HARMONY:

CHORDAL & CONTRAPUNTAL.

BY

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PREFACE.

In studying harmony the cultivation of the ear should never lag behind that of the eye. The effects of all progressions and combinations of sounds ought to be carefully analysed, and a practical knowledge acquired of everything that is written.

The steps of scales should be readily picked out; intervals quickly reckoned; the different arrangements of the notes of triads and chords distinguished; the progression of parts traced; and the tendencies of leading notes, and of all unrestful sounds, ascertained.

It will be well, before considering the more extended capacities of instruments, to become familiar with that central range of musical vibration, of greatest sonority and richness of tone, which lies within the ordinary compass of human voices; and to which all higher and lower sounds may be considered accessory, as merely adding either brightness or gravity of effect. As, in the study of contrapuntal harmony, the motion of the parts becomes accelerated, and the range widened, the examples will grow more instrumental in character.

MANCHESTER, HENRY HILES.

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HARMONY: CHORDAL & CONTRAPUNTAL.

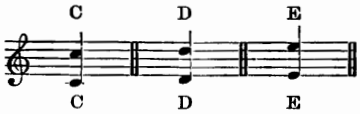
1. Sound is the result of vibration affecting the brain through the sensitive nerves of the ear. The analysis of the composite nature of sound, and the explanation of its different qualities and peculiarities, belong to the science of Acoustics; and do not fall within the scope of this work.

2. But it may be, briefly, stated that noise becomes harmonious, or musical, when the vibrations which cause it, following one another too rapidly to be received as so many separate impulses, produce a sustained sound, and by their regularity maintain a clearly defined note of unwavering pitch.

3. By the same law of consonant agreement, two sounds of different pitch combine smoothly in proportion as their respective vibrations run together in simple ratio: as two to one ($\frac{2}{1}$), three to two ($\frac{3}{2}$), four to three ($\frac{4}{3}$), five to four ($\frac{5}{4}$), or six to five ($\frac{6}{5}$). (*See also pars. 14 and 15.*) The more rapid vibrations give rise to the higher sound.

4. Sound caused by vibrations in the simplest of these ratios—$\frac{2}{1}$—are so completely consonant as sometimes to appear almost to amalgamate, and to be indistinguishable as different notes. The more rapid impulses yield brightness, the slower vibrations give depth and solidity; and the combination seems to be the strengthening of one note, rather than the union of two sounds of essentially different pitch.

5. Such sounds are appropriately called by one letter-name :



and they may be likened to two parallel stages, or floors, of a building of several stories; between which communication is effected by means of a staircase: the top step bringing us to a firm landing-place forming, at once, a position of rest and a good starting point from whence a farther ascent may be commenced should we desire to continue an upward progress. The steps of each series are counted as they *rise* between floor and floor.

6. The steps of an actual staircase should, of course, be of uniform depth; but those of a staircase, or scale, of sounds may be very variously arranged.

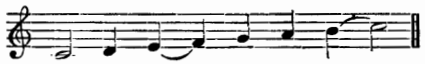
7. Before the adoption of the accurately measured chromatic scale (*par. 111*) with its regular semitonic steps, many experiments were tried, until a series of seven differently named sounds was selected; the eighth (or octave) being the duplicating consonance ($\frac{2}{1}$) of the first, and completing a distinct stage of ascent: but the exact positions of the intermediate steps were not settled until comparatively recent times, when the diatonic scale was established in the two forms—distinguished as Major and Minor—in which it is now used.

8. It is convenient to start from C, as the note or tonic (principal tone) from which to measure the steps of a model scale; because in the simpler, or major, form of its diatonic series, all the notes are distinguished by their letter-names, without inflection or modification by sharp or flat. Moreover,

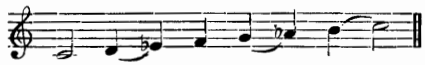
when we start from C, the white keys of a piano or organ give us, in regular order, the notes of the major mode of its scale.

9. Any C would do: for the octave sections, or different stages of ascent from one C to the next (so far as respects the arranging, numbering, and naming of the sounds) exactly correspond. As we rise from floor to floor—that is from one C to another—the steps in each staircase stand to each other in the same relative positions.

10. Middle C, however, may be considered a central musical sound of great sonority and distinctness. Its importance is marked by its position on the eleven-lined stave, which includes the whole range of ordinary vocal, or strong, sounds; and by the fact that, when we select from that stave the two portions which are used for piano, organ, or harp music, the line for middle C has to be specially drawn whenever we want to depict that sound. In the major mode, or form, of a diatonic scale most of the intervals between adjoining sounds are called "tones:" but those separating the third from the fourth, and the seventh from the eighth, are "semitones." In the following examples the semitones are marked by slurs.



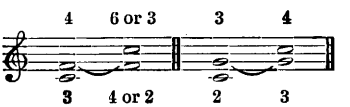
11. The minor mode of a diatonic scale differs from the major in that, its third and sixth sounds being each a semitone lower, there are in it three of the smaller intervals, and one step of an augmented tone = a tone and a half.



Students should learn to recognise, and to be able to single out, any sound of either form of a scale the tonic of which has been played or sung.

12. In reckoning the distance between any two sounds both notes are counted. Thus, when we commence with C, D is our second step, E is the third, F the fourth, &c., and the intervals are respectively called a *second*, a *third*, or a *fourth*. Intervals may be counted not only from the tonic but between any two notes.

13. The inversion of an interval is the remaining portion of an octave from which that interval has been abstracted. Thus, F is a fourth above C, but it is the fifth step downward from the next higher C; and the two intervals—the fourth and the fifth—added together complete the octave.

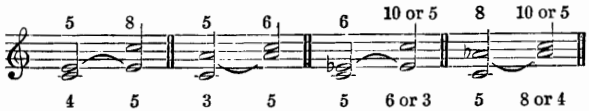


The figures show the ratios of vibration (*par. 3*) in a given time.

14. These sounds, the fourth and fifth of the series, are so consonant with the first of the eight, that in all diatonic scales they remain unchanged. They are called the "perfect" consonances of the tonic; although the *perfection* of the agreement does not approach the almost absolute coalescence of octave sounds (*par. 4*). The consonance of a perfect fifth—ratio of vibrations $\frac{3}{2}$—is slightly better than that of a perfect fourth ($\frac{4}{3}$): but the inversion of an interval always produces an effect somewhat resembling that of the uninverted combination in smoothness or in dissonance: therefore, when two sounds agree all their octaves will accord almost equally well.

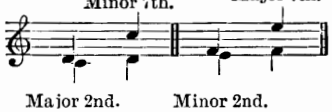
15. The positions of the third and sixth steps of the diatonic scale are variable (*par. 11*). In both their major and

their minor measurement they are imperfectly consonant with the tonic: that is, they do not combine like two sounds a perfect fifth or fourth apart; and not nearly so well as octave sounds. Still there is no dissonance, or lack of smoothness. The combination has the effect of two well-accorded, although entirely and very clearly distinct, notes. The inversion of a major third is a minor sixth; and that of a minor third is a major sixth.



The mode (major or minor) of a scale is named according to the distances of its imperfect consonances, as measured *upward* from the tonic.

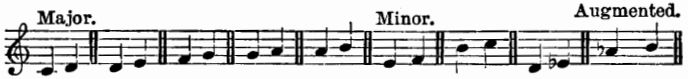
16. Adjoining scale sounds are always dissonant: and all their inversions partake of their restless character.



17. In the following table of the intervals found between sounds of the major and minor modes of a diatonic scale (*pars. 10 and 11*), the perfect consonances are noted by semibreves, the imperfect by minims, and the dissonances by crotchets. Intervals wider than perfect or major are said to be augmented; those narrower than perfect are called diminished (or imperfect); those a semitone less than minor are, also, classified as diminished. Beyond an eighth or octave, intervals are similarly numbered—as ninths, tenths, &c. But, practically,

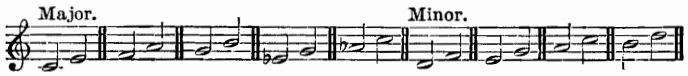
a ninth is, in many respects, the substitute for a second; and a tenth is but the representative of a third.

SECONDS.

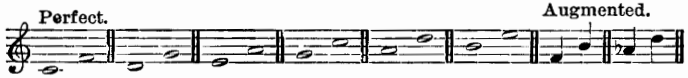


The sounds A flat (or G sharp) and B are not discordant in themselves; but only through scale influence.

THIRDS.

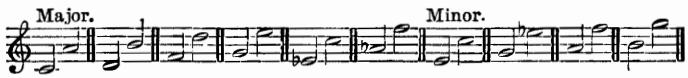


FOURTHS.

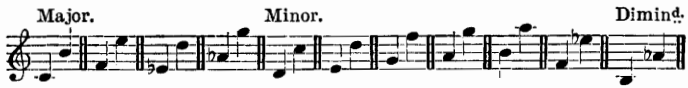


FIFTHS.

SIXTHS.



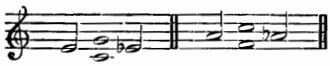
SEVENTHS.



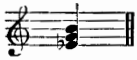
Students should make themselves familiar with intervals; and should, without hesitation, be able to describe them; whether the sounds are played simultaneously or successively.

18. Just as between octave sounds a note may be interposed "perfectly" consonant with them both (*par. 13*), so the next best consonant interval—a perfect fifth—may be split into two

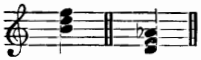
unequal portions by an intermediate sound imperfectly consonant with both the outer notes.



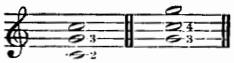
19. Perhaps the quickest method of analysing a perfect fifth is by noticing that one of the included thirds is major and the other minor. Two major thirds make an augmented fifth:



and two minor thirds amount only to a diminished, or an imperfect, fifth.



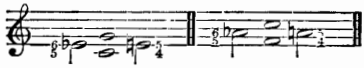
20. When an octave is divided by an intermediate sound "perfectly" consonant with both extremes the combination seems to rest more firmly upon its base if the better interval ($\frac{3}{2}$) is below its inversion ($\frac{4}{3}$).



21. And in a consonant triad of three differently named notes the agreement is more complete in proportion to the simplicity of the ratio of vibration of the intermediate sound with the base, or ground-tone.

22. A triad is classed as *major* or *minor*, according to the distance of the middle note from the ground-tone. A major triad is bright and cheerful: and when, after a long use of minor

triads, the third is raised the effect is as though an oppressive weight had been lifted off (*par. 100*).

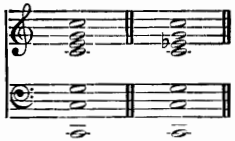


The distance between two sounds half a tone apart, *called by the same letter-name*, is known as a *chromatic* semitone (*par. 111, &c.*); to distinguish it from the semitones found in the diatonic scale, between sounds to which different letter-names are given.

23. Consonant triads form the chief material of music; and are, therefore, called "common chords."

Students must not only write major and minor triads until they become quite familiar with them, but should learn to distinguish their mode when they are played or sung; and be able to pick out any one of their three sounds.

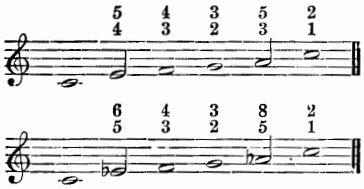
24. Octave sounds being distinctively duplicatory (*pars. 4 and 14*), any note of a triad may be thus strengthened without creating a dissonance. Only consonant intervals would be formed.



But, in order to preserve a due balance of the three sounds of a triad, the ground-tone and fifth should be doubled rather than the third; which, although essential to the character of the chord, is already slightly prominent (*par. 15*).

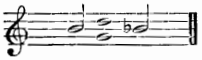
25. If, instead of grouping all these sounds in a three-fold chord, we measure all the consonant ratios directly from one note —say from C—we obtain the following series of steps; and the

sequence of sounds forms a kind of skeleton framework of a scale of notes closely related to the ground-tone.



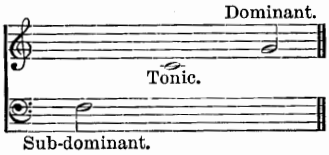
And thus we derive all the sounds of both forms of the two triads of paragraph 22.

26. But the gaps in these staircases are filled up, not by sounds consonant with the ground-tone, but to complete a three-fold chord upon the firm fifth of the ascending scale, resembling that upon the fourth, and that upon the tonic itself.



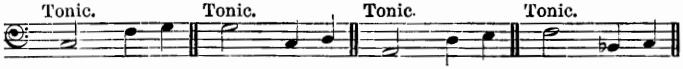
27. Thus, the whole diatonic, or seven-note, scale is formed by the unfolded triads of three most closely related sounds;—a central note, and the perfect fifths above and below it; known as the *tonic* with its *sub-dominant* (or under-dominant), and its *dominant* (or super-dominant). These three notes are, therefore, the foundations, or fundamental bases, of the scale.

28. The central line, upon which middle C could be written, being omitted from the staves used for organ, piano or harp music, the importance of the two dominants—so perfectly measured from their tonic—is shown by our use of the F and G clefs, which clearly mark their places.



29. Thus, the tonic of a scale is—like the Greek *Mese*—the central sound of a system; and is supported on either side by its firmest consonances not absolutely duplicatory. The name given to the fifth below (*sub*-dominant) clearly points to its position, and explains its derivation. But, as octave sounds are so closely akin (*par. 9*), practically the fourth above the tonic represents the fifth below. When we speak of C as the tonic we do not mean some particular note of that name, but *any* C: so that *any* F is its sub-dominant, and *any* G the dominant.

30. It would be exceedingly inconvenient (especially to a singer) to have to go down a fifth for the base of the sub-dominant triad, and then to spring up more than an octave (a 9th) from that sound for the fundamental note of the dominant chord. In few voices are both these wide apart sounds equally strong and effective. Therefore the sub-dominant and the dominant are generally used as adjoining notes: they may, properly, be spoken of as the fourth and fifth steps of the diatonic scale; and should be chosen from the really effective sounds of the voice to which they are assigned; the two dominants being placed above, or below, the tonic as may be more convenient.

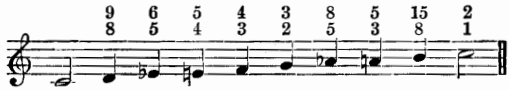


The two dominants are not mutually consonant: but the tonic, with which both agree, forms their bond of union and reconciliation. The third of a diatonic scale is called the *mediant*, or the middle note of the tonic triad; and the sixth of the scale is termed the *sub-mediant*, or the intermediate note of the triad based upon the sub-dominant.

31. The second sound of a diatonic scale is called the *supertonic;* and the major seventh is the *leading note*. Both are

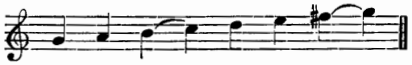
dissonant with the tonic: consequently, the triad of the dominant has an effect in determining the key quite different from that of the sub-dominant, which is entirely composed of sounds more or less consonant with the tonic (*par. 60*).

32. The following figures show the proportionate vibrations, in any given time, of the different sounds of the complete diatonic scale in both its modes or shapes.

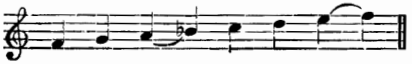


33. We will, now, devote our attention to the major, or brighter, mode of the diatonic scale; in which each sound is measured upward from the tonic by either a perfect, or a major, interval (*par. 15*). In the major mode of the scale of C the sounds are distinguished by simple letter-names, without inflection. But, when we measure from any other note we require, in order to bring the two semitonic steps between the third and fourth, and between the seventh and eighth sounds, to raise, or to depress, at least one of the notes.

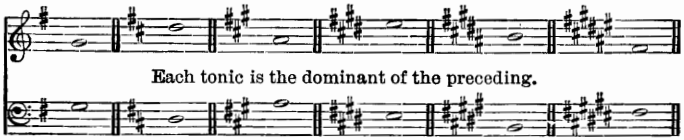
34. The smallest alterations are needed in forming the scales of the dominants. In the scale of G the first semitonic step naturally comes right; but the seventh sound requires to be raised half a tone, in order to make it a leading note to the eighth.

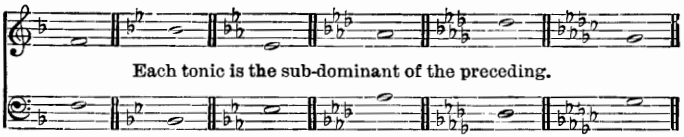


35. Starting from F the seventh degree is, naturally, in the right position; but the fourth needs to be flattened a semitone, so as to bring it to the proper distance above the third.

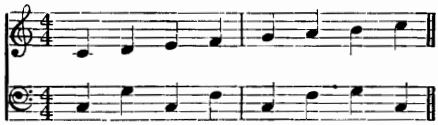


36. In order to avoid the necessity for the constant use of accidentals a sign, or signature, of the key is placed at the beginning of any movement; and, usually, at the commencement of each stave. In this signature the sharps, or flats, are always placed in regular order. The last sharp invariably applies to the leading-note; and the last flat to the fourth, or sub-dominant. The semibreves mark the key-notes of the scales.





37. As a diatonic scale is, really, the unfolding of three closely related triads a musician never conceives a melody without a thought of its derivation. He invariably associates the sounds of his theme with the base-notes upon which they consonantly rest (*par. 27*). It is important that students should acquire this habit.



38. Just as the eye becomes perplexed by a stave of too many lines so it is puzzled by sequences of detached notes of like form. It is not quite easy to read music quickly, and with

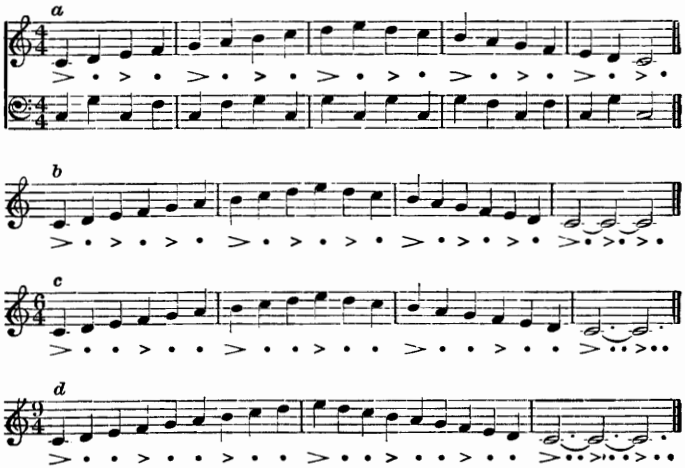
certainty, when it is written on a stave of more than five lines; or without some mode of grouping notes, as quavers may be linked together by uniting the dashes appended to the ends of their stems.

39. So soon as musical sounds are brought into association a rhythmic measurement of them ensues; which is only the wider grip of that rule of consonance whereby, first, they are raised above mere confused noises (*par. 2*), and then brought into smooth relationship (*par. 3*) one with another. The same law of proportion expands its action, and forms distinct and firm steps; whereby a regular march is kept up, even in a succession of single sounds of different pitch; but which grows far more emphatic when such a melody is placed over its proper bases, and the swing is enhanced by the consonance of the two parts.

