable is added to it, e.g. *εἰκῶν, εἰκῶνος; ἀντί, ἀντίλος, ὄς, ὄστις; σοφός, σοφία, and σοφότε;* or when it stands at the close of a sentence, where on account of the pause it is enabled to rise.³ This is called also by the Greek grammarians *ἐγείρειν τόνον* (also *ὀρθοτόνειν*), in opposition to *κοιμίζειν*, which was used of the depression in the

¹ The height of the elevation is variable, and corresponds to the extent of the falling part (of which more hereafter).

² The Jewish grammarians also call the accent on the final syllable *מַלְעָה*, "below," i.e. deep tone, in opposition to *מַלְעָה*, "above," i.e. high tone, on the penultimate. As opposed however to the acute, i.e. sharp tone, it would be appropriately called the obtuse or suppressed tone (*ἀμβλύς*, as it really is termed by one Greek grammarian); somewhat as in German poetry for similar reasons the monosyllabic rhymes are called obtuse, in contradistinction to the more melodious dissyllabic rhymes.

³ Something similar is found in Hebrew, where in pause the short vowel of the final syllable is lengthened, and the rejected penultimate is restored and receives the accent: *katál', katál'*: *kat'á'*, *katá'á'*.

low tone (the former therefore being regarded as the erect one, *epithis*, the latter as the recumbent or inclined one). The same is the case with the Italian *gravis* or final syllables which have become such through the apocope of the final syllable (hence called *voci tronche*), and thus have gone over from the former high tone to the present low one; e.g. *virtù*, *pietà*, *padè*, from the more ancient *virtute*, *pietate*, *padete* (Latin, *virtute*, *pietate*, etc.). This intonation of the final syllable of polysyllabic words, conflicting, as it does, with the natural rhythm, and hence in many languages unknown or not recognized, is in general unquestionably owing to the preponderance which this syllable (always a syllable of formation or inflection) has obtained, on the one hand, by its own weight (partly quantitative, partly logical or etymological), on the other hand, by the incidental weakness of the root, or the incapacity of the syllable of formation or connecting vowel immediately preceding to receive the accent, or by the rejection of this syllable. It is owing, therefore, to the fact that the equilibrium between root and termination (most clearly discernible in the Sanscrit) is pushed forward upon the latter. Here belong, first, grave case-endings. These are either absolutely grave, as *-ei*, *-i* (*-ri*, *-or*), as *παιδήμεναι*, *ἐσπερι* (which I take to be a case-ending, instrumentalis the like of which are found in most of the adverbial endings); or the relatively grave of the genitive and dative of the third declension of all numbers¹ in monosyllables, as *μυρός*, *-ει*, with *μῆνα*, *μῆνες*

¹ This is, to be sure, in Greek not recognizable in the short endings of these cases in the Sing. of the 2d Decl.; but it is in the 1st and 2d, where the short vowels of the Nom., Accus., and Voc., *ā* and *o*, are lengthened, and those already long and accented take the circumflex: *-ης*, *-η*; *-ου*, *-ε* but *-α*, *-ω*; *-ος*, *-ω*; *-ās*, *-ā*; *-ῆς*, *-ῆ*; *-ού*, *-ῶ*; *-αῖν*, *-οῖς*, but *-ά*, *-ῶ*; *-ās*, *-ōs*. This is explained by the Sanscrit, in which these cases, together with the locative and instrumentals are the oblique cases, and have long endings, in contradistinction to the weaker endings of the *casus recti* (to which, besides the Nom. and Voc., also the Accus. belongs), and are characterized by reciprocal action and equilibrium between root and termination, formation-endings and case-endings, as in all parts of speech. As here, the *casus obliqui* are and in the verb the *modus obliquus* as opposed to the *rectus*, are designated by stronger terminations, so, on the other hand, also in the other languages, as opposed to the normal masculine, as in all languages.