40. But, from the counting of the individual steps or pulses, the mind relieves itself by clustering them in twos or threes; and by noting the initiatory footfall, or throb, of each group: and even to the emphasised pulses it does not attach an equal importance; but subjects them, in turn, to a like duple, or triple association.

41. To facilitate the reading of music, and to show clearly the accentuation upon which its character so largely depends, lines are drawn perpendicularly across the stave, dividing it into sections. Between any two of these barrier-lines one whole rhythmic pattern is completed, showing the duple or triple grouping both of the accents and of their subordinate pulses. The first pulse in each bar, or measure, bears the greatest accent of that section: all the after throbs, whether slightly accented or not, may be said to lie under its shadow.

42. The following examples show, more readily than any explanation, the different patterns of musical accentuation:



At *a* the music has a duple grouping, both of the simple pulses and of the accents. Such a pattern produces a more dignified and equable effect than any other; and its long continuance is less wearisome than persistence in any triple grouping. It is called "common time." The figures $\frac{4}{4}$, placed at the beginning, point out that each bar contains the value of one semibreve; and that the individual pulses, or beats, are denoted by crotchets; each of which represents the fourth part of a semibreve. Rhythmic signatures are placed at the beginning, and at any change, of a movement, directly after the scale signature; and describe, as fractional parts of a semibreve, the contents of a bar, or complete rhythmic pattern.

43. At *b* there are three accents in each measure: but each of the three sections is made up of two pulses only; so that

there is a duple, within a triple, grouping. Unfortunately, there is no recognised signature which truly describes this pattern: for the figures $\frac{6}{4}$ are understood to signify a rhythmic structure as at *c*; where there is a triple grouping of the pulses within a duple association of accents. $\frac{3}{2}$ would not accurately describe the rhythm; because the pulses are, really, marked in crotchets, and not by minims.

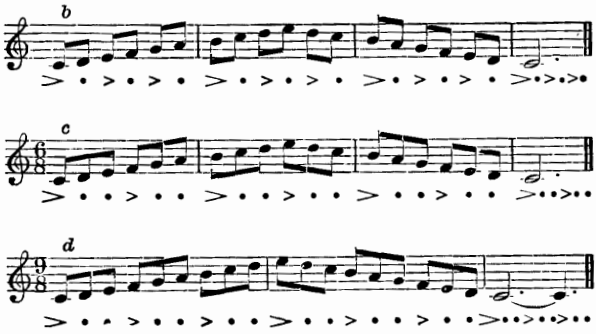
44. At *d* the rhythmic pattern is, in each respect, of triple formation; having three pulses grouped under the influence of each of the three accents: and the figures $\frac{9}{4}$ truly describe it, except when the movement is so rapid that the mind refuses to receive each crotchet as a distinct pulse-note.

45. But the usual modes of writing these rhythmic patterns require explanation. Before the invention of our present method of notation characters, now obsolete, called *larges*, *longs*, *breves*, and *semibreves*, were used. They gave place to others which could be more quickly written, and with relative values more easily determined; and, successively, semibreves, minims, crotchets, and even quavers, have been adopted to mark the pulsation. In many hymn-tune books white notes (long ago out of date in secular music as pulsational characters) are still used; and "common time" is written either with four minim-pulses, equivalent to one breve in each bar, or with divided measures which are said to be "*a la breve*," or constructed in accordance with the requirements of breve-notation, although in the complete pattern two bars are included. As a duple rhythm was, in early times, signed by an incomplete circle, C, to distinguish it from the triple rhythm which was marked by a complete circle O, (or, sometimes, by the figure 3), the divided measures were truly described by the broken circle (which really meant a breve) being impaled upon a bar-line, ₵;

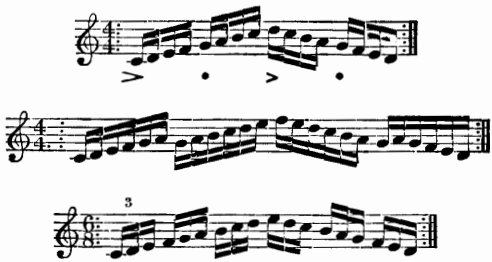
signifying that half of the breve value was in one bar, and the remainder in the next. Similarly it was customary, when a sound of semibreve length began on the last pulse of a measure and was continued through the first pulse of the following bar, instead of writing two minims and binding them together, as we should,  , to impale the semibreve on the bar-line,  .

46. All rhythmic patterns are now signed by figures, which refer to a semibreve. "Common time" is, usually, depicted by four crotchets in a bar; and marked $\frac{4}{4}$: and, as all divisions of a crotchet pulse (quavers, semiquavers, &c.) may be so grouped as clearly to show their connection, no sufficient reason exists for the division, or for any change in the notation, of measures of only four beats.

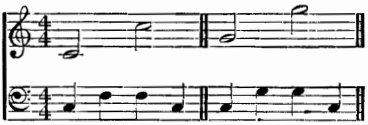
47. But, in bars of more than four pulses, crotchets—necessarily detached notes—are inconvenient: and a confusion has arisen similar to that caused by the division of measures of four minims. They are often split into semi-measures of $\frac{3}{4}$. A far preferable plan is to adopt quavers as the pulse-notes, and so to group them as to show their accentuation. The examples *b*, *c*, and *d* given in paragraph 42, become much clearer when written thus:



48. But the rhythmic signatures to *c* and *d* in paragraph 47 are correct only when the examples are played or sung so slowly as to allow the mind to fasten upon each note, as forming a distinct step in the onward march of the movement. If played or sung quickly we pass lightly over the individual notes, and regard the dotted crotchets as the true pulsational characters; just as, when counting aloud, we should be tempted to relieve the voice from an inconveniently rapid utterance; and, instead of six or nine, to count only two or three in each measure. In such cases the following notation, and modes of barring, would be clearer:



49. Returning now to the three triads, and the formation of the major mode of the diatonic scale (*par. 37*), we notice that two sounds of the scale belong to two of the triads:

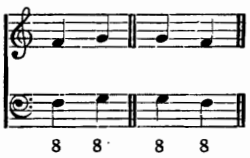


so that, occasionally, there may be a choice of base-notes to the first, or to the fifth, degree.

50. But, as the whole drift of music is to confirm the rule of the tonic, only that note will, as the *last* base-note, serve to

give the effect of completeness and conclusion to any sequence of triads. And, by commencing with the tonic base, a firmer start is made than is possible from any other sound; and a recognition more quickly gained of its importance.

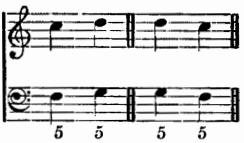
51. There is also a gain in selecting the tonic as the ground-tone for the fifth of the scale, inasmuch as the two sounds are not distinctly duplicatory. Moreover, in supporting the sounds of a regularly ascending, or descending, scale by their ground-tones, the sub-dominant *must* be used for the fourth degree; and, were the fifth based upon the dominant, the same progression would be made by both parts:



whereas, the two voices—although sometimes they may combine upon sounds of one letter-name—should always *move* differently.

52. The consecutive use of octave sounds is, of course, not disagreeable. On the contrary, octave sounds are so absolutely consonant and confirmatory that they may be used to strengthen any melody, or part, which it is desirable to make prominent. A woman and a man vocalizing a tune, naturally, and involuntarily, sing it in octaves; and in orchestral works many instruments thus move. But when we add to a melody another part, generally differing in movement, such a strengthening of one progression is faulty; apart from the fact that it breaks the rule, and fails to fulfil its declared purpose.

53. Consecutive fifths



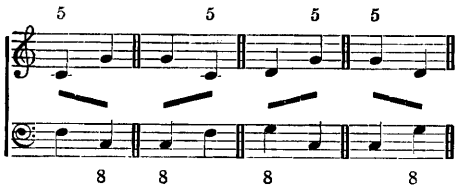
are objectionable for a different, and a much stronger, reason. The progression is positively ugly, except when there is the strongest possible connection between the triads to which the sounds belong.

54. Entire smoothness of chord consecution is not obtained except when adjoining harmonies have some common sound, serving as a connecting link. Not only is complete consonance desirable in sounds used simultaneously, but they follow one another agreeably in proportion to the simplicity of the ratios of their vibrations. The voice of a singer is more easily steadied upon a new sound in proportion to the completeness of its consonance with the preceding note. And when all the sounds are changed—no constituent of one triad belonging to the next—the effect is always abrupt and jerky.

55. This want of relationship is shown most strikingly and disagreeably by such parallel motion of the different parts, or of any of them, as presents two badly selected triads *in similar form.*

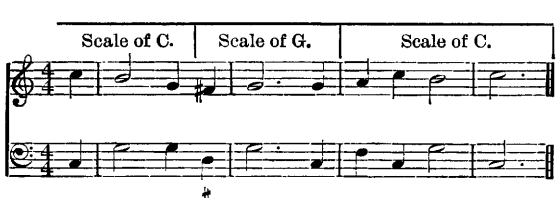
56. Consecutive fifths—because of the strengthening effect of two perfectly consonant, but essentially different, sounds—exhibit, more than any other parallelism of part-motion, the want of connection between adjoining chords. The only bond between triads which could entirely justify such fifths is that the ground-tone, or true base, of one chord should be the fifth

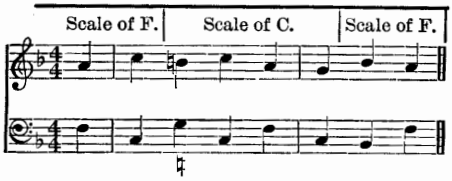
of the adjoining. Even then it is advisable to avoid the simultaneous skipping in the same direction of the parts, and to make them move contrarily.



57. We are now ready to take melodies—preferably of sedate, pulsational, hymn-tune character—strictly confined within one major scale; and to place under each note the ground-tone of the triad to which it belongs.

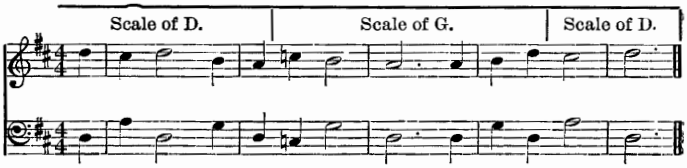
58. Or, should a diversion be made into the scale of the dominant—as is frequent—the fundamental notes of that scale must be used from the first sign of transition until a return be made to the original key. Thus, in a melody for the most part in the scale of C, F sharp may lead to the key of G, and require its dominant (D) as the base-note. The F sharp is almost sure to be followed by G, and what is called a "perfect cadence," or close, in the new key should be made; the dominant triad being succeeded by that of the tonic: after which, unless the F sharp be repeated, a return to the scale of C may be made immediately.

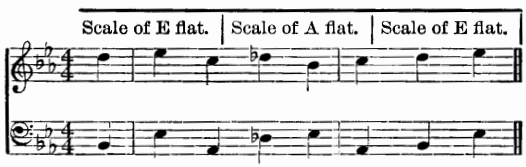




Music does not always start from an accented pulse, any more than a literary sentence with an important word. Frequently the emphasised pulse gains force and meaning through being led to, as above. In short compositions it is customary in such a case to omit, from the last measure, just so many pulses as are used in the prefatory bar; so that, should the passage be repeated, no pause, or gap, need be made. In what is called a "figured bass" all accidentals applied to any sounds in the upper parts (except to an octave of the base-note) are described. A sharp or flat is so much more frequently applied to the third than to the fifth of a triad, that when an accidental, without any figure, is placed under the bass-part it is understood to apply to the third above it.

59. A change in the opposite direction may be—but much less frequently is—made: and the fundamental notes of the scale of what was originally the sub-dominant, may be required:



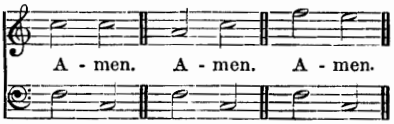


60. When the final triad of the tonic is immediately preceded by that of the dominant the close or "cadence," is said

to be "perfect." If the penultimate chord be that of the sub-dominant the cadence is called "plagal."

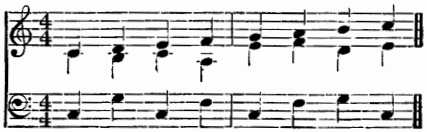
The first example to par. 58 ends with a perfect, and the second with a plagal, cadence. When, as is usual, a hymn-tune concludes with a perfect cadence in order to avoid the repetition of the dominant and tonic triads the "Amen"—which it is now customary to append to the last verse—is generally sung to a plagal cadence.

DIFFERENT FORMS OF THE PLAGAL CADENCE OF THE KEY OF C.



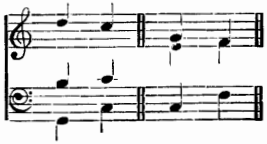
61. The compass of the Soprano (sovereign) and the Bass voices is shown by the five lines selected from the eleven-lined stave, as including the good sounds of the particular voice for which the part is intended. Leger, or additional, lines, should not be used; and even the notes which lie immediately outside the stave should seldom be written in choral music.

62. Like the notes of the melody itself, whatever interior sounds may be added must belong to the triad of the true base. The greater warmth and richness of the less consonant third of a triad should lead to its inclusion; rather than to that of the bare, cold consonance of a fifth. Frequently the ground-tone and the melody-note form an octave. When that is the case the third of the triad should be added. At other times the upper part has the fifth of the triad; and then there is still greater need of the intermediate third:



63. But even with three parts the third of a triad must sometimes be omitted. The force of the law of consonance is shown imperatively by the feeling of suspense and unrest caused by any temporary breach of it. The specially dissonant sound of a scale is its major seventh (*par. 26*). To it belongs peculiarly the character of a *leading*-note; that is, of a sound distinctly pointing to the semitone above it. Hence the almost unbroken custom among modern musicians, whenever a dominant triad is followed by that of its tonic, of allowing the voice having the third of the former chord to follow its natural bent; and to glide easily, by semitonic step, into its place in the next harmony.

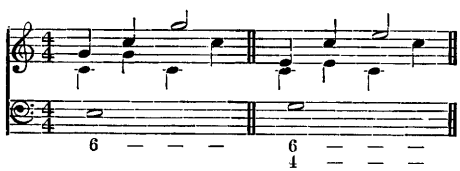
64. The third of a major scale, being a semitone below one of the chief consonances of the tonic, also has something of that leading tendency; with which it would be more strongly embued were a modulation to the scale of the sub-dominant ever so slightly suggested. With the key of C firmly established, whenever the tonic triad is followed by that of F the bias of the mediant is to the semitone above it; an inclination precisely like that which it has in a much stronger degree when, in the key of F, it becomes the strong leading-note. Thus, three parts will often combine upon notes of one name:



How may this be avoided?

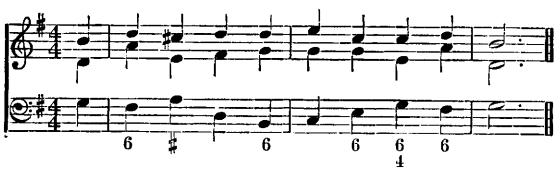
65. The consonance of a triad—though rendered less firm and sonorous—is not destroyed by any new arrangement of its three notes. The reference of all sounds to the true ground-tone is still clear even when, in the *lowest* part, either the third

or the fifth is substituted for that firmest note. We thus have to distinguish between the base, or ground-tone, of a triad and the note (not always the same) which is sung by the *bass* voice. When the deepest sound is the third of the triad the chord is said to be in its "first inversion," or in its "second position." When the fifth is in its lowest part the triad is in its "second inversion," or its "third position." In speaking of inversions of triads reference is made only to the sound (either third or fifth) in the lowest part; and not to the arrangement of the higher voices.



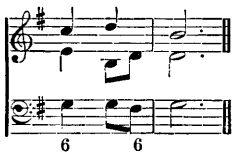
When the third of a triad is used in the lowest part, there is a greater objection than usual to its being doubled.

The figures refer to the distances of the upper voices from the bass-part. Students should familiarise themselves with the effect—as well as with the look—of the different positions of triads.

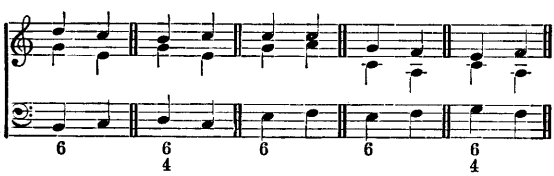


Although the last note but one in the above melody could be based upon G, and a connection established with the preceding triad, the unconnected chords of C and D are used in order that the accented chord, marking the beginning of the following measure, should be a new harmony. New triads should mark the accented, rather than the unaccented, pulses. The best method whereby the incongruity of unconnected triads

may be obscured is to make the outer voices move in opposite directions, and each a single scale-step. But, by the use of quavers in the under parts, the concluding triads may easily be connected.

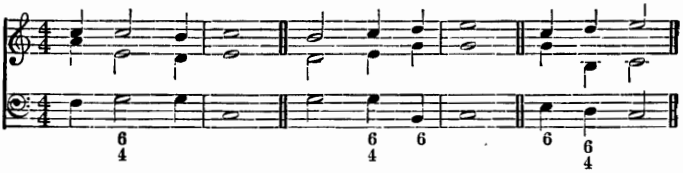


66. But, as the strength and the carrying power of a triad are somewhat reduced, an inversion should be used only with some distinct purpose. Such a reason may be the reduction of the great skipping of any, and especially of the lowest, part ; or the relief of the monotony of an oft repeated base-note ; or the securing of fuller chords. An inversion of the dominant triad frequently facilitates the inclusion of the third of the succeeding tonic chord ; and an inversion of the tonic triad (*par. 64*) may lead to a more complete form of the following sub-dominant chord.



67. In the second inversion of a triad the sounds amalgamate better than in the first; and the effect has more of the full resonance of the natural form of the triad. But the approach to a second inversion may be attended by some danger of faulty progression. At present we will use it only when the outer parts may reach it by contrary, or by what is called

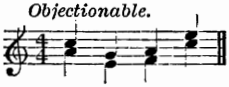
"oblique," motion;—that is when one of the extreme parts is stationary.



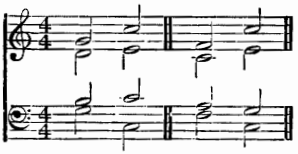
68. Four-part harmony is peculiarly satisfactory; and is far more generally used than three-part. It allows the completion of most of the triads: and, in the necessary doubling of one or more of their three sounds, only the duplication of the third need be shunned. Either of the perfectly consonant sounds—fifth or eighth—may be doubled, or tripled, if necessary; but one third is sufficient to give character to the combination. In the first inversion of a triad the third, having the powerful vibrations of the lowest voice (*par. 65*), stands out more prominently than when used in a higher part; and the objection to its duplication is increased. The third of any triad standing in dominant relation to the following chord should never be doubled; at any rate toward its close. The four voices ought, as nearly as possible, to be separated by like intervals. When this is not practicable the smaller intervals should be between the higher parts. But frequently, in order to promote smoothness of progression in each part and to avoid skips, these suggestions may be disregarded; and two voices may, even, be combined unisonously.