(sometimes with an abbreviation of the root, as *χερὸς*, *χερὶ*, with *χείρα*; *πῦρὸς*, *μῦδς*, from *πῦρ*, *μῦς*), or in dissyllables with the expulsion of the vowel of the syllable of formation, as *πατρὸς*, *ἀνδρὸς*, *γαστρὸς* instead of *πατέρος*, etc. (also transferred to *μητρὸς*, *θυγατρὸς* instead of *μήτερος*, etc., like *θρηκὸς* instead of *θρήϊκος*), *κῖνὸς* instead of *κύνος* (more of the same in Sanscrit). Next, here belongs a series of formation-endings joined, as a general rule, to the simple root. Thus, the participles of the 2d Aor. act. and pass. *-ών*, *-όν* and *-είς*, *-έν* (Sanskrit *-ant*, *-at*), the Perf. act. *-ώς*, *-ύια*, *-ός* (Sanskrit *-vān*, fem. *-ushī*, neut. *-vas* from *ivans*); e.g. *φύγων* together with *φείγων*, *τύπεις* with *τύψας*; likewise the participles in *-ās*, *-είς*, *-οίς*, *-ύς*, neut. *-άν*, *-έν*, etc. of the verbs in *-μι* (Sanskrit *-ant*, *-vant*, neut. *-at*, *-vat*); pass. Part. *-τός*, with rejection of the connecting vowel (Sanskrit *-itās*, *-tās*), e.g. *τυπτός*, *σιᾶτός*, *θετός*, *τατός*, *καλύτός* (also Sanskrit *tuṭtis*, *sthītās*, *dhītās* *tītās*, *ś'ru'tās*). Again, substantives from the simple root, sometimes with the vowel modified; as, the grave feminine ending *-ή*, *-ᾶ* (Sanskrit *-ā*), e.g. *τομή*, *φύγή*, *φθορά*; *-ονή*, e.g. *ἡδονή*, *αἰονή*, Sanskrit *-ā*, e.g. *jātānā*, *vandanā*; and denominatives in *-ιά* (Sanskrit *-jī*), also *-ύς*, *-τύς*, *-άς* (*-ados*); and the masculine *-εύς* (Sanskrit *-us*, *-ūs*), as, *τομεύς*; *-τήρ* (Sanskrit *-tr*. accus. *-tāram* and *-tāram*) fem. *-τρὶς*, e.g. *θῦτήρ*, *δοτήρ*, *πατήρ*, but *μήτηρ* (Sanskrit *pīti* from *pā*, but *mātā*); *-μός* (Sanskrit *-mās*) and fem. *-μή* (from short stems, otherwise *-ήμη*, etc.), but neut. *-μα* (Sanskrit *-man* and *-mam*), as *δεσμός*, *δεσμός*, *-σμή*, *στιγμή*, but *θήμα*, *στίγμα*. Adjectives: added to the simple stem, *-ός* (Sanskrit *-ās*, *-trās*), as *φανός*, *τομός*, *-νός* pass. = *-τός* (Sanskrit *-nās*); denom. *-ινός*, *-ευνός* (Sanskrit *-in*. *-ānās*), *-λός*, *-ηλός*, *-ωλός* (Sanskrit *-lās*, *-alās*, *-ilas*, *-ulas*), from which the abstract *-ωλή*; *-ρός* with the connecting vowel *-ερός*, *-ηρός*, *-ωρός* (Sanskrit *-rās*, *-irās*, *-urās*, *-éras*, *-éras*), *-υός*, *-αός* (Sanskrit *-akās*, *-ikās*); *-ύς* neut. *-ύ* (Sanskrit *-ūs*, *-ū*) from which again *-υός* (Sanskrit *-ukās*), *-ής* neut. *-ές* (Sanskrit *-ās*, *-ās*). In general

Cf. on the Semitic languages my "Abhandlung über das System der Semit. Demonstrativbildung u. s. w." in the "Zeitschrift für Kunde des Morgenlands" ii. 150 sq.

that which draws the tone to one ending rather than another not different in quantity, is the more pointed concrete significance, as e.g. the concrete, as opposed to the purely abstract, a positive gender, as opposed to the lack of gender (neuter), a derivative, individualized notion, as opposed to a general, radical notion. Cf. the same ending as concrete, $\text{-}\acute{\alpha}\varsigma$, as abstract masc. and neut. $\text{-}\omicron\varsigma$, adj. $\text{-}\acute{\upsilon}\varsigma$, $\text{-}\acute{\eta}\varsigma$, $\text{-}\epsilon\acute{\iota}\varsigma$, vs. abstr. neut. $\text{-}\omicron\varsigma$; masc., fem. $\text{-}\mu\acute{\omicron}\varsigma$, $\text{-}\mu\acute{\eta}$, vs. neut. $\text{-}\mu\alpha$. In another class of monosyllables and dissyllables, especially particles — like the prepositions, indefinite pronouns, and adverbs — which either receive no tone and lean upon another word (enclitics), or at the most receive, like dissyllables, the grave accent, their incapacity to take the rising slide lies in the dependent character of the notion which they represent, and their consequent close connection with the following or foregoing word. But as soon as, by a change in their position or meaning, they become independent, the unaccented words and enclitics receive the grave, the others the acute accent, e.g. $\acute{\epsilon}\xi$, $\acute{\omega}\varsigma$, and $\acute{\xi}\xi$, $\acute{\omega}\varsigma$; *περι*, *πέρι*; *τις*, *τις*, *τίς*; *ποτε*, *ποτέ*, *πότε*. In like manner the verbs *εἶμι* and *φῆμι*, which on account of their close connection with other words often stand without accent, have, when in a different position, the acute accent on the final syllable of all the forms of the present, as, *εἶμι*, *έστων*, etc., which otherwise do not have it, and *έστι* then receives the acute, *έστι*. A perfect analogy to this is furnished in the above-mentioned Hebrew accentuation in the course of the sentence (*kat'lu*) as distinguished form that of the pause *katā'lu*.¹ Finally, as regards the prolonged or

¹ The above examples may suffice to illustrate the part which the rhythmical law has in the position of the grave accent — a point which needs and deserves a minute and thorough investigation, but which I could here only touch upon incidentally. Yet I can now at least refer to the complete presentation of the facts and the comparison with the Sanscrit in Bopp's *Vergleichende Accentuationssystem*, although the principle is there not recognized. The view above propounded respecting this accent, as being low tone, conflicts with the prevalent doctrine, according to which it is made equivalent to tonelessness. This conception rests, it is true, on the unanimous testimony of the Greek and Latin grammarians, who also, following Dionysius Thrax and his commentators, make the inference that therefore all unaccented syllables should strictly be

circumflex tone, that which determines its use instead of the acute accent, lies also in the rhythmical relation between

marked with this accent; and the odd statement is even added, that the ancient, more accurate grammarians really had so written (of which of course there is no trace to be found in the MSS.); vid. Villoison, *Anecdota* ii. 111 sq., 118 sq. On this notion rests furthermore the singular designation of the *verba παραξέτονα* by *βαρύτερα*, which is also found as early as Dionysius Thrax (art. gramm. cap. 16, in Fabricius, *biblioth. gr.* vii. 31). And this view might be traced back even to the authority of Plato, *Crat.* 35 (the oldest mention of accents, of course only of the oral accents), where undoubtedly *βαρεῖα* is used, in contradistinction to *ἀξεῖα*, of a syllable that has become toneless (ϕ : in $\Delta\iota\phi\acute{\iota}\lambda\omicron\varsigma$, from $\Delta\iota\grave{\iota}$ and $\phi\acute{\iota}\lambda\omicron\varsigma$). Nevertheless I do not hesitate to pronounce this notion a misunderstanding on the part of the ancient grammarians, such as are so often found in them, as in the earlier grammarians of every nation. Only so much seems to be true in it: the word *βαρεῖα*, in distinction from *ἀξεῖα* as used of an accented syllable, was used also (and perhaps first, if we may draw a conclusion from that passage in Plato) of an unaccented syllable (for both words, as used by Plato, relate to syllables, not to *προσφθία*, as in later writers), *ἀξέως* and *ξέτων* being probably at first used only in the wider sense of the intonation (properly speaking, the making sharp or prominent) of a syllable in general, that is, exactly like our "rise" and "fall," by which we understand primarily only accent and lack of accent. But this holds of course only of the oral pronunciation, not of the signs now used. That the inventors of these designated by $_$ only the absence of accent, and originally applied it to every unaccented syllable (which in that case, to be sure, they must have done), is too foolish a thing to accuse them of; but it is also positively senseless, because it is in contradiction to the actual use of the sign on the ultimate. For if it is nothing but a sign of tonelessness, then it is incomprehensible what it has to do just here, since with this exception it never stands on the unaccented syllables. But if, as Dionysius and his followers say (what is quite true), it here stands instead of the acute accent in the midst of a sentence (*ἐν τῇ συνένεια*, vid. Villoison ii. 112), then that is a new significance, different from the other, and this, as the only one actually in use, is also the only one, and nothing more is to be said about it, except to state the kind of the tone. Accordingly that alleged significance of tonelessness, which never appears in actual use, is at any rate a transcendental, prehistoric one, and without any practical validity; without doubt, however, even as an alleged fact of literary history, from the very first groundless, and the offspring of a false inference. It is rather quite clear that the sign, which is likewise a tone-sign, can denote nothing but a kind of tone different from the acute; indeed the invention of various signs necessarily implies the observance of various kinds of intonation; and to this must be referred also the terms *ἀξεῖα* and *βαρεῖα* in the language of grammarians (what kind of tone it designates, is clear enough of itself, and its use is, I trust, sufficiently illustrated above). It is therefore, time that our philologists stop repeating that meaningless fable, which the thoughtful Buttman (*ausführliche Gr.* § 9, 2) gives with the discreet remark added, "according to the theory of the ancients," and § 13 A. 3 attempts to modify and rectify against