69. Generally, it is well not to allow high voices to jump to a deeper sound than was, in the previous triad, sung by a lower voice; or a deep voice to leap to a note above that just taken in a higher part.

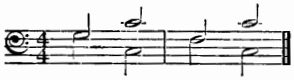
Objectionable.



Occasionally, but very rarely, in order to strengthen the progression between the fundamental triads, the outer parts are suffered to skip in contrary directions from the dominant, or the sub-dominant, to the tonic.



But (except between the outer parts) only between the two lowest of seven or eight voices are such progressions usual.



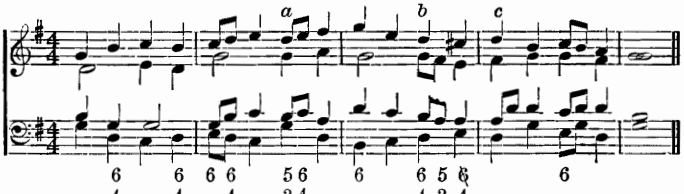
70. Although voices greatly vary in compass and quality they may, for choral purposes, be roughly classified in four groups. The range of the higher, or Soprano, voice of women being shown by the five selected lines of the treble stave, that of the higher male, or Tenor, voice may be considered to be just an octave below; except that it has somewhat less pliancy and upward freedom. And the compass of the lower voice of women (the Contralto) is about an octave higher than that of the lower male (Bass) voice. In each kind of voice the two, or three, lowest possible sounds are weak and ineffective; and should be avoided when much force is desired. And seldom is there occasion for any of the higher voices to extend their downward range among sounds which those of lower compass may easily, and more powerfully, produce.

71. In church choirs, frequently, three parts are assigned to men; the highest (Alto) being sung by the falsetto tones obtainable by a singer whose natural, or so-called "chest," voice

is of low range, but not of agreeable quality, or of great power. In choirs of both sexes the part is taken by women having low voices; who, singing with the *Alti*, are called *Contralti*. The contralto tone is richer, and less piercing, than that of the male Alto; and the upward range of the voice is more extended.

72. In three-part writing the wide leaps of the under parts were greatly reduced (*par. 65*) by the occasional use of inverted triads: but, still, the necessity to include the third frequently involved considerable motion. In four-part harmony the skipping of the parts is materially lessened: the third of a triad always being within the easy reach of one of the voices. Indeed, occasionally, the inner parts become monotonous in plain chordal harmony.

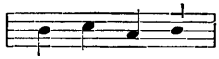
73. When four parts are written in the compressed score of two staves (two on each stave), they may, easily, be distinguished by the turning upward of the stems of the notes of the soprano and tenor parts; and downward those of the contralto and bass voices.



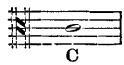
At (*a*) the figures imply that the triad of G is followed by that of C; and, as the bass-note is not re-written, this alteration of the harmony used above it should be marked. At (*b*) the triad is changed from that of G to that of D, in order to link together the consecutive chords. At (*c*) the tenor part has two quavers, in order to avoid a consecution of fifths even in such well-connected triads as those of D and G (*par. 56*), by the simultaneous upward-skipping of the bass and tenor. Such a mode of avoidance would not count for much in the outer parts. A line through a figure denotes the accidental sharpening of the sound.

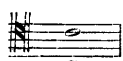
74. But it is advisable that students should, as early as possible, learn to write in open score, with a separate

stave for each voice-part; the stem of a note being turned up when the head is below the middle line; and down when it is above the centre of the stave.

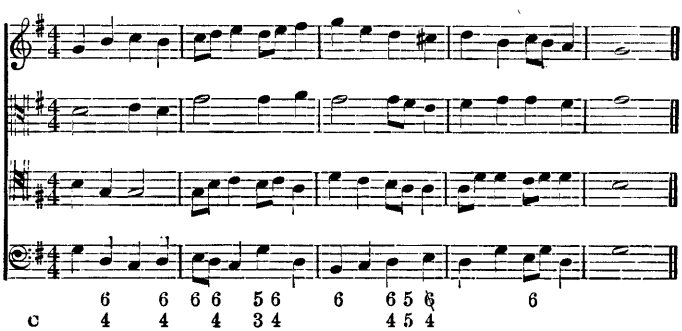


Of notes on the middle line the stems may be turned up, or down, to correspond with those of their next neighbours; and especially with those of notes in the same section of a bar. The white space between the staves should be kept as clear as possible; the stems of the notes not intruding upon it. Each voice has its own special group of five lines, chosen from the great eleven-lined stave: the particular lines selected for the middle voices being distinguished by the placing of the middle

C clef on the third line  for the alto voice; and

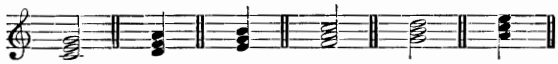
on the fourth line  for the tenor. Sometimes, in

Germany, the C clef, placed on the lowest line, is used for the soprano part: but such a custom has long (and wisely) been abolished in England. By displaying in open score the example in par. 73, the progression of each voice-part is more clearly shown, and any defective movement may, easily, be detected.



75. In addition to the three fundamental major triads, the scale affords three minor chords of slightly duller and heavier, but still of consonant, character (*par. 22*). The third of a minor triad stands out a little more prominently than does the middle sound of a major chord; and, therefore, still less needs to be strengthened. But, as it never is a *leading*-note, its duplication is not absolutely forbidden (*par. 68*).

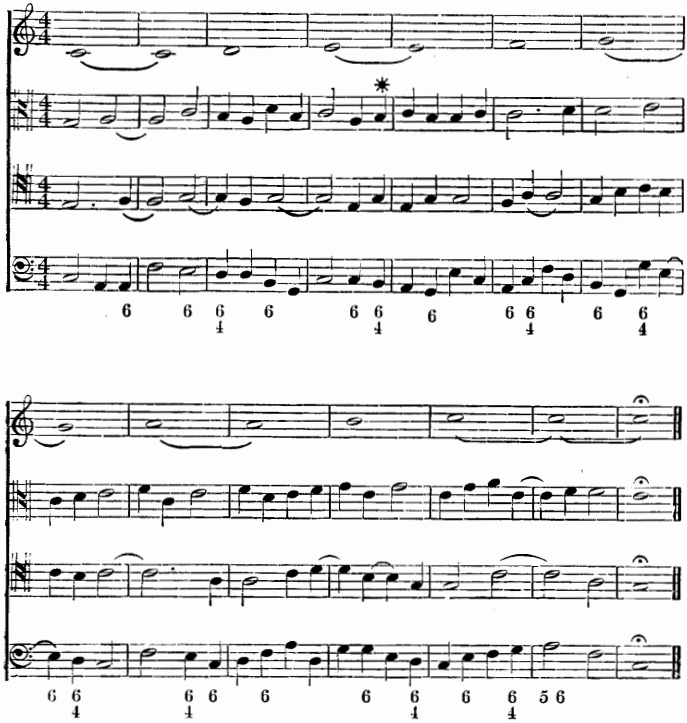
76. The three minor may be called *secondary* (as distinct from *fundamental*) triads: or they may be termed *diatonic* triads, because wholly composed of sounds belonging to the diatonic scale.



The scale does not supply a perfect fifth to the leading-note.

77. By the use of these six triads greater variety of harmony is obtained; the skipping of the individual parts is considerably reduced; and, what is of very great consequence, a more frequent linking together of adjoining chords may be secured. Thus, the sixth of the scale no longer needs to be harmonized as the third of the sub-dominant. It belongs, also, to the super-tonic minor triad: and, as that base is the fifth of the dominant, the two chords are smoothly connected.

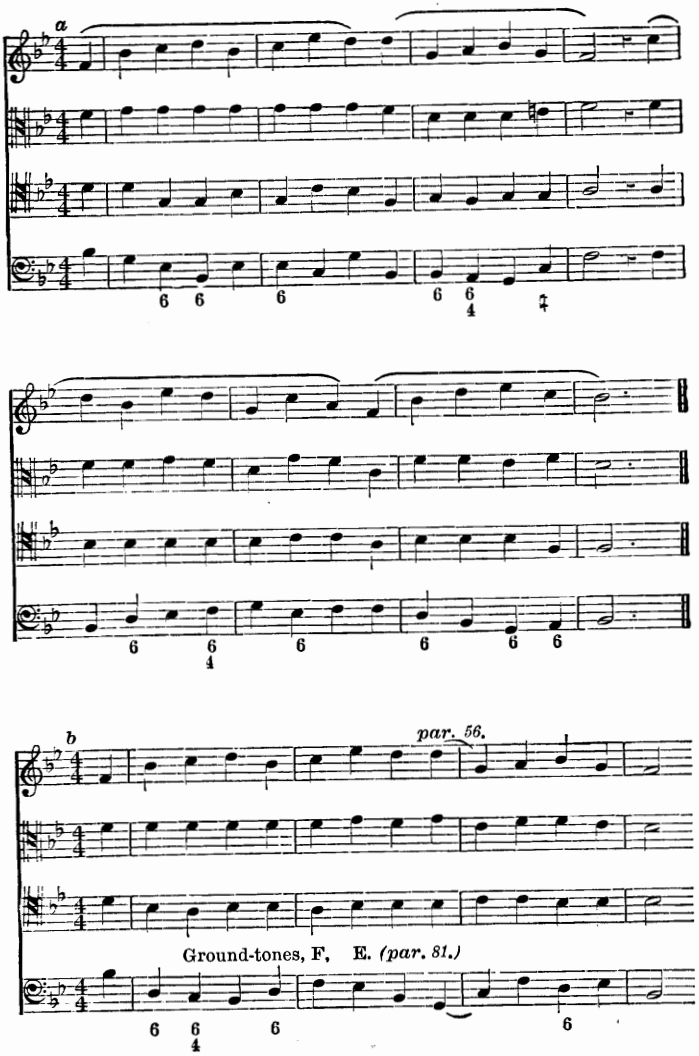
78. So long as we confined ourselves to the use of the three fundamental triads only to two sounds—the fifth and the eighth of the scale—was there a choice of base-notes (*par. 49*). But now, every sound of the scale belongs to, at least, two different triads: so that we have a considerable choice of harmonies, without including the variety obtainable from the inversions of those chords.

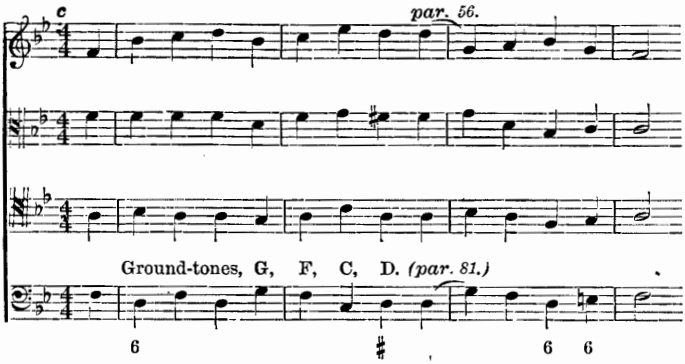


79. Students are advised to harmonise themes two or three times, with as much variety in the different versions as possible; but, always, with adjoining triads well linked together, or with the outer parts proceeding by contrary motion. Every setting of a theme should conclude with the two chords constituting either a perfect, or a plagal, cadence. The following settings of the hymn-tune to which the name "St. James" is given may serve as examples.

* The doubling of the seventh of the scale, when it is used as the fifth of a triad on the mediant, is not objectionable.

"ST. JAMES."

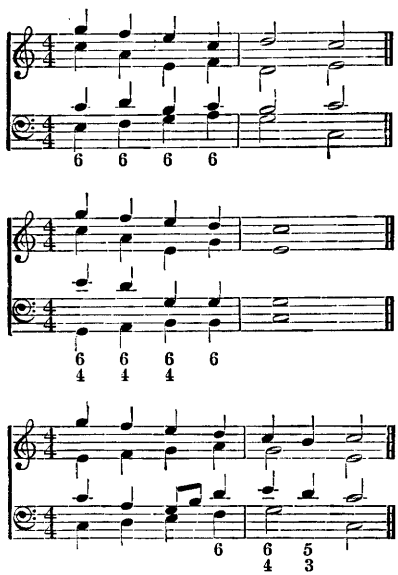




The versions *b* and *c* should be completed by each student: and many similar melodies should be harmonised in, at least, three different ways.

80. The fundamental principles of harmony are smoothness, simplicity of association, and unity of purpose. Sounds are rendered musical, and are brought into social relationship, through the regularity, and the close connection, of their respective vibrations. Accorded together, their positions become more firmly established as the simplicity and strength of their union are shown: and precisely in proportion to the complete consonance of any one triad is its good, or its imperfect, relationship with its surroundings displayed.

81. Want of relationship between adjoining triads may, to a very slight extent, be obscured by the careful progression of the individual parts; by the contrary motion of the outer voices; and especially by such a diverse movement of the extreme parts in *single scale-steps:* but some slight roughness of progression must always characterise successions of triads imperfectly allied.



We shall soon find (*pars. 147 and 156*) that, by the introduction of dissonances, it is quite easy to link together chords based upon adjoining scale-steps: but the last examples show how very little may be done by the most careful management even of the exterior, and therefore prominent, parts to mitigate the disjointed and jerky effect of unconnected triads.

82. Occasionally, such abruptness may be even an advantage; as breaking, in a large work, the monotony and too placid character of a long continuance of uneventful harmonies: or it may be consistent with some dramatic purpose. Similarly, although voice-parts should, generally, move easily and without any awkwardness of interval, the very progressions unadvisable in concerted vocal writing may be especially useful in declamatory phrases. One of the almost universally received

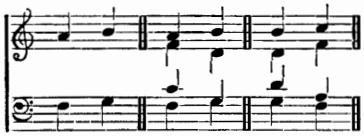
canons of choral harmony forbade a leap of an augmented interval in any voice-part: but, in recitation by a single voice, no interval was so commonly used as an augmented fourth by the very masters who scrupulously avoided it in part-writing.

83. The lack of consonant binding together of triads—which even the most carefully devised diverse motion of the outer voices will not entirely hide, is rendered prominent by any such parallel movements of the parts as presents adjoining chords in like form; and is shown more and more painfully as the consonance of each triad is complete and reinforcing (*par. 56*). The weaker the form of offending triads the less obvious must be their antagonism.

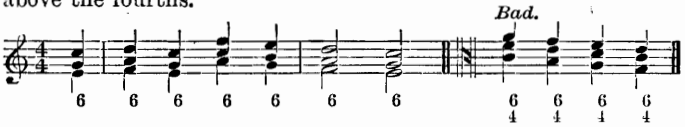
84. The consonance of thirds, and of their inversions, is imperfect: and the strength and carrying power is, therefore, comparatively small. The agreement of fourths, and still more of fifths, is greater. Consequently, in consecutions of first inversion the antagonism of badly selected adjoining harmonies is not so keenly displayed as in the second inversions of the same chords; nor in the second inversions is it quite so painful as in the natural forms of the triads.

85. It follows that, by consecutions of minor thirds, of major thirds, of perfect fourths, and of perfect fifths, the harshness of insufficiently related triads is displayed with ever-increasing force. Consecutions of minor thirds may be disregarded; as causing little more annoyance than must result from any similar (and not strictly parallel) motion. The parallelism of major thirds is noticeable *only in the outer parts;* and attention may easily be diverted from it (*par. 152*). The progression of the *extreme parts* from a major third to a

perfect fifth, based upon a sound just a tone lower, exhibits want of affinity with nearly equal distinctness.

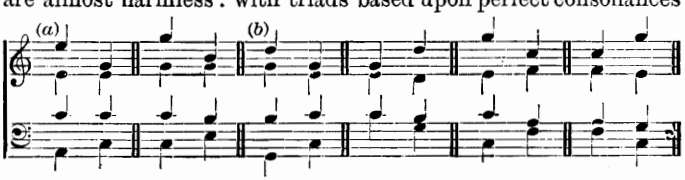


86. Consecutive fourths, except between the lowest part and some higher voice, may be covered by another part running in thirds immediately *under* the fourths, and enclosing them in sixths. Obviously, fourths with the lowest part could not be thus wrapped up; and the added part does not suffice if placed above the fourths.



87. Objectionable consecutions of fifths are too strong to be covered (*par. 56*). Such parallelism, in any parts, must display prominently a want of relationship. The introduction of dissonant sounds (*par. 152*) may, to some extent, divert attention from part-writing which, at the very least, is dangerous, as well as careless. The objection to fifths, as to all other consecutions, decreases as the affinity of the triads grows: but parallelism of part-movement should always be avoided.

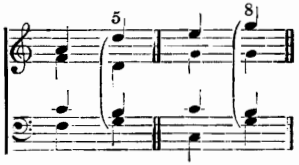
88. With triads based upon sounds a third apart (*a*)—that is, upon sounds imperfectly consonant—fifths *by contrary motion* are almost harmless: with triads based upon perfect consonances



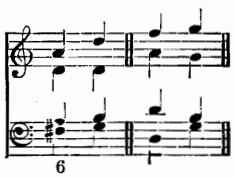
(*b*) they are beyond any objection, except that which applies to any skipping *in the same direction* of parts; and especially of the extreme, and therefore prominent, parts.

89. Consecutions which are innocuous in the outer parts, or with triads in their natural and strongest forms, are, of course, correct in inner parts, or with inverted triads. It is necessary to repeat that all these difficulties are of *progression* only; and to add that the only necessary precaution in the use of second inversions, or of any other forms of triads, is the securance of a sufficient connection between adjoining chords.

90. Without actual parallelism of motion, something of its bad effect may be felt if the *outer parts* carelessly approach a perfect consonance. The evil of what are known as "hidden" consecutions (octaves, fifths, and fourths) lies in the bright display of incongruities of chord-affinity; resulting from the leaping, in one direction, of the extreme parts to a perfect consonance.

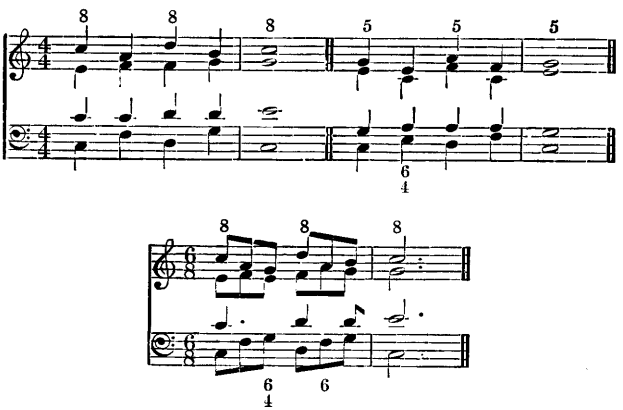


In such cases the soprano may move a semitone, or even a tone, when the bass skips: but the bass should not move more than a semitone if the soprano skips.

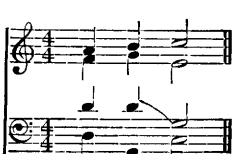


But it should be remembered that a part moving a tone (like the soprano in the last of the foregoing bars), has none of that leading tendency which excuses many progressions.