elevation and depression. For, as the acute accent, as was seen above, is in place only when the elevation, through its quantity or its tone, stands in a certain equilibrium with the following depression ($\overset{\wedge}{\cup}$, $\overset{\wedge}{\cup}$, $\overset{\wedge}{\cup}$, $\overset{\wedge}{\cup}$ or $\overset{\wedge}{\cup}$), so, on the other hand, the protracted accent takes its place when the syllable of elevation, through its nature and position, has a decided preponderance over the following depression, or (by means of contraction) absorbs it into itself. Hence the ancient grammarians describe this tone not merely as simply protracted, but as curved, i.e. as rising and then falling, thus uniting in itself elevation and depression,¹ which was appropriately represented by the sign $\overset{\wedge}{\cup}$ or $\overset{\wedge}{\cup}$, and designated by the term *περισπόμενος* (also *συνημμένος* and *κεκλασμένος* or *περικεκλασμένος*. Consequently it stands (1) not on a syllable merely lengthened by position, but only on one long by nature, because only such an one is capable of protraction and of a preponderance; (2) not on the antepenultimate (because the two following syllables completely balance the elevation), but only one of the last two; (3) also not on a long penultimate, when one equally long follows (because then again the depression forms the same equilibrium with the elevation as in the preceding case, and keeps the latter within bounds), but only when the following syllable is short, and thus gives the preponderance to the preceding, and gives to the accent full liberty to extend itself at pleasure, and thus, in a certain sense, to take a part of the depression into itself, as is wont to be done involuntarily in following the rhythmic impulse to fill up the measure and restore the equilibrium, e.g. *πρώτος* = $\overset{\wedge}{\cup}$, but *πρώτου* = $\overset{\wedge}{\cup}$ (whereas *ἄλλος* is

his own faint, yet well-grounded doubts, nevertheless, without examining more carefully the correctness of the premise. Also the usual designation of the words in question as *ἐξόχονα* I must consider incorrect, and not justified by the fact that they appear at the close of the sentence. This position gives the accent a special force, and raises it thus to a high tone, but proves nothing as to the normal tone of the ultimate in connected discourse, any more than does in Hebrew the lengthening of a syllable in pause as to the normal quantity.