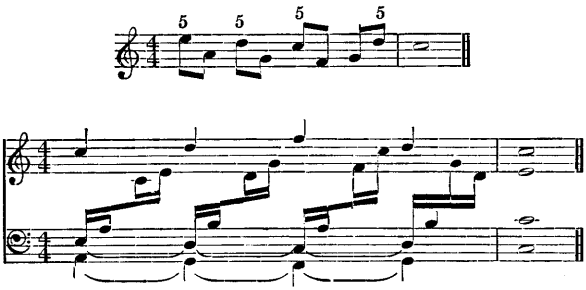
91. In the outer parts objectionable parallelism may be traced between *accented* triads even with one or two intervening, but weaker, chords.



When a tenor singer has to rise a whole tone, to the major third of the concluding triad, he is apt to make that note slightly flat. Should it be above the centre of his range of voice —say higher than middle C—it is safer to allow the Alto to fall to the mediant, and to omit the fifth, rather than to endanger the attunement of the final chord. But the fifth may be included if the tenor and bass voices approach their last notes by contrary movement (*par. 56*).



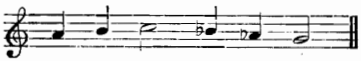
92. The outlines of a melody, or the progressions of any part broken into *arpeggi* (or spread chords) may suggest parallelism.



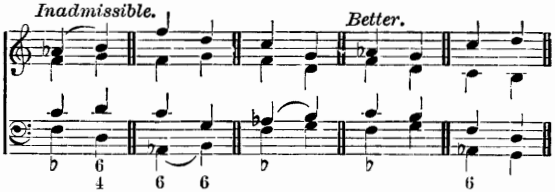
93. It is advisable, even thus early in their course, that students should acquire some rudimentary knowledge of a chord so constantly employed in modern music that it may be called its characteristic harmony; and without which a full perception of the force of the leading note may not be gained. Therefore, before entering upon the consideration of the minor mode of a scale, students should turn to paragraphs 147–156, and 159–160, in order to learn the simpler uses of that commonest of dissonances—a minor seventh.

94. Turning, now, to the minor mode (*pars. 11 and 25*) of the diatonic scale we find the danger greatly increased of making awkward skips in any part. Not only is there an augmented fourth between the sub-dominant and the leading-note, but a like interval divides the minor sub-mediant from the supertonic. Between the minor third and the major seventh there is a new interval—an augmented fifth (*par. 17*). And there is an augmented interval between the minor sixth and the major seventh; which, to the player upon a keyed instrument, presents no difficulty, but by the singer requires to be carefully reckoned; and should never occur in any voice part, especially in unaccom-

panied choral music (*par. 82*). The upper part of the minor mode is, therefore, used in two forms. When—*in approaching the tonic chord*—any singer has to proceed from the sixth, through the seventh, to the eighth the seventh must be the true leading-note: and, to avoid an awkward interval the sixth, also, must be major. But, in a descending passage, the seventh is not a leading-note: and may be deflected in order to render easy the approach to the minor sixth which is characteristic of the mode. Hence the "vocal," or "melodic," variations of the upper tetrachord, or upper four sounds, of the minor mode.



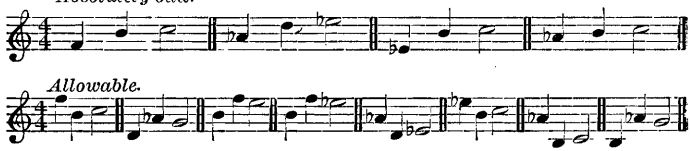
The alteration is made solely to accommodate a singer: and not from any objection to a consecution of triads bringing the minor sixth and the major seventh into close proximity, when in *different voice* parts. And it is necessary only in approaching the chord of the tonic; and in order to give that triad its restful, expected, and conclusive effect.



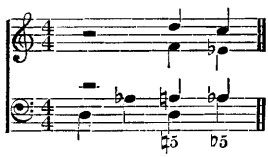
Of course, however careful the part-writing, there is a want of connection between the two triads. But, by the contrary motion of the outer parts, the incongruity of the chords may be somewhat obscured: while, by the single scale-step progression of those parts, a definite purpose is shown (*par. 81*).

95. Not, under any circumstances, should the leap of an augmented interval be allowed in any voice-part in choral music

(*par. 82*): but the diminished interval, which inverts it, is somewhat easier; and may be permitted whenever the part returns one scale-step within the leap.

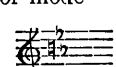


96. If the progression of a single voice from any sound to another separated from it by an awkward interval is bad, the disagreeable effect of consecutions of triads based upon sounds so separated must be far greater; because, even without any parallelism of parts, the ugliness of the discordant progression of any of the voices is enhanced by the confirmatory consonance of the accompanying voices.

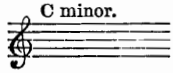


97. But, although the sub-mediant of the scale is changeable, the mediant is always minor: and the dissonance of the minor third with the major sixth necessitates care in the selection of adjoining triads, and in the management of the individual parts.

98. The customary signature of the minor mode of a scale represents the descending form of its vocal, or melodic, version; and corresponds with that of what is called its "relative major." The major mode of E flat, and the minor mode of C, are both signed by three flats. Some day, perhaps, a signature more clearly indicating the minor mode



may be adopted. It is even possible that the time may arrive when the hieroglyphs, which pretend to depict the scale, may be altogether discarded; and the fact may be simply and plainly stated that the key is (say) that of C minor—



leaving all naturals and flats for use to mark any temporary, or accidental, changes.

99. There is a fall of a minor third between the tonic of a major scale and that of its "relative minor": and, although doubts may be settled by reference to the last base-note, which *must* be the tonic, still the absence of any signature leaves the question of key open between those of C major and of A minor. One sharp denotes either G major or E minor: and one flat may mean either F major or D minor. From a major scale modulation to its relative minor is obviously simple: from a minor mode to its relative major scale it is still easier; because of the greater consonance, and the healthy brightness of the major mode. Indeed, only by the frequent use of the leading-note of the minor mode—the G sharp of A minor, the B natural of C minor, or the C sharp of D minor—may the ear be made to cling to the tonic of the minor mode.

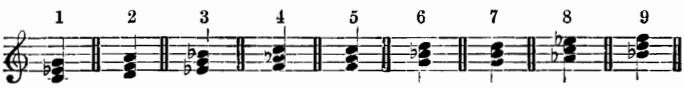
100. Formerly, it was customary to conclude compositions in minor modes either with merely the tonic and its fifth, or by the complete triad of the key-note, with its third raised a semitone; and called, in such a case, the "*Tierce de Picardie*," simply as a convenient way of referring to it. The effect of the "greater third," thus introduced, was bright and invigorating (*par. 22*), but rather startling. The custom arose thus.—Almost the only

written music was intended for church use; and the extreme resonance of the large and lofty buildings in which it was performed rendered it possible that, among the "upper partials" of the final tonic—which would reverberate through the aisles—some octave of the major third (really the major seventh) might be distinguished; and a "false relation" (*par. 106*) created between the minor third of the last triad sung and the major mediant of the echoes.

101. In the present day less music is written for the church than for the concert hall, and for performance in smaller rooms wherein there could be no danger of excessive reverberation, and consequent confusion of mode.

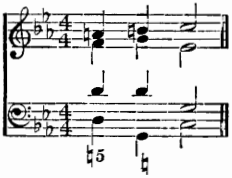
102. As the fourth of a scale—really the sub-dominant—is a perfect fifth above the minor seventh—which has a closer affinity to the tonic than the major seventh has—the minor seventh may be used, not only as the third or fifth but, even, as the ground-tone of a triad.

103. The following are the consonant triads of the minor scale of C:



The triads numbered 5 and 6 are very rarely used. The major sixth of the scale (A natural) may be (and, for two reasons, generally is), based upon the super-tonic. The super-tonic triad may be taken only with its perfect fifth; and as that sound is seldom used (*par. 94*) except when some voice has to rise directly from it to the leading-note (which is invariably placed in the

dominant triad) the super-tonic is a better ground-tone for it than the sub-dominant.

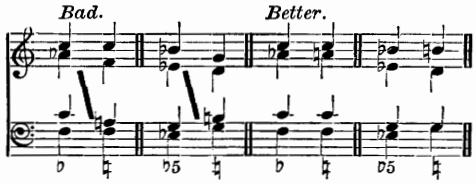


104. An examination of the triads given in paragraph 103 shows the excellent, and the fairly good, progressions; those requiring care, and those which are irretrievably bad. To the first class belong alternations of triads linked by perfect consonances—as 1 and 4, or 1 and 6 or 7; 3 and 8 or 9. Next come the triads linked by their *imperfect* consonances—as 1 and 3; 1 and 8; 2 and 5 or 9; 3 and 6; 4 and 8; 6 and 9. To the third class belong triads upon following degrees of the scale, but with no awkward interval between any of their constituent sounds—as 3 and 4; 4 and 6; 5 and 6; 6 and 8. Contrary motion, and distinct purpose, in the outer parts (*par. 94*) will do something to rob such progressions of abruptness.

105. And, finally, there are the triads of which some of the sounds are separated by bad intervals—as 1 and 2; 2 and 3; 3 and 5, &c,: which may be classified, according to the importance, in their respective triads, of the jarring sounds: the climax of harshness being reached when the ground-tones are intensely dissonant (2 and 8): and that dissonance is augmented (*par. 96*) by a like want of agreement between the corresponding sounds in the chords.

106. However carefully the minor mode may be used a certain danger of "false relation" lurks in the use of the change-

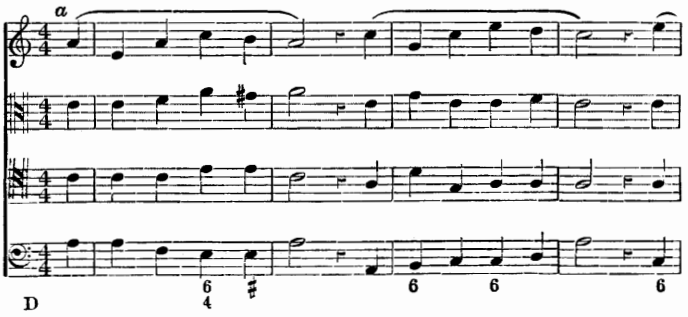
able 6ths and 7ths of the scale. False relation may be incurred not only by the awkward progression of a part, or by bad consecutions of triads, but even by the change of the form, or mode, of a triad, unless the inflected notes are confined to one part.

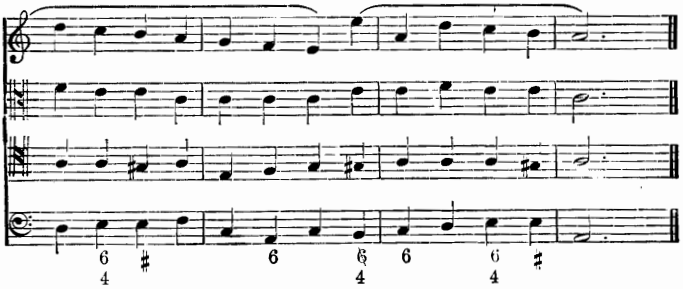


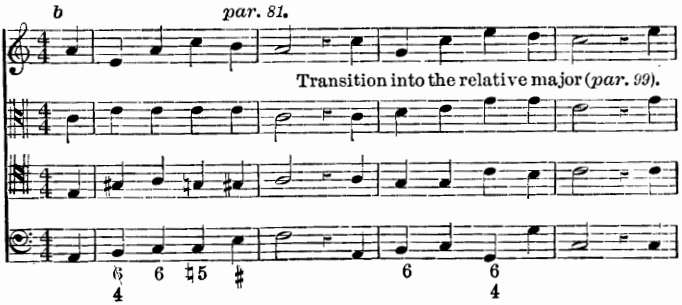
107. False relation, objectionable parallelism of parts, and what are called "hidden" consecutions (*par. 90*) alike arise from a careless selection of adjoining chords; the consonance and confirmatory effect of the sounds in each triad showing up most distinctly the incongruity of the consecutive combinations.

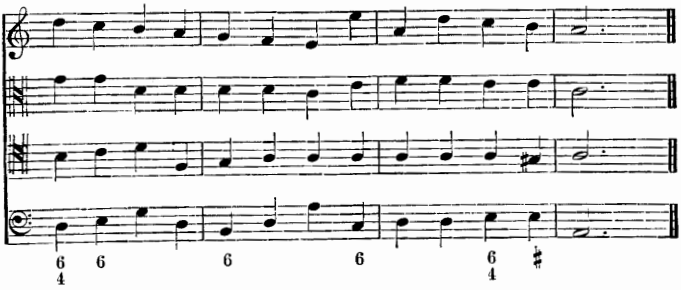
108. We should, now, understand some of the possibilities of the two forms of the simple, or diatonic, scale; known, we believe, to some of the ancient oriental peoples; but lost in the tetrachordal system of the Greeks; and recovered only after long experiment, and in spite of obstinate prejudice on the part of musicians trained in what are sometimes called the "church modes."

THE HYMN-TUNE CALLED "ST. BRIDE."









Many other consecutions of chords may, by the use of minor sevenths (*par. 147*), be rendered congruous and agreeable.

109. But, large as are the resources of the diatonic scales the title (Harmony) given to the science of music is not, thereby,

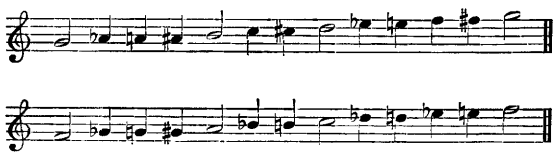
fully justified. Just as the sequence of sounds directly consonant with the tonic (*par. 25*) is incomplete without the notes gathered from the dominant triad, so are there gaps in the system until we reach the chromatic scale; which is the unfolding of an enlarged circle of triads, in which every sound finds its full consonant accompaniment; and is the base, or third, or fifth of a combination equal, in all respects, to its neighbours.

110. As the letter-names of the seven-note scale were already established, the five additional notes, as they were gradually admitted, had, necessarily, to be distinguished by marks of inflection; and their names (like those of the natural, or open, notes) vary according to their relation to the ground-tone of the chord in which they are used. But the sounds themselves are fixed; and the steps are equal: so that transference from one chord to another, and the maintenance of a connection between adjoining triads, are perfectly easy. The chromatic scale forms the completion of the system of interwoven triads to which the term "Harmony" justly applies. There is no more minutely inflected scale—no really enharmonic sequence, with nicer distinctions of tone. A note is *said* to be enharmonically changed, when, for grammatic reasons, its name is altered: but the pitch remains the same; and the name shows only the relation to the chord in which, or to the base upon which, it is used.

111. The skeleton framework of a scale is a major, or a minor, triad: and the added notes should be so named as not to confuse the modes of the chord which forms its support. Generally, the basis of a chromatic scale is a major triad, with its brighter third.

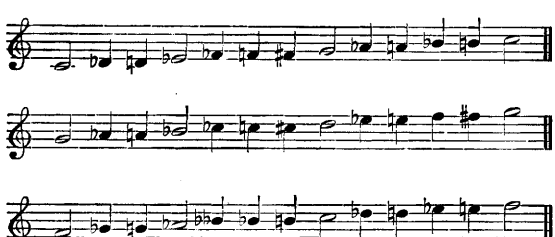
As thus supported, the three sounds between the tonic and the mediant are considered to be different versions of the super-tonic, and are so named: and for the sixth and seventh sounds no letter-name, except that of the sub-dominant, is left.

112. Starting from any other sound than C some names have to be changed in order to preserve the same relationship of the sounds to the ground-tone of the series.



But the D flat of the scales of C and F is exactly the C sharp of the scale of G; and the E flat of the scales of G and F is precisely the same sound as the D sharp of the scale of C.

113. When a chromatic scale is the filling in of the intermediate sounds of a minor triad, instead of three versions of the super-tonic, there are three sounds bearing the letter-name of the sub-dominant.

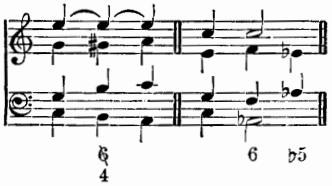


114. At first (*par. 58*) we spoke of an accidental sharp, or flat, as transferring us into another scale. But, with the minor mode, accidentals came in so quickly as entirely to destroy the idea that they necessarily changed the tonic. And when we

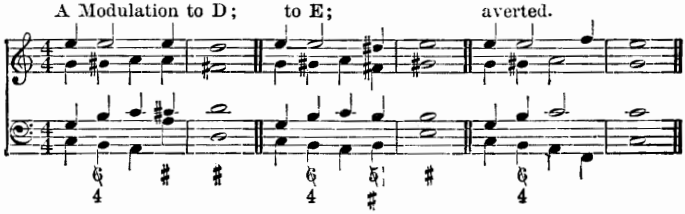
consecutively used closely related triads—as those numbered 3 and 8, or 9 and 3 in par. 103 — we felt that, although a tendency toward a new tonic might be created, or a change of key hinted at as a possibility, still no new tonal sway was established.

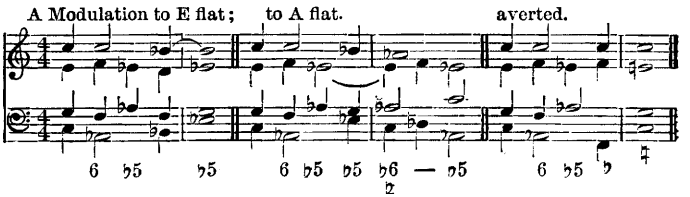
115. The chromatic system shows all this more forcibly. The limits of a key are far wider than was imagined when the names of the seven steps of a diatonic series were fixed: and the naming of a sound is a purely arbitrary arrangement, adopted to suit our convenience in depicting and describing chords, &c. The triads of the chromatic scale belong to many keys: and it would be far simpler to state the two or three of them which do not consist with any particular system, than to give the long list of those which do.

116. In the next example no modulation is effected: although the bonds of the old scale are slightly loosened, a new key is not established.



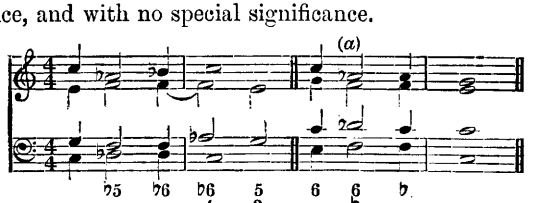
All depends upon the succeeding chords. Should they be more closely allied to a fresh tonic than to the original the boundary line may be passed.



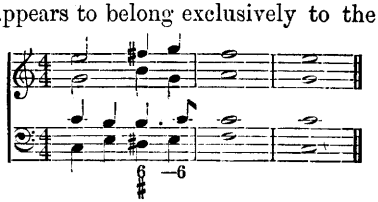


Thus, in many of our earlier exercises (*pars. 58-9, &c.*), after an apparent change of scale, we proceeded as if nothing had happened: and, in fact, nothing serious had occurred. The cadence in the dominant scale only formed a sort of semi-punctuation; a comfortable position on which to rest while we recovered breath.

117. The chromatic scale supplies other triads which may be well-linked together; and yet afford a desirable relief after the long continuance of mere diatonic harmonies. Among them is the triad upon the minor super-tonic: the first inversion (*a*) of which, being used before the natural form of the chord, was called the "Neapolitan sixth"; simply for convenience of reference, and with no special significance.



118. More difficult to bring into close proximity with the tonic triad is the chord of the leading-note. Unlike the preceding (*par. 117*) it appears to belong exclusively to the major mode.



119. The only note of the chromatic scale upon which it seems utterly impossible to place a consonant triad, either major or minor, without involving a change of key, is the augmented fourth. However carefully it may be approached all hold upon the tonic is instantly lost. The ground-tone of the chord is the worst sound of the whole scale (*par. 129*): of the minor triad only the third is imperfectly consonant with the tonic: of the major triad every sound is dissonant. A modulation by means of this chord is the most startling which could be made: and, as a general rule, changes of key should be *gradually* effected. There are other chords which seem incompatible with the key—such as a minor triad upon the third, or the sixth, of the minor mode. The strongest hold upon the tonic of the major triads of those bases is through their thirds: and the loss of that perfectly consonant connection appears to place the chords outside the family of related sounds.

120. But the full value of the chromatic scale is felt only when we study the effects of the dissonances. Diatonic triads may not always be quite smoothly joined: so that very careful management of the outer parts is, sometimes, necessary. By the use of chromatic sounds (*par. 147*) tendencies may be created toward harmonies otherwise unexpected: but the sharpening of a note, in order to make it *lead* clearly, often seems to require intensifying by the introduction of some sound appearing to force it upward. Such study as we may, already, have made of the mildest of dissonances—the minor seventh—has shown the twofold action of the non-consonant constituents of a chord:—how they serve, sometimes, to bind harmony together; and, in other cases, to force the progression of the parts in such well-defined grooves as to render agreeable consecutions of chords otherwise inadmissible.

121. We have now glanced at all the purely consonant chords of a single key. Among them are many which point out a possible path to modulation, without effecting it. Indeed, in order to entirely avoid all *suggestion* of change we should be obliged to remain within the narrow limits of the diatonic scale: and, even then, the key may not be fully determined: for the alternate use of the triads of C and F leaves us in doubt which is the tonic; until the chord of G—by its dissonance with F, the perfect agreement of its base with C, and the force of its leading third—establishes the rule of the sound to which F and G are the dominants. And the alternate use of triads of C and G, similarly, leaves the question open; until either the sub-dominant of C, or the dominant of G, is employed.

122. Too much importance must not be attached to this question of a key. Smoothness of progression, both of part and of chord, is the great thing: and if, by it, we cross the boundary which separates one key from another—transferring for a time the tonic-sway to a new sound—we may easily retrace our steps. Sometimes changes of key are spoken of as though they involved grievous trespass. Nothing of the kind! The key may be frequently changed: and, if managed smoothly and pleasantly, the modulation may either escape notice or prove very charming.

123. At every point of our study we have found evidence of that admirable fitting together of each detail of our subject which justifies the name given to the science of sounds. Harmony and Consonance are, really, interchangeable terms: but some technical distinction between them is convenient as we view both aspects—the positive and the negative—of the relationship of sounds.

124. Absolute consonance—like the perfectly undisturbed domination of any one tonic—is unattainable except within a very limited area. Fortunately, there are varying degrees of consonance: and necessity for its perfection depends upon the simplicity of relationship which ought to exist between sounds brought into association, and upon the closeness of the contact of those sounds.

125. The measurement of unison, and octave, sounds should be exact: although even with one letter-name, slight deviation from exact attunement becomes less painful as the notes are more widely separated.

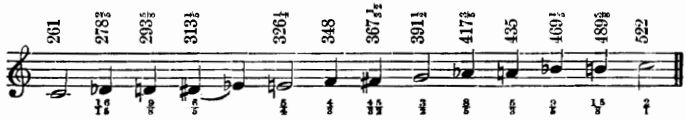
126. With sounds differently named, although they may be roughly classified as "perfectly consonant," a greater latitude is permissible: and the necessity for strict adjustment decreases as the ratios of vibration become less simple.

127. The strings and pipes of instruments may, with confidence, be tuned by fifths, or by fourths; because deviation from exactness soon becomes apparent: nevertheless an infinitesimal expansion, or contraction, of the interval does not distress any ear which has not, purposely, been rendered morbidly sensitive. Thirds are open to so much modification as, at all times, to render them untrustworthy: and of the exactness of the interval between sounds dissonant wi h each other it is both unnecessary and impossible to judge with certainty. They have no defined or consonant relationship; and, therefore, no "false relationship" could exist between them.

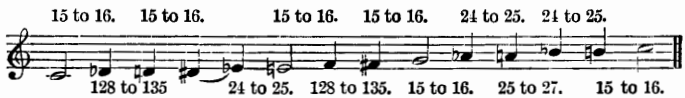
128. Were it necessary that even fifths and fourths should be precisely attuned the triads available in music would be very few: for discrepancies arise even among the diatonic triads

(*par. 76*). The major sixth of a scale is not true as the perfect fifth of the super-tonic: nor is the perfect fourth of the scale exact as a minor third to the same ground-tone.

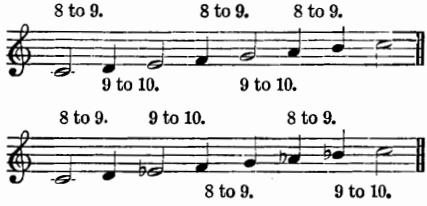
129. Assuming middle C to result from 261 vibrations per second, in the following example the figures above the notes give the *actual*, and those under the notes what would be the *relative*, vibrations in the same time.



130. The intervals — all called "semitones" — between adjoining sounds are of three widths: the proportionate vibrations, in a given time, being:



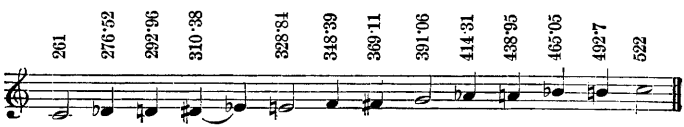
131. The "tones" are of two kinds;—major, 8 to 9; and minor, 9 to 10.



132. The vibrations of the minor thirds D-F, F♯-A, and B♭-D♭ are 27 to 32; the other being 5 to 6. Consequently, of the major sixths F-D, A-F♯, and D♭-B♭, the vibrations are 16 to 27. There is only one kind of major third, 4 to 5; and, therefore, only one width of minor sixth, 5 to 8.

133. The fourths, F-B♭ and A-D, are as 20 to 27; instead of 3 to 4; and, of course, the fifths, their inversions—B♭-F, and D-A—are as 27 to 40.

134. Various modes of meeting these difficulties, by increasing the number of inflections of pitch, have been advocated by mathematicians rather than by musicians. But practical men have disregarded them all; and have fixed upon a scale of twelve equal semitones; whereby all discrepancies are fairly distributed, and in all triads there is an equal, but an extremely slight, deviation from perfection.



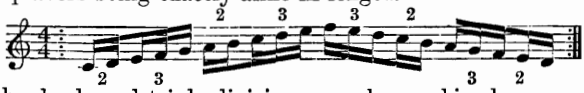
135. This tempered, or adjusted, scale of equal semitonic steps is now, universally, adopted. In it all the perfect fifths, minor thirds, and minor sixths are very slightly contracted—too slightly to attract notice: and the perfect fourths, major thirds, and major sixths are just as little too wide.

136. The chief difficulty attending any scale more minutely inflected than the chromatic would not be the perplexity of manipulating wind or keyed instruments with multitudinous valves, or pistons, or hammers; nor even the absolute impossibility of devising a system of notation capable of readily pointing out which particular A flat, or G sharp was wanted, and the certainty that the sound specified would seldom be the one really desired. The real, and insurmountable, obstacle lies in the fact that the law of consonance controls sounds used successively, as well as simultaneously. All our study of the disagreeable effects of certain consecutions tends to show that precisely in proportion to

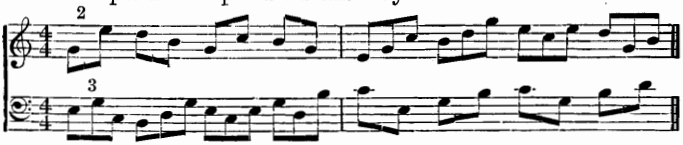
the perfection of agreement of the sounds of a triad is the necessity for that chord being well joined to its neighbours. Many of the most beautiful musical effects arise from the delicate transitions effected through the tempered scale, and absolutely impossible without it. It is, therefore, useless to affect to yearn for a better scale than that which we have.

137. In paragraphs 38 to 48 the primary accentuation of music is explained, so far as concerns the determination of some duple or triple rhythmic pattern, conveniently packed up within bar-lines.

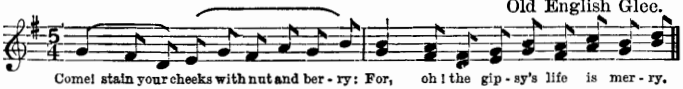
To what was there stated it must now be added that, in one measure, strictly equal pulses may be irregularly divided: the semiquavers being exactly alike in length.



Or the duple and triple divisions may be combined:—



or, occasionally, the accented divisions of a bar are rendered unequal by being composed of irregular groups of strictly equal pulses.



Measures of five, or of seven, pulses are not infrequent.

138. But the responsive character of the pulsation is not wholly completed in each bar: it extends, with almost undiminished force, to consecutive measures; and, to some extent, to phrases, and sentences, of distinct purport and definite meaning. Just as within a bar there may be two or three accents, each

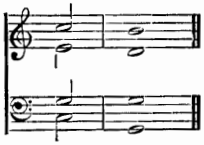
initiating a duple, or triple, grouping of pulses, so the first full measure should be vigorous enough to set in motion a mental swing remaining unexhausted through the next bar; and, possibly, strong enough not to be, even then, wholly spent. Three-bar phrases are, however, exceptional. Far more frequently bars associate in couples, alternately strong and weak: the measures being generally, but not necessarily, of equal length and similar formation.

139. There is, even for literary sentences, a general length which may be said to be convenient, clear, and sufficing; not so extended as to allow the reader, or listener, to miss the connection of the end with the beginning; or so involved as to render obscure the meaning of the whole. On the other hand, an occasional short, epigrammatic utterance is impressive and wakeful, and may linger in the memory; yet, repeated terseness soon loses its charm; and produces a fragmentary kind of effect, even more wearying than diffuseness.

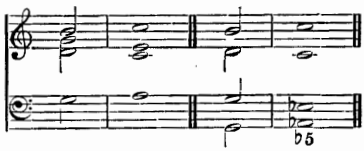
140. Musical sentences of eight bars have so commended themselves, generally, as to have been almost universally adopted. Their four sections—each of two measures—may be punctuated by some turn of melody or harmony, analogous to such smaller divisions of a literary sentence as should be marked off by commas: the middle of the musical passage showing a more distinct phrasing, resembling that which would need either a semi-colon, or the more absolute severance of a colon. Thus, the pointing of the whole sentence should render its division clear, and the whole consistent and complete. Shorter sentences of four bars are of weaker force; and, lacking continuity of character, soon grow tiresome.

141. A complete cadence, either perfect or plagal (*par. 60*), forms the musical full stop, or period. Any more than usually

close connection of adjoining harmonies serves for the marking of the shorter sections of a sentence. Of such are "half closes"—consisting of the two triads of a perfect cadence taken in reverse order;—



the cadence, or half cadence, of another scale, into which only temporary transition is made; or an interruption of the perfect cadence of the principle key, caused by following the dominant chord by any harmony except that of the tonic; probably by the triad of the sixth of the scale; in which, in such a progression the third is, invariably, doubled. (*Par. 156.*)



142. Four-lined hymn-tunes of the measures, or metres, known as common (C.M.), or long (L.M.), are eight-bar sentences; each line consisting of a two-bar section or phrase. The first and third lines generally finish with some slight punctuation, of definite melodic or harmonic tendency: the middle of the tune needs a more decided marking; and, frequently diverges into another scale (*par. 58-9*): a cadence being made which, without confirmed modulation, provides a comfortable resting-place.

143. Eight-bar sentences of very distinct accentuation, are used in all music devised for the purpose of controlling rhythmic

motion—such as marches, dances, &c., and of less enforced emphasis in the various simple forms of composition. And the principle themes, which form the texts upon which works of the largest dimensions are built, are moulded in accordance with the same pulsational conditions. The further explanation of the moulding of such sentences, as well as their development and treatment in the larger musical structures, belongs rather to the question of composition than to the purport of this work. Much may be gleaned by the study of the section devoted to "Form," in the second volume of the author's "Grammar of Music."*

144. Paragraphs 112-13 explain the variable notations of a chromatic scale; showing the major, or minor, character of the triad which forms its strong, firm, outline and framework. A triad, and the scale which is the filling up of the intervals between its well-related sounds, may be based upon any note: the steps being so named as to show their distance from, and their relation to, the ground-tone. Thus, in addition to that of the tonic itself, there are within any key as many chromatic scales as there are triads. In paragraph 113 only the three simplest chromatic scales of the key of C are given;—those founded upon the tonic and its chief consonances—the three fundamental bases.

145. In speaking of any triad we number its upper sounds according to their distances from the base of that particular chord; and not by their position in the scale of the tonic. The ground-tone may be referred to as (say) the "super-tonic:" but the other sounds are spoken of—not as the sub-dominant and the sub-mediant of the key, but—as the third and fifth of the super-tonic triad. And the chromatic sounds are, in like manner,

* Published by Messrs. Forsyth, Bros., London, and Manchester.

numbered according to their distance from the base of the special triad which forms its framework;—as the seventh, ninth, eleventh, or thirteenth;—and not as measured from the key-note.

146. This mode of numbering shows the advisability of keeping dissonant sounds at some distance from the triad-notes; with which, principally, they clash. Thus, a ninth should not be used as adjoining either the base or the third of a triad: an eleventh should be kept away from a third or fifth: and a thirteenth should be at some distance from the fifth. The numbering, also, shows that the dissonant sounds should, preferably, be placed *above* the notes with which they are most harsh, whenever they are used simultaneously with them. But, in figuring the bass-part, no number higher than 9 is used; and a ninth is frequently figured 2. An eleventh from the bass-part is always marked 4; and the thirteenth is, in the natural form of the chord, marked 6.

147. Dissonant sounds play a most important part in music. They act in two ways; either linking together chords otherwise unjoined, or creating such decided progressional tendencies as atone for lack of connection. In both cases they promote that smoothness and relevance in adjoining chords which are essential features in true harmony.

148. A chromatic sound generally stands in lieu of the nearest note of the triad: and its dissonance with some of the constituents of the chord creates a feeling of suspense, and a desire that the part should be brought into closer relationship with its colleagues. So strong an inclination is excited as to be called a resolution, or determination. Or, rather, the note toward which the dissonant sound leans is termed "its resolution;" although, more correctly, it would be said to *show* its resolution. Similarly, the evasion of a full close (*par. 141*) is spoken of as an "interrupted cadence," instead of as an interruption of a

cadence: and the group of penned-up notes which shows the rhythmic cycle is called "a bar;" although the bars are really the lines which so enclose the pattern.

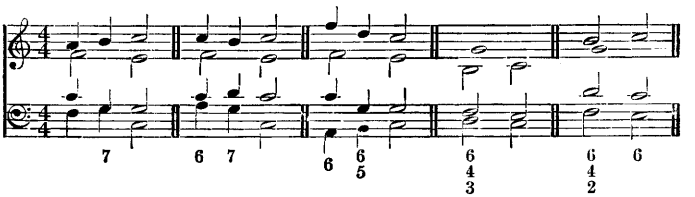
149. When two sounds which clash are separated by some simple interval the termination (technically, the "resolution") of the dissonance may be reached by the movement of either: although one of them, generally, has a greater firmness of position than the other; and, consequently, a stronger power to draw the other into a state of agreement. Such a superior stability may result from the consonance with it of some sounds of the chord itself, or of previous chords; or from a strong progressive tendency toward it of some of the notes of the preceding harmony.

150. Two sounds separated by an interval *really* augmented, or diminished—and not merely so depicted by our mode of notation (*see the list of seconds in par. 17*)—are so intensely dissonant that, generally, no effect of firmness or stability attaches to either of them; but both parts in which they are used seem driven to such movement as suffices to entirely change the chord and the basis on which it stands.

151. The result of dissonance is, therefore, to prove the absolute sway of the law of consonance. In the simple diatonic scale the leading-note is, through its fidgety character and its close proximity to the tonic, the most restless of the whole series of sounds. This tendency is, of course, not inherent in the sound itself; but is derived entirely from the attraction of the key-note. It grows strongly marked in proportion as the scale is fully unfolded and the position of the tonic more clearly shown; and is very greatly increased when the leading-note is brought into contact with a sound positively dissonant with it.

152. Now the most dissonant interval of the whole chromatic scale is an augmented fourth (*par. 129*). Therefore, when the

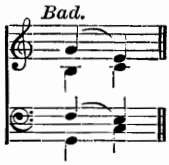
fourth and the major seventh of a diatonic scale are, in any way, associated, the irritability of the leading-note is increased more decidedly than by any other process. The addition of the sub-dominant to the dominant triad brings into contact the two fundamental bases; which find their reconciliation only through their perfect consonance with the key-note, which stands sponsor for both; and forms a combination so pungent as, of itself, to impel the parts onward to the more satisfactory relationship which may be found in the tonic triad.



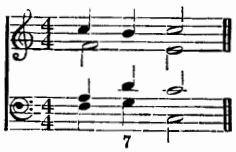
The seventh of the dominant chord falls one scale-step to the third of the tonic triad: and, of course, the leading-note rises a semitone. The seventh from the real ground-tone is always "figured," whatever may be its distance from the actual bass. Thus, in the third bar of the above example, the figure 5 refers to the seventh of the dominant: in the fourth bar the same seventh is the third above the bass-note; and, in the last bar, the seventh *is* the bass-note, and the ground-tone is marked 2.

153. In resolving any dissonant chord it is well to make the voices move as little as possible. But, from the ground-tone of the chord, the lowest part frequently leaps to the base of the tonic triad: and the fifth of the dominant chord, being consonant with all the other sounds, is perfectly free from constraint. Two parts having adjoining notes, or any octaves of adjoining notes—as, for example, the eighth and seventh of the dominant

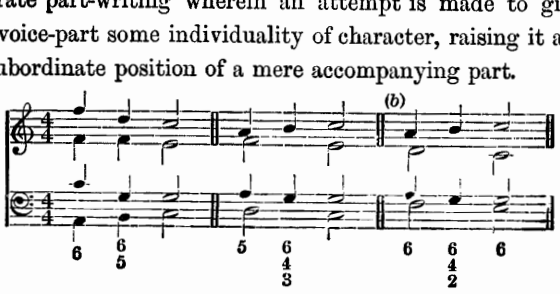
chord—may not proceed by similar motion to an octave or to a unison.