¹ This is also virtually confirmed by the fact that in cases of enclisis another accent may follow this one immediately in the same word, as *σῶμά μου, οἶός τε*.

rather a pure trochee, = $\overset{\curvearrowright}{\text{f}} \overset{\curvearrowleft}{\text{f}}$); (4) on the last syllable only either when it is known or obscurely felt to be a syllable formed by the contraction of two into one, hence really etymologically composed of rise and fall, as is shown in the sign \wedge (musically represented $\overset{\curvearrowright}{\text{f}}\bullet$ or $\overset{\curvearrowleft}{\text{f}}$), in which cases very early contractions have been retained in the feeling of the language (as, that of $-\acute{\omega}\nu$ from $-\acute{\omega}\nu\nu$, cf. Lat. $-\acute{a}r\acute{u}m$, found even in the Sanscrit), or when, as an inflection-ending, it receives special emphasis (a grave inflection-ending). Here belong, in the noun, in the 1st and 2d Decl., the terminations of the oblique cases of the genitive and dative, in distinction from those of the *casus recti*, which receive the simple grave tone (on which see p. 34, note): 1st Decl. $-\acute{\eta}\varsigma$, $-\acute{\eta}$ - $\acute{\omega}\nu$, $-\acute{\omega}\nu$, $\acute{\alpha}\iota\varsigma$, but $\acute{\eta}$, $\acute{\alpha}$ - $\acute{\alpha}\iota$, $\acute{\alpha}\varsigma$; 2d decl. $-\acute{\omega}\nu$, $-\acute{\phi}$, $-\acute{\omega}\nu$, $-\acute{\omega}\nu$. $\acute{\omega}\iota\varsigma$, but $\acute{\alpha}$, $-\acute{\omega}\iota$, $-\acute{\epsilon}\nu\iota\varsigma$; Attic 2d Decl. $-\acute{\phi}$ $-\acute{\phi}\nu$, $-\acute{\omega}\nu$, $-\acute{\phi}\varsigma$, but $\acute{\omega}\varsigma$. $\acute{\alpha}\nu$, $\acute{\omega}$ $-\acute{\phi}$, $\acute{\omega}\varsigma$ (only the Gen. sing. $\acute{\omega}$ deviates from the rule); contracted forms of the 3d Decl. $-\acute{\omega}\nu\varsigma$, $-\acute{\omega}\iota$, $-\acute{\omega}\nu$, $-\acute{\omega}\nu$, $\acute{\omega}\iota\varsigma$, but $\acute{\omega}$ in the Nom. and Acc. sing. and dual.¹ Here are to be reckoned also some adverbial forms, which strictly, as in all languages, are similar oblique cases; not only those that are commonly counted among this class, in $-\acute{\eta}$, $-\acute{\eta}\varsigma$, $-\acute{\omega}\nu$, $-\acute{\eta}$ for $-\acute{\eta}$, $-\acute{\omega}\iota$ (in names of places, as locative), as $\acute{\epsilon}\xi\acute{\eta}\varsigma$, $\acute{\delta}\mu\acute{\omega}\nu$, $\acute{\epsilon}\nu\acute{\eta}$, but also, as I think, the most common adverbial ending $-\acute{\omega}\varsigma$, when the final syllable is accented (cf. the Sanscrit adverbial endings $-\acute{á}t$ and $-\acute{á}śja$, the former absolute, the latter genitive of words in $-\acute{a}ś = -\acute{a}ś$, from which $-\acute{á}ś$). So in the verb, the grave endings in the simple (shortened) stem of the 2d Aor. Inf. $-\acute{\epsilon}\acute{\iota}\nu$, Subj. pass. $-\acute{\omega}$, $-\acute{\eta}\varsigma$, etc., Imp. middle $-\acute{\omega}\nu$, and also of the so-called 2d Fut. of

¹ These are commonly explained by the rules of contraction, and for the resonant Accusative $\acute{\alpha}$ (instead of $\acute{\alpha}$ from $\acute{\alpha}\acute{\epsilon}$) an arbitrary analogy, i.e. conformity to the Nom., is assumed. But by reference to the above general law of declension the difficulty is solved without doing any violence. The difficult Vocative $\acute{\omega}\iota$, found with the form $\acute{\delta}$ (whose diphthong also in Sanscrit undergoes a gunification, i.e. a diphthongification of the i and u in the Voc. in \acute{e} , $\acute{e} = \acute{a}i$, $\acute{a}u$ ($\acute{e}u$)) has the circumflex probably on account of the diphthong (which, as being compound, is everywhere held to be longer than a simple long syllable, and accordingly can more easily draw the circumflex to itself), as is shown from $\acute{\epsilon}\acute{\iota}\varsigma$ (in an open syllable, made such by the dropping of the final s).