The first union of the minor seventh of the dominant (really, the sub-dominant itself) with the major seventh of the tonic formed an epoch in the history of harmony; since which progress has been rapid and regular. To a dominant triad its minor seventh is generally added. In our first attempts at harmony (when we had only three triads wherewith to work) every time the melody passed from the sixth to the seventh of the scale we felt the want of connection between the sub-dominant and dominant harmonies, and the disjointed effect of the consecutive chords. After a time (*par. 75*) we were relieved from the difficulty. But now the two triads may be satisfactorily linked together.

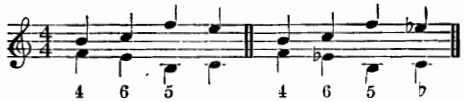


154. The chord may be used in all positions: and it is extremely valuable either in harmony of plain chords, or in that more elaborate part-writing wherein an attempt is made to give to each voice-part some individuality of character, raising it above the subordinate position of a mere accompanying part.

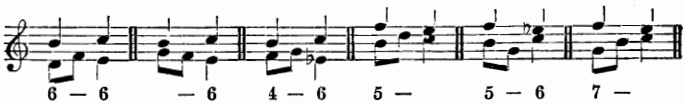


The third inversion—having the seventh in the lowest part—will not do as the penultimate harmony, because it resolves (*b*) upon an inverted triad.

155. In spite of the dissonance of the third and the seventh their very decided tendencies render their association satisfactory, even in two-part writing. The chord is then almost as clearly defined as it is when complete: and the resolution of the two sounds upon a third, or a sixth, fulfils one of the first requirements (*par. 62*) of harmonic rule.



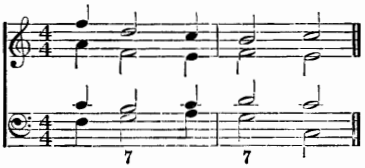
It is not necessary that either the third, or the seventh, should continue during the whole pulse: a greater rapidity of motion in one of the parts often increases the interest of that part, and gives it a more melodic character.



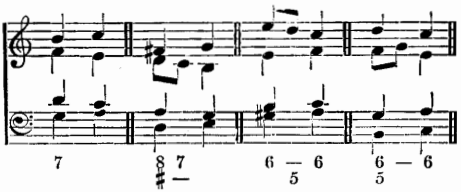
The dash after the figure points out that the chord is not changed.

156. A minor seventh may be added, not only to the dominant triad of the key but, to every major triad the base of which stands in dominant relationship to that of the succeeding chord. Thus, it renders easy, and more comfortable, any such temporary transition into a new scale as serves to mark the completion of a phrase, or of a line of a tune (*pars. 58-9*). And the progressive tendencies of the third and the seventh are so strong that, when their inclinations are satisfied, the lack of a connecting link between adjoining chords is of no consequence. Thus, the dissonance acts in one of two ways. It may either

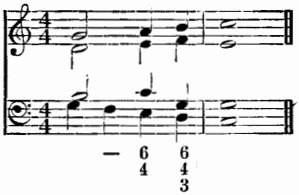
connect triads (*par.153*); or it may create a strong progressional tendency, serving in lieu of such a linking together.



The consecution of chords generally alluded to as an "interrupted cadence" (*par. 141*) should never be used without the addition of a seventh to the dominant triad.

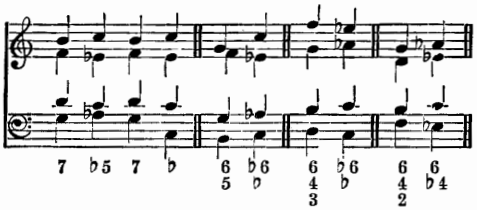


But a broken, or interrupted, cadence is rarely used, except with the two chords either in their natural forms or in their first inversions. In the second inversions care should be taken to avoid the movement of any voice in parallel fourths (*par. 86*) with the lowest part.



157. In a minor mode the seventh of the dominant chord

naturally falls a whole tone to the third of the tonic triad, or to the fifth of the minor sub-mediant.



158. Without the doubling of the third in the sub-mediant triad there is, in a broken cadence, some danger of consecutive fifths. But the custom of doubling the third arose when minor modes were more favoured than they now are; and when, therefore, there was the further difficulty of making the parts move smoothly, with the avoidance of all awkward intervals.

When consecutive fifths and fourths, and bad skips, are avoided there is no *necessity* to double the third in the second chord: but it is done almost invariably; more, perhaps, from habit than because of any stronger reason. The reinforcing of the tonic, by this duplication, is, however, not objectionable.

159. When all the sounds of a chord, including a minor seventh, may not, easily, be combined the fifth is more frequently omitted than the third: still, there is not the same necessity to include the third as there is in a purely consonant combination (*par. 62*); because the fifth and the seventh form a third (or its inversion); and the peculiar richness and warmth of sounds so

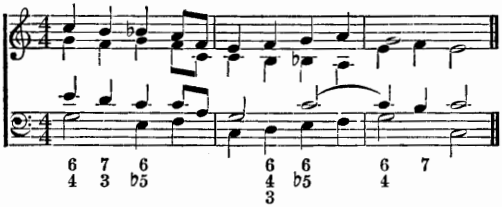
separated, and just within the consonant circle is, to some extent, obtained; although *the* third, or leading-note, of the chord is absent.

160. As a general rule, the seventh and the eighth should not be used as absolutely adjoining notes, a tone apart. In all dissonant chords it is well to divide by, at least, the interval of a seventh any sounds which, if brought closer together, would really be adjoining notes. Not only is harshness thereby avoided; but the part-writing is clearer and more easily traced when each voice has room to move freely, without interfering with its neighbours.

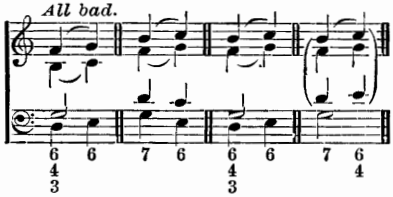
161. But, although every restless sound has a distinct inclination, dissonances are extremely pliant; and their natural tendencies may, readily, be set aside. The strength of a sound is derived from its consonance with the other parts, and from the confirmatory and reinforcing effect thus obtained. A dissonant note is an intruder, and may, easily, be ruled by the more closely allied sounds. Some of the most charming effects of harmony spring from the turning of parts and chords aside from their expected course. In all such cases smoothness of progression in the individual parts is absolutely necessary. The natural progressive tendency of a dissonant combination often justifies an unusual consecution of chords (*par. 156*). But it is, then, especially necessary that the parts should, individually, move naturally.

162. We shall soon discover (*pars. 229-33*) how extremely easy it would be entirely to change the tendencies of both third and seventh. But, already, we may perceive how readily these two unstable and fidgety sounds may exchange

their character; and the seventh may, in order to continue a definite melodic progression, be made to rise, while the third falls.



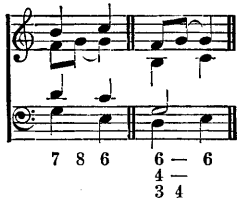
163. But when the seventh and the third are made to move in parallel lines the part-writing is not good. Even the close enclosure of the fourths in sixths (*par. 86*) does not entirely obscure the bad progression of parts which, because of their discordancy in the first chord, attract attention.



164. Such a movement to a perfect fifth has never, since the parallelism of perfect consonances was objected to, been held to be advisable in the two extreme parts: and it is now used in inner parts only by such writers of church music as cling tenaciously to a usage which originated before dissonances were understood.

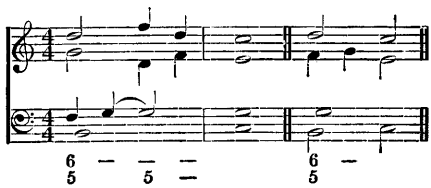
165. The bad effect may be somewhat mitigated by making the seventh to rise before the movement of the part having the leading-note. But it could not be felt wise, even with such treatment, to introduce a seventh which is not to be properly

resolved, and to create a tendency which is to be ruthlessly disregarded.

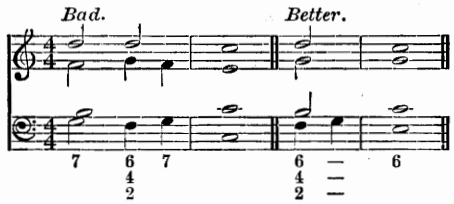


166. It is necessary, whenever any dissonant sound does not pursue its natural course, to be specially careful in approaching the resolving consonance. Generally, the restrictions (*par. 90*) as to what are called "hidden consecutions" limit the movement of the outer voices only. But a discordant combination attracts immediate attention: and any irregularity of progression, to a fifth or an octave, could scarcely fail to be noticed.

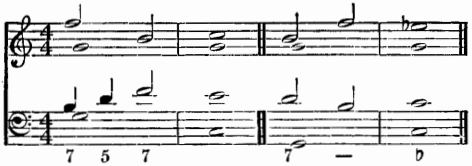
167. As the form of a triad may be changed, so may a dissonant sound be transferred from one voice to another; the part in which it is last used being bound to resolve it. Or a voice may, while the chord remains, move from the seventh, or from the leading-note, to some sound of the consonant triad of the ground-tone; without any other voice being obliged to take the sound so relinquished, or any octave of it. But when the harmony is changed, the voice which had the fidgety, or dissonant, note must resolve it properly.



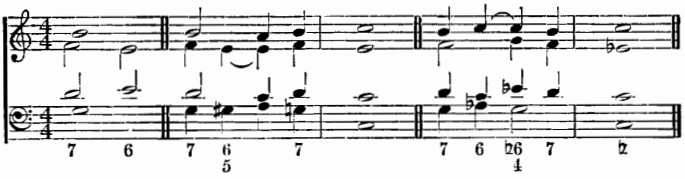
And, unless a dissonance is to be resolved by the lowest voice, it should never be introduced in that most rigidly ruled part.



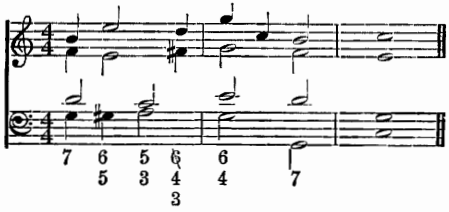
168. In paragraph 95 a skip of a diminished fifth is said to be allowable if the part returns one scale-step within the leap. Any of the higher parts may make such a jump from the seventh to the third, or from the third to the seventh of a dominant chord; and, following the natural progression of the second sound, may leave the preceding note unresolved. But, generally, some other part should take the sound relinquished (or some octave of it) and follow its natural progression.



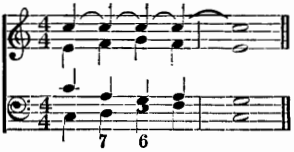
169. Next in smoothness to consecutions of chords allowing both the seventh and the third to follow their bias are those which accommodate the natural inclination of *one* of those sounds, and permit the retention of the other.



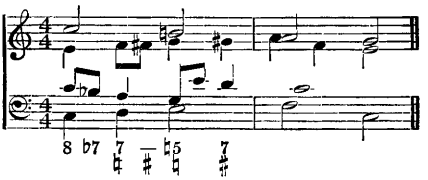
170. When either of them is thus held until it subsides into consonance with its surroundings there is, of course, an end of all obligation respecting it; and the course of the parts becomes unfettered. Indeed, it is not absolutely necessary (although advisable for young students) to hold either the seventh or the third when the sound would, thus, be absorbed in the next harmony.



171. The seventh may be added to a minor triad: but the absence of the major third changes the character of the chord; and the old necessity to link together adjoining harmonies remains. Anything of the nature of a broken cadence becomes objectionable; because the tendency of a leading-note is not felt; and the bias of the seventh itself is not intensified by the nature of the interval between it and the third. The seventh is not quite free to skip: but its tendency to fall is weakened; and to hold it is quite as satisfactory. Indeed, it is not clear—apart from the influence of the preceding harmony—whether the second chord in the following example is a minor triad of D, with a seventh added, or a major triad of F, with a dissonant note in the lowest part.



172. Before the second chord, in the above example, could be properly followed by a triad of E, and the succession of ground-tones made C, D, and E, the F should be sharpened, and made a leading-note. The third of the first triad leads to the F in the second; and this leading tendency may be augmented by adding to the first triad its minor seventh—so acutely dissonant with its major third. Then, by raising the F, the second chord would be made major; and have a leading-note: and the antagonism of the third and seventh would justify progression to a chord having no sound belonging to that of D.

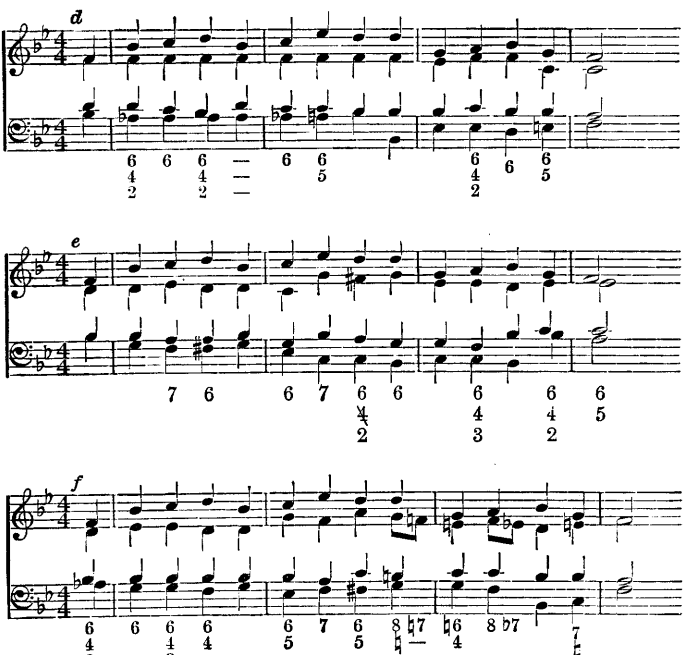


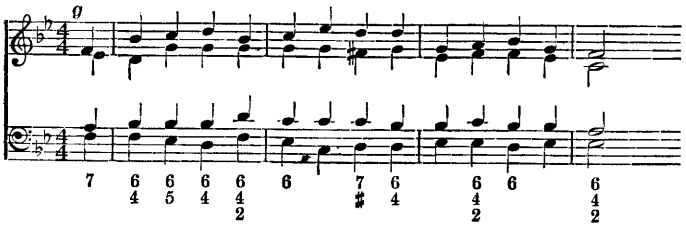
173. Any chord may follow that of the minor seventh which would supply places for the restless sounds to make any of the progressions which have been suggested, or to be retained in any understandable capacity. The many succeeding harmonies thus rendered possible will be more fully understood as we become acquainted with other dissonances.

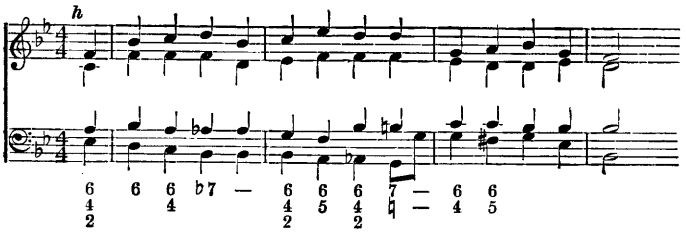
174. "False relation" (*par. 106*) is caused only by sounds consonant in their respective chords, and jarring with some consonant sound of another harmony. It never exists between two sounds dissonant in their respective chords; or between a dissonant note in one chord and a consonant sound in another. Occasionally, the insertion of a dissonant sound may, even, to some slight extent draw away the attention of the ear from the antagonism of two sounds which, in adjoining chords, are insufficiently related.

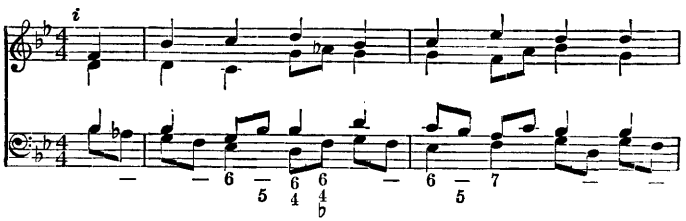
175. Of all the dissonances of the chromatic scale the minor seventh is the mildest and most useful. Technically, it is discordant, and requires resolution; but, really, when the different parts are properly separated, it so enriches the harmony that there is no great hurry to get rid of it, and it may agreeably be continued until a change of chord ensues: instead of being, like the harsher dissonances, quickly resolved over the same ground-tone. And there is no rule fettering the approach to a seventh; beyond that which enjoins the avoidance of all awkward intervals, except that skip allowed in paragraph 168.

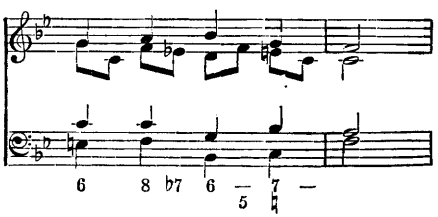
"ST. JAMES."



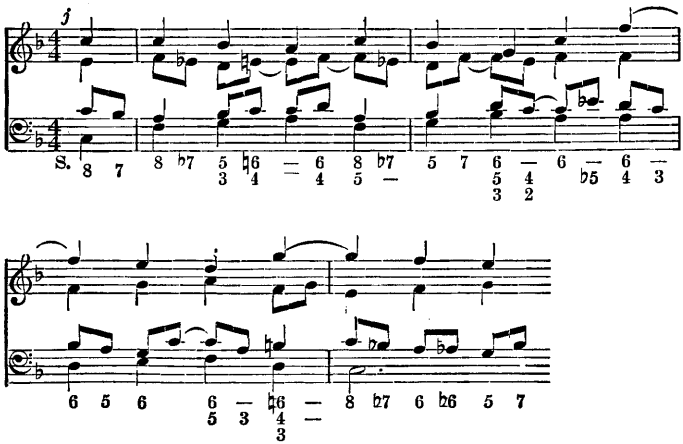

g
7 6 6 6 6 6 7 6 6 6 6
4 5 4 4 # 4 4
2 2 2


h
6 6 6 b7 — 6 6 6 7 — 6 6
4 4 4 5 4 4 — 4 5
2 2 2

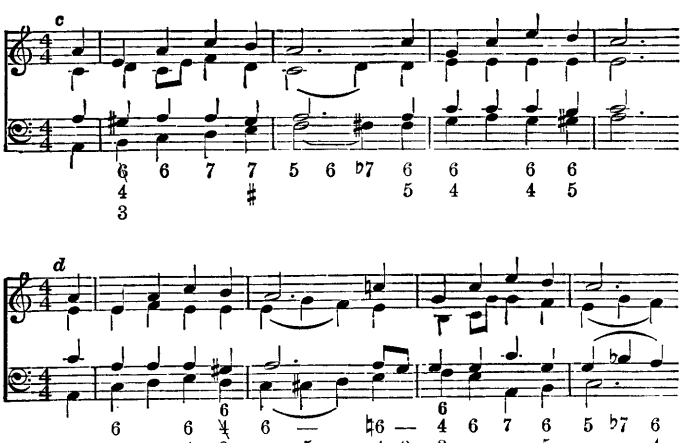

i
— — 6 — 6 6 — 6 — 7 —
5 4 4 5
b


6 8 b7 6 — 7 —
5 4

With the subject, or melody, in the bass:—



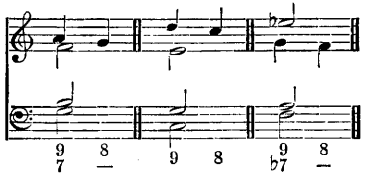
"ST. BRIDE."



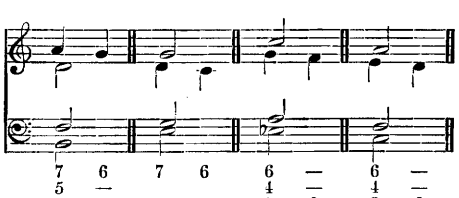
After harmonizing the whole tunes in the different styles here suggested, students should select similar melodies; and treat them with as much variety as possible.

176. Ninths are of three kinds (*par. 111-12*), minor, major, and augmented. A major ninth stands at the same distance above the eighth as the minor seventh is below it, viz., a tone: but it does not form an augmented, or diminished, interval with any sound of the chord; therefore it appears ready to be drawn into a state of consonance with the other notes, rather than to irritate them all into movement, and to force a change of base.

177. The major ninth may be added to a major, or to a minor, triad; and used with or without the minor seventh. Its natural tendency is to the eighth—the strong foundation of the harmony. The actual note (unison) upon which it resolves is very rarely combined with it.

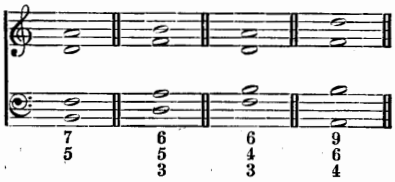


178. The chord may be used in all forms; with the ground-tone in the lowest, or in any, part; although, generally, from the inversions it is omitted.

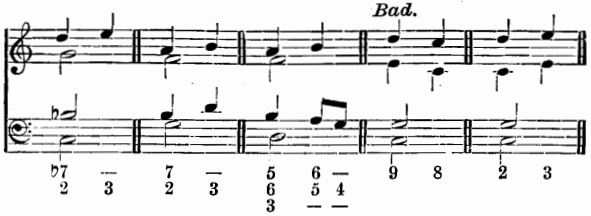


When the eighth is used above the ninth the effect is much harsher than when it is placed in a lower part; and to use the eighth, even in a lower part, is unnecessary in four-part

harmony; inasmuch as, without it, the chord includes four differently-named sounds. Without the ground-tone, and especially in its first inversion, the chord has the look of a triad with a minor seventh added. But examination shows that the fifth above the apparent base is diminished, and no chord has such a fifth from its ground-tone.

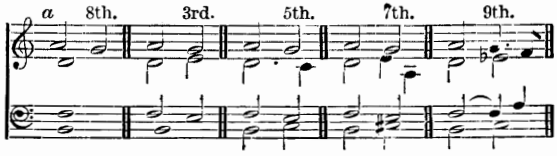


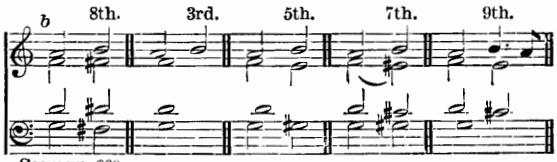
179. But the major ninth stands at the same distance from the tenth of a major chord as from the eighth; and may resolve upward, as easily as downward. If it does so the chord may be left without its third until that sound is supplied by the resolution of the ninth. Or the third, in any other part, may be relinquished when the ninth so resolves. But, whether the ninth resolves upward or downward, no other voice should proceed by similar motion to the unison, or to the octave of its resolution (*par. 153*).



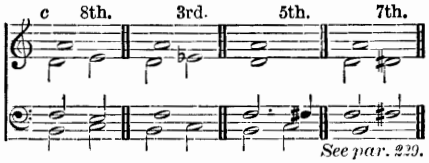
180. But the other voices are not bound to sustain the chord until the ninth is relinquished. They may move, without awaiting its resolution: and the note to which it falls (*a*) or rises (*b*) may be any proper sound in the new chord. Or the ninth

may be held (*c*); and the other parts be drawn into agreement with it. When the other voices thus give way it is not absolutely *necessary* to continue the ninth in the same part until the completion of the resolution (*par. 170*). In the following tables of resolutions (which may be extended as our list of dissonances increases) the figure over the second minim of each bar shows the relation of the sound resolving the ninth to the base of the new chord.





See par. 229.

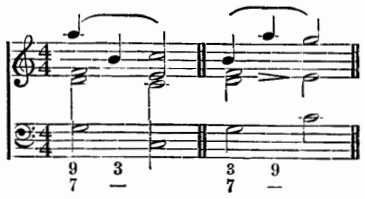


See par. 229.

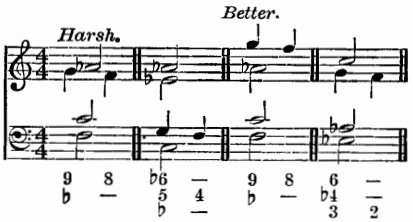
The figuring of the bass-part has, now, been continued long enough to show the system. In involved chromatic harmonies it, frequently, affords no clue to the real base. In the succeeding examples, figures will be added only occasionally, when advisable with new dissonances.

181. The ninth sometimes (like the seventh, in paragraph 168) skips down to the leading-note, instead of rising a tone: or

the reverse progression may be made. The figures 9-3 or 3-9 really describe such progressions.



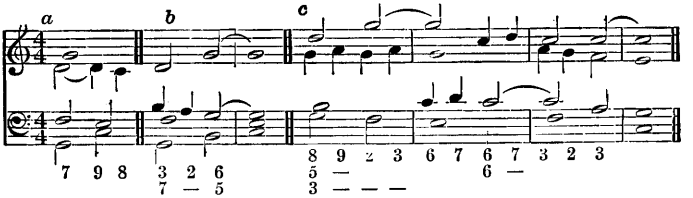
182. When the discord is added to a minor triad the chord is somewhat harsh if the third is used in a higher part than that in which the ninth is placed. Indeed, whenever two sounds are a semitone, or a major seventh, apart (or any octave of either interval) the effect of the seventh is much less disagreeable than that of the semitone. (*See, however, par. 204.*)



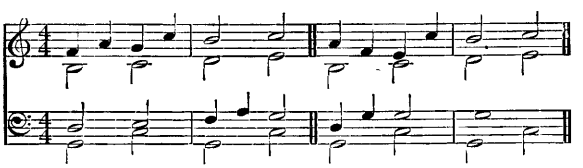
In a major mode such a chord occurs, naturally, only on the supertonic, mediant, sub-mediant, or leading-note base. In a minor mode it may happen on the tonic, super-tonic, or sub-dominant.

183. The approach to all dissonant sounds more pungent than a minor seventh is—except, occasionally, under the charm of a distinctly melodic, or tuneful, part—somewhat restricted. Such dissonances may be very safely introduced as sounds continued from the preceding chord; and suspended, or retarded,

over a new base (*a*); or as passing notes, filling up what would otherwise be skips of thirds (*b*); or (*c*) as waving or undulating notes.



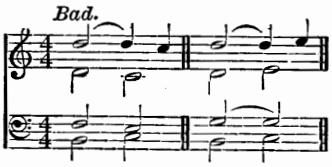
But, sometimes, the thoroughly tuneful progression of a melodic part justifies a skip from the seventh to the ninth, or even from the ninth to the seventh; the second dissonance, alone, being properly resolved.



And, under like circumstances, a ninth, or other dissonance, may be taken by skip over a new chord, and on a pulse. (*See example to par. 185.*)

184. A *prepared* discord is a sound held, when the movement of the other parts has established a new chord with which it does not agree. The preparation of a dissonance is not necessarily a consonance. A sequence of chords may be used, with a part (or parts) moving from dissonance to dissonance, alternately with such a change of bases as gives to the syncopated voice a frequently altered character. When a dissonance thus prepared resolves downward it is called a suspension: when it rises the progression of the part is said to have been retarded. The

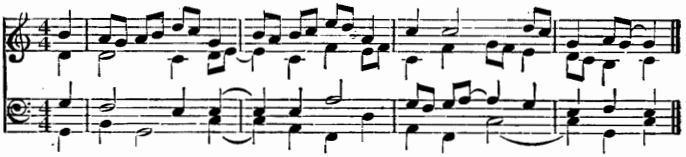
dragging behind of a voice, does not constitute a sufficient avoidance of consecutive octaves in any parts.



As the rhythmic pulsation is generally marked by the change of chord the voice which lags behind becomes dissonant on a beat, or step, of the movement; and has a prominence, or accentuation, which a passing dissonance ordinarily has not. It is true that passing dissonances *may* occur on the pulses; but far more frequently, and less obtrusively, they are inserted (*par. 156*) between the steps of the movement.

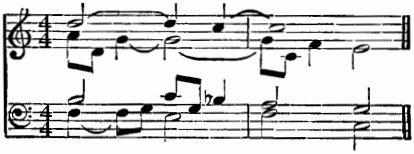
185. Evidently, the importance of any harshness of combination is increased by the greater prominence of its display. With a passing or waving dissonance placed *between* pulses, and moving a whole tone, upward or downward, to a consonant position, the holding by any other voice of the octave of its resolution is of very little consequence. But the harshness is largely increased when such an octave is held, *especially in a higher part*, and the dissonant sound is used on a pulse. It makes very little difference whether the dissonance is prepared or not. Therefore, it is wise—except in those rare cases when pungency is desirable—to avoid such combinations: which are especially objectionable if the dissonance has a semitonic progression (*pars. 193, 207, 213*). But pulses are of different strengths: and their varied force, when congregated under the influence of a strong accentuation, is but the extension over a wider area of the principle which establishes them as the simple steps of progress, with a possibility of interior movement (*par.*

42, &c.). One law governs the whole rhythmic cycle which we call "a bar," and its grouped sections. The difference of force between clearly marked individual steps and anything interposed between them, is, in a large degree, reproduced in the difference between emphasized and non-emphasized pulses; and the necessity for extra care as to the relationship of the voice-parts on the individual pulses (beyond what is requisite in respect to their arrangement in any intermediate movement) sometimes becomes transferred to the more strongly accented pulses, to the neglect of the weaker responsive, alternate, throbs. With a well-established and sustained triad, to which the ear has become accustomed, a part may move among any of the dissonant sounds of the chromatic scale of its ground-tone, with very little care as to a transient harshness produced by the grating of the chromatic sounds with any octave of their resolutions which may be held by lower, or even by higher, voices.



186. Having written their four-part harmony with, or without, minor sevenths—which should now be well understood—students should look through each part for places where voices move one scale-step; and would, by being retarded, become prepared major ninths, not having the octave of their resolutions above them. A second survey may detect points where, through a part skipping a third, the insertion of an intermediate note would produce a major ninth, preferably between the pulses; or, if on a pulse, not having the octave of its resolution above it. A third scrutiny may discover opportunities to relieve the stagnation of some part (probably the contralto) by the insertion

of waving notes; which would create motion, but would lack the justification, belonging to passing notes, of being intermediate sounds lying directly in the path of the consistent scale-like progression of the voice. After repeated exercise of this kind familiarity with ninths—as previously with sevenths—will have been gained; and their judicious insertion in the first sketch of the harmony rendered easy. A ninth may, like a seventh—while the chord substantially remains—be followed by some triad sound before the part proceeds to the resolution of the dissonance.



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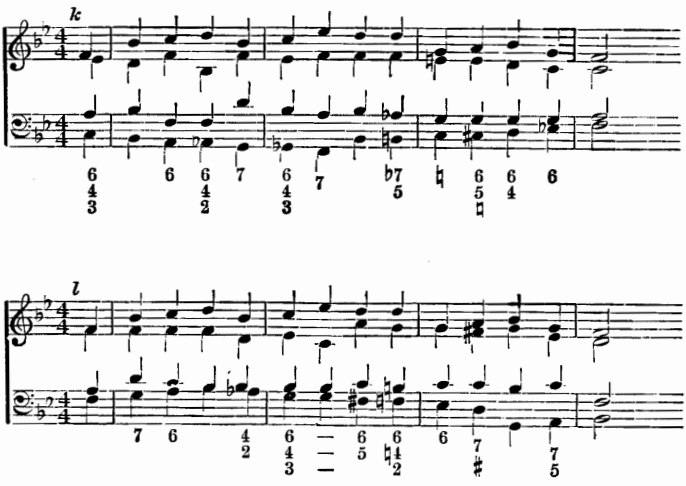

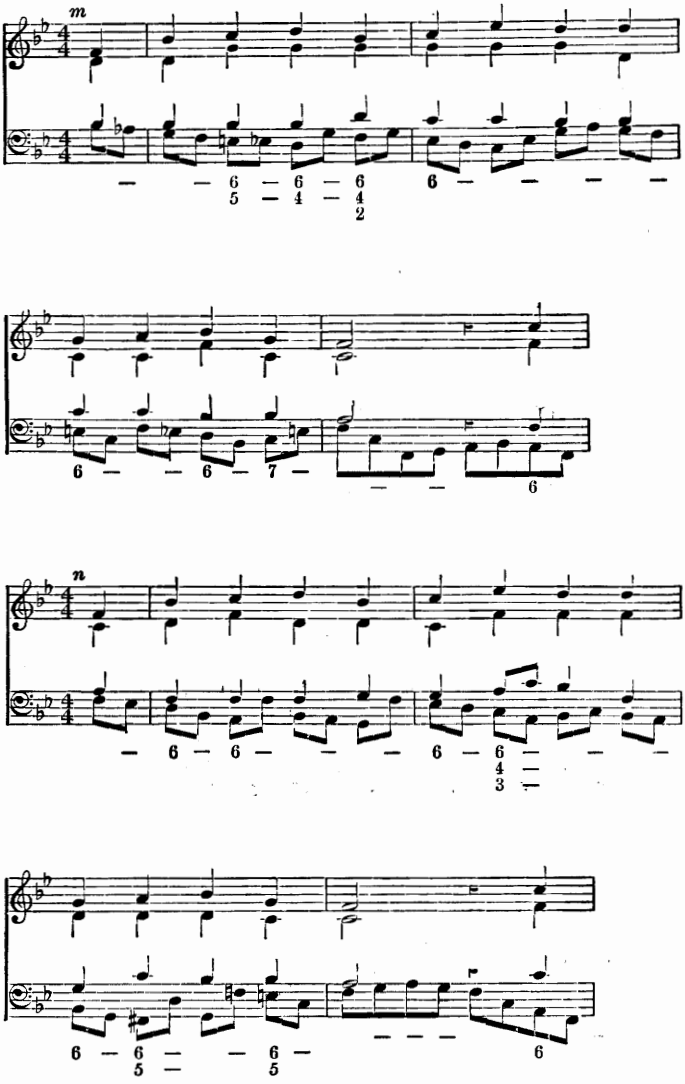
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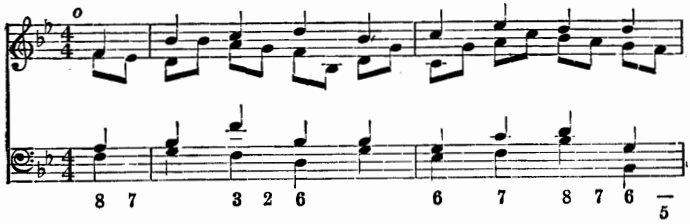
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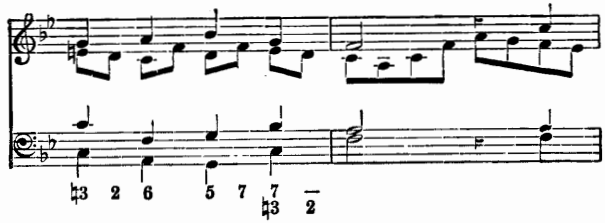
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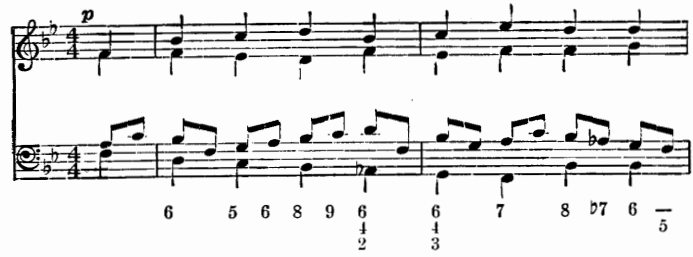
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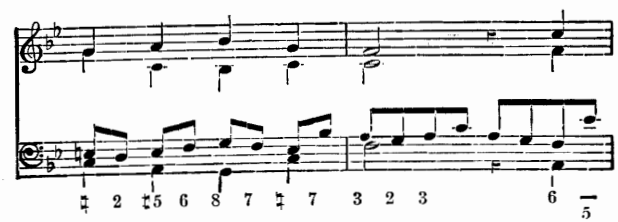
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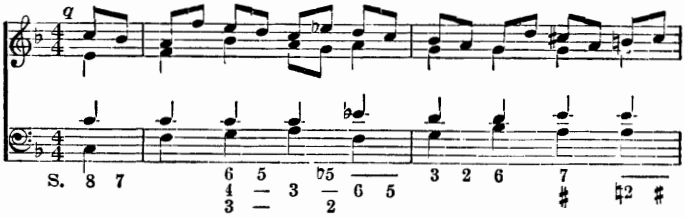

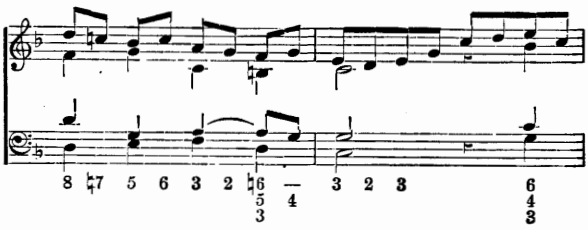

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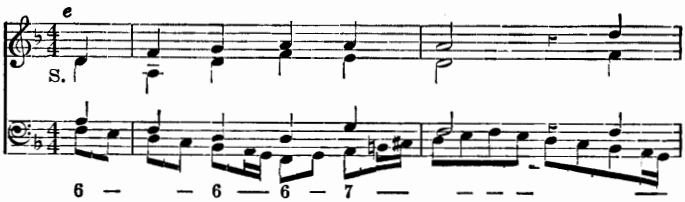
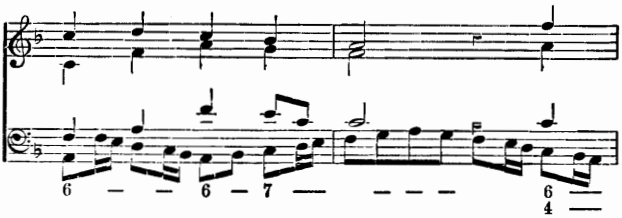
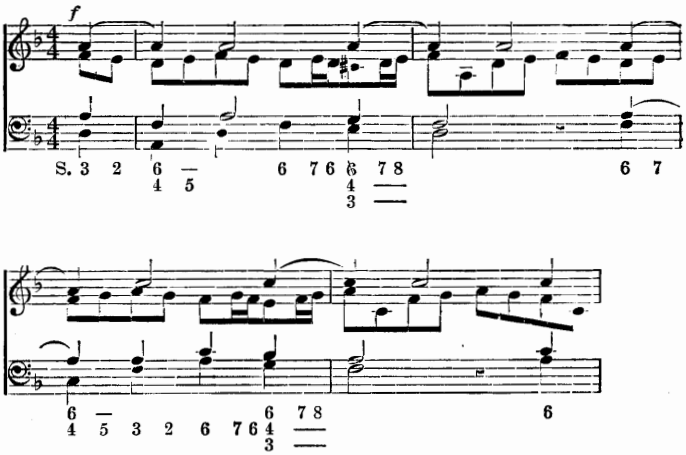