the verbs in λ , μ , ν , ρ : $-\hat{\omega}$, $-\hat{\epsilon}\hat{\iota}\hat{\varsigma}$, etc., $-\hat{\epsilon}\hat{\iota}\hat{\nu}$, $-\hat{\omega}\hat{\nu}$, and of the so-called Attic Fut. $-\hat{\iota}\hat{\omega}$, $-\hat{\iota}\hat{\epsilon}\hat{\iota}\hat{\varsigma}$, etc.; whose strong circumflex endings I would derive, not, with Buttmann, from contraction after the previous rejection of the s in the future, but from the weak or pure stem and an inflection peculiar to itself, and independent of that of the 1st Fut. (as of the 1st Aor.).¹ As to the cases in which this accent stands on monosyllables which seem to be neither contractions nor inflection-endings, the interrogatives $\pi\hat{\omega}\hat{\varsigma}$, $\pi\hat{\omicron}\hat{\iota}$, $\pi\hat{\omicron}\hat{\upsilon}$, etc. are doubtless to be taken as case-endings, like the corresponding adverbial-endings; in other cases, the antithesis — as $\nu\hat{\nu}\nu$ and the enclitic $\nu\nu\nu$ — and other emphasis, or an effort to make up for the smallness of the word by a counter-weight, as $\pi\hat{\iota}\hat{\nu}\rho$, $\mu\hat{\iota}\hat{\nu}\varsigma$, etc., may have led to it. Moreover it cannot but be that in final syllables or monosyllables which have also the downward slide the boundary between the two is often indistinct, and our present means of investigation allow us to come to no determinate result.

¹ The very similarity and close relation to one another of the 1st Aor. and 1st Fut. on the one hand, and the 2d Aor. and 2d Fut. on the other, and on the contrary the total difference of the formations on both sides, clearly shows that we have before us here two different modes of formation of the Pret. and Fut., which go independently alongside of each other. In the Aor. this is already acknowledged; but it is true also of the Fut. The one, 1st Aor. and 1st Fut., is formed by welding on the auxiliary verb *as* (*esse*) in the corresponding forms, as is now evident from the Sanscrit, and repeats itself in almost all languages. The other, 2d Aor. and 2d Fut., however, is formed from the pure stem in its simplest form with strong mode-endings; the former often with a reduplication in front (so in Sanscrit); the latter has no analogy in Sanscrit, but has it in Latin, and is plainly, in strictness, a Subjunctive (like the Lat. Fut. in the 3d and 4th Conj.), which, as is well known, is most closely related to the Future. That those strong endings with the circumflex however, cannot have arisen merely from contraction, is shown by the Inf. of the 2d Aor. act. $-\hat{\epsilon}\hat{\iota}\hat{\nu}$ (Dor. $-\hat{\epsilon}\hat{\iota}$ or $-\hat{\eta}\hat{\nu}$, with $-\hat{\epsilon}\hat{\nu}$, $-\hat{\eta}\hat{\nu}$ in the Pres.), which can be derived from no conceivable contraction, and by the Imp. middle $-\hat{\omicron}\hat{\theta}$, which at least does not conform to the rule of contraction, and points to an $-\hat{\omicron}\hat{\sigma}$, consequently (as in $\hat{\iota}$ of the Imp. act. of many words, in $-\hat{\epsilon}\hat{\sigma}\hat{\theta}\hat{\alpha}\hat{\iota}$ of the Inf. middle, and $-\hat{\omega}\hat{\nu}$, $-\hat{\epsilon}\hat{\iota}\hat{\varsigma}$ of the Part.) can be explained only by an independent tendency of the accent towards the formation-endings, i.e. a tendency lying in the character of the formation. Since, nevertheless, in the case of $-\hat{\epsilon}\hat{\iota}\hat{\nu}$ there are in Ionic corresponding resolved forms, it is obvious how little reliance can be placed on this argument in the other cases.