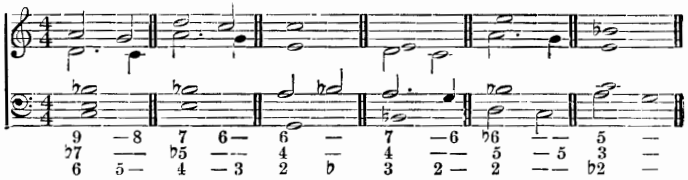
187. It will be noticed that, since the introduction of dissonances, the movement of the parts has materially increased; and that greater life has, thus, been infused into the harmony; as well as some degree of individuality of character given to the subordinate parts. The melody itself, too, except in the hymn-tunes, has been freed from that extreme regularity of strongly marked pulsation which is necessary in music designed to keep together the singing, or the physical movement, of large numbers of people. A new chord for every step is no longer advisable. Secular, as well as hymn-melodies, may now be taken as themes for harmonic exercise: and of such we have in Britain an abundant store. (*See examples to par. 218.*) After a time students should endeavour to devise original tunes. The construction of a melody is precisely like that of a voice-part enjoying freedom of movement. A good melody must, like good harmony, be based upon well-related chords; having no awkward intervals in it, no false relation, or vagueness of tonality. Chromatic sounds are not to be altogether shunned, but their

purpose should always be obvious; they must have the same clearness of aim which they ought to have when used in subordinate parts. Definiteness of purpose is necessary in the movement of a theme, as well as in consecutions of chords: and sentences, or smaller phrases, should be marked by occasional semi-restful effects; like those produced by the close linking of the harmony, whereby the comma or semi-colon punctuation of the divisions of a sentence, or of the lines of a hymn-tune, are marked (*par. 140*). A moderate success is open to all, except to an extremely small percentage of students. Really earnest, persevering endeavour will, in nine cases out of ten, lead to the "having something to say," as well as to a knowledge how best to express that something. And, always, it will conduce to a vastly increased delight in that diligent analysis of really good music, and of the different modes whereby composers have set upon their works the characteristic stamp of their temperament, which constitutes a study of the literature of the art; akin to the pleasure and advantage of pondering those higher methods of construction which have become the classical models of any language, or mode of expression.

188. The base and fifth of a chord are its firm sounds, its strongest supports. Often they are doubled; whereas the duplication of the third is generally avoided. Hence the necessity, when using ninths and thirteenths (*par. 145*), to avoid the harsh clashing of either dissonance with any octave of its resolution (*pars. 177-9*): a necessity which seldom arises in the use of a dissonance interfering with the third of a triad. Consequently the effect of any simultaneous use of a thirteenth and a fifth (or any octave of the fifth) is very similar to that of the union of a ninth with any octave of the ground-tone of the chord (*par. 178*). The doubling of the base, or fifth, of a triad is, in four-part

harmony, unavoidable: but, with the greater number of sounds which dissonant combinations contain, there is no such necessity. It is, therefore, scarcely needful to state that, from a chord containing a thirteenth which resolves downward on the twelfth the fifth is generally excluded; except when, in the second inversion, it is used in the lowest part. A voice having the fifth may not by similar motion proceed to the octave or unison of a sound upon which the thirteenth resolves (*pars. 153 and 179*).

189. A major thirteenth may be added to any major or minor triad; and may be combined with a seventh or a ninth, or with both of them. Generally the major thirteenth is used with a major triad; because of the simplicity of the interval it forms with its third. The chord may be used in all forms.



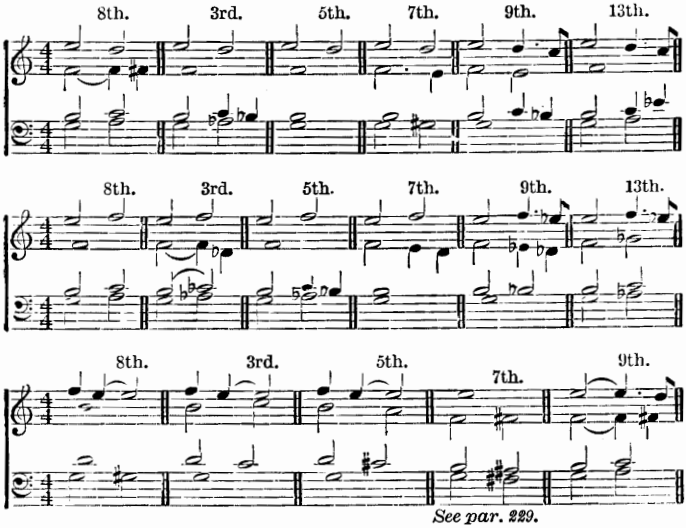
Like a ninth, a thirteenth may be prepared, or employed as a passing, or as a waving note.

190. And, like a ninth, it is frequently resolved over its own base; being drawn down a tone to the twelfth, or rising a semitone to the fourteenth (minor seventh). But, by the movement of the other voices, the sound to which it progresses may be really the eighth, third, ninth, seventh, or other proper constituent of the resolving harmony.

191. Moreover, the dissonant sound may, like a ninth, be held; and all the parts antagonistic to it drawn into consonance with it. But when it thus forms the axis round which the other

sounds revolve it is not absolutely necessary (though advisable for young students) to sustain the note until the completion of the resolution. The voice may relinquish the sound which, instantly, loses its dissonant character, and is felt to be the ruling sound to which all the other parts submit (*par. 180*).

192. The following tables of resolutions will be capable of extension as our knowledge of dissonances increases. The figure placed over the second minim in each bar shows the relation of the sound to the base of the new chord.



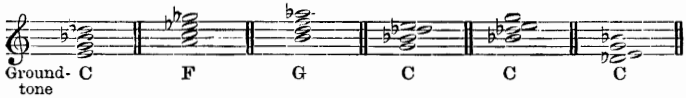
See par. 229.

In the first three bars of the last line of the above example the fifth—rather than the seventh—is combined with the thirteenth; in order to avoid the harsh effect of a sound held by any higher voice while a lower part descends a *semitone* to its octave (*par. 216*). Following the plans suggested in paragraph 186, with respect to the insertion of major ninths, students should look through their harmony for places where major thirteenths

may be introduced as passing or waving notes, or as prepared dissonances.

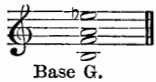
193. Minor ninths and thirteenths may, like the major dissonances of the same numbers, be classed together. They are more strongly drawn down to their natural resolutions—the eighth and twelfth—and, obviously, they must clash more harshly than the major dissonances with any octaves of those resolutions; so much so, indeed, as almost invariably to exclude the latter, except when they are used in the lowest part.

194. With a major third, and without the ground-tone, a chord including a minor ninth and a minor seventh is known as that of a "diminished seventh."



Being entirely made up of minor thirds, and lacking the firm consonance of a perfect fifth, the extreme pliancy of the combination (*par. 233*) enables such a chord to twist in all directions.

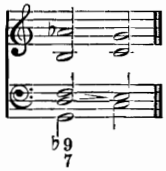
195. Without the true base, a chord containing its major third, minor seventh, major ninth, and minor thirteenth is, because of its two diminished fifths, and no confirmatory perfect consonance, almost equally yielding.



The extreme pliancy (*par. 161*) of these, and other, dissonant combinations will be examined (*par. 227*) after our study of their more obvious tendencies.

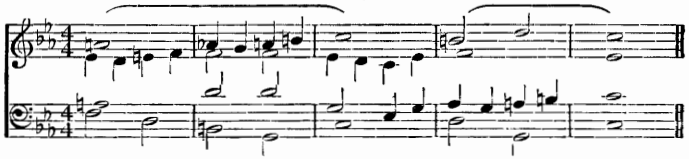
196. Although a minor ninth is generally resolved before the seventh, yet the diminished, or augmented, intervals which it forms with the major third and with the fifth give the chord

something of that dominant tendency which the major third and minor seventh have when combined.

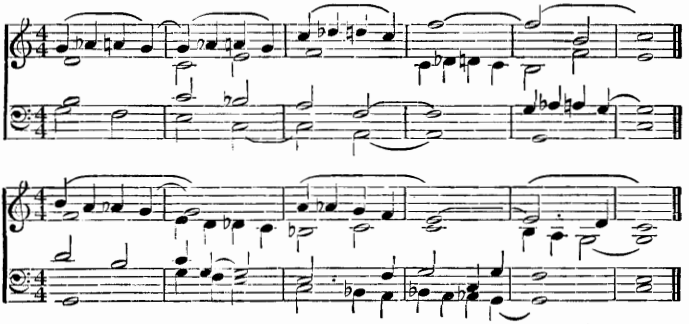


197. In a major mode the ninths of the tonic, of the super-tonic, the sub-dominant, the dominant, and of the sub-mediant are, naturally, major. Upon the mediant and the leading-note the ninths are, naturally, minor: although, of course, the major ninths of those bases may, readily, be taken.

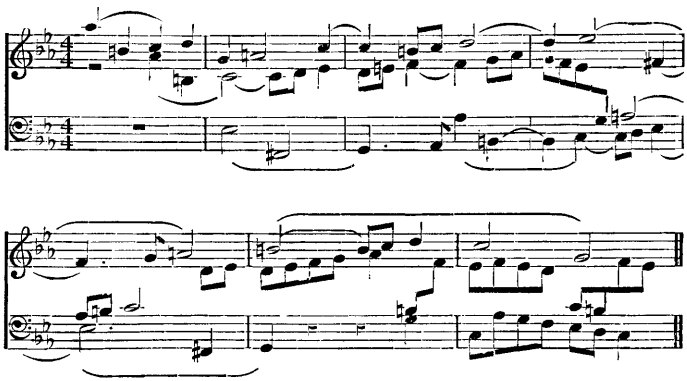
198. In a minor mode the ninths of the super-tonic and dominant are minor or major, according to their downward or upward course (*pars. 94 and 201*).



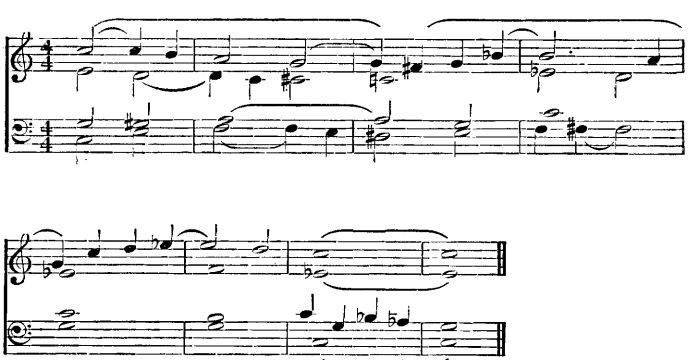
199. While the chord is sustained a minor ninth, or thirteenth, may move up a semitone to the major dissonances of the same number.



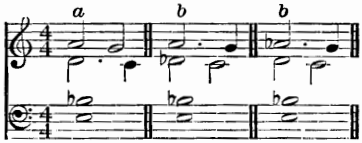
200. Occasionally, while the chord is sustained, and in a distinctly melodic part, a skip downward is made from a minor ninth to the leading-note.



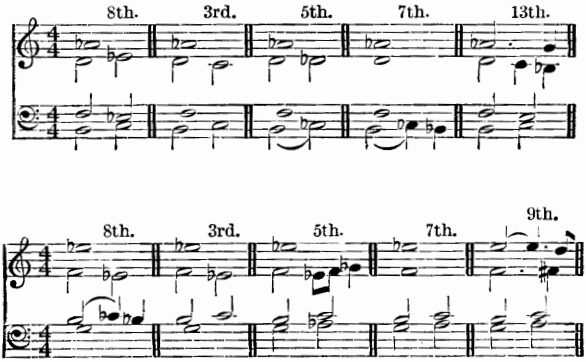
201. In a major mode the thirteenths upon the mediant, the sub-mediant, and the leading-note are naturally minor. In a minor mode upon the dominant and, sometimes (through the variable form of the upper part of the melodic scale, *par. 94*) upon the tonic and the super-tonic, the thirteenths are minor.



202. Of course, when a ninth and a thirteenth are combined the association is less pungent if both dissonances are either major or minor. The effects of chords *a* and *b* should be compared.

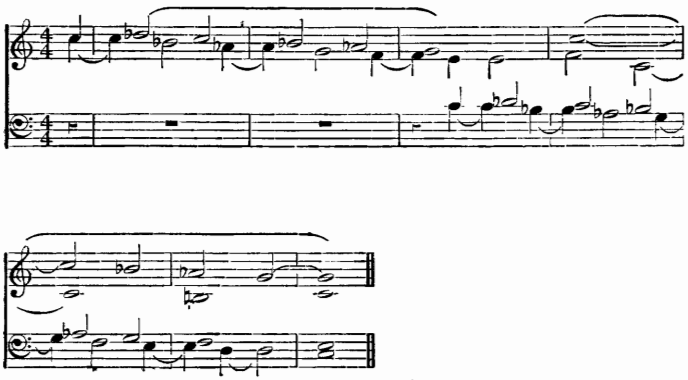


203. The chords resulting from a minor ninth, or thirteenth, falling a semitone are, for the most part, the same as those produced by the major dissonances falling a tone; and need not be given here (*pars. 180 and 192*). But the following tables show the resolutions produced by sustaining a minor ninth or thirteenth, and through the movement of the other voices.



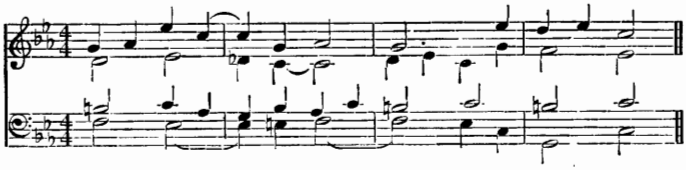
204. Paragraph 160 warns that to combine an eighth and a minor seventh at the distance of a single tone is to present the dissonance in a somewhat harsh form; and paragraphs 177 and

188 discourage such a close juxtaposition of either a major ninth and the eighth, or of a major thirteenth and the twelfth. Evidently, the roughness of combined sounds a tone apart must be exceeded when the distance is reduced, as in any union of eighth and *minor* ninth, or twelfth and *minor* thirteenth. Nevertheless, with very careful arrangement of the parts, each voice (whatever may be its relationship to the base of the chord) being treated as dissonant, and made to move only one scale-step, and with a constantly alternating relief from the pungency of extreme dissonance, even long sequences of such combinations may be managed. In the following example each step of each voice-part is strictly correct: but the example is given only as an extreme specimen of what may be called *legal* dissonance; permissible in some dramatic exigency of "parts fitted together;" but in a manner scarcely consistent with the usual aim of harmony.



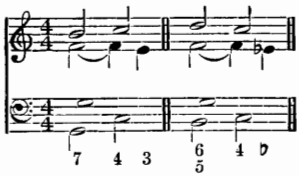
205. Like other restless sounds, neither a ninth nor a thirteenth is *necessarily* sustained by any voice until the other

parts have absolutely moved into consonance with it. (*Pars. 180 and 191*).



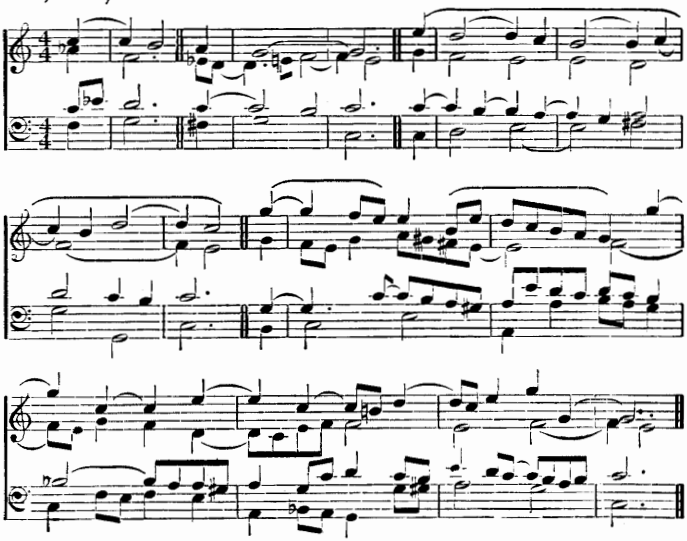
Until familiarity with the minor dissonances has been acquired, students—having constructed their four-part harmony—will carefully examine each voice-part, in order to discover where minor ninths or thirteenths may be introduced as the major dissonances were (*pars. 186, 192*).

206. If, in a perfect cadence, the minor seventh of the dominant be suspended over the tonic base the dissonance called an eleventh is produced.

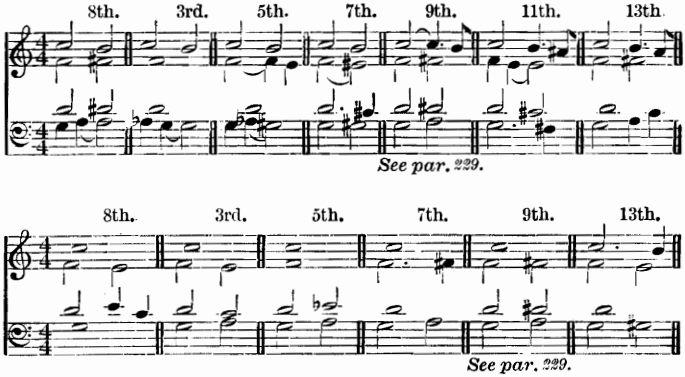


207. A perfect eleventh (or fourth) is, except the minor seventh, the most useful and generally available of all dissonances. It retards the third; and distinctly does duty for it: and, as the third is very rarely doubled, there is but small danger of the extreme harshness which would be produced by a combination of the eleventh with the third (*par. 211*). The numbering of the discord as an *eleventh* has not the same significance as that of the other dissonances (*par. 146*); for it is equally available as a fourth from the ground-tone.

208. There is no difficulty in combining an eleventh with any of the dissonances already described; in resolving it, with similar liberty of progression or of retention; or in admitting it into melodious part-writing (*par. 185*), as well as into plain chordal harmony. In fact, the perfect eleventh is less pungent on a pulse than any other dissonance except the seventh; because (unlike both ninth and thirteenth), no other voice is likely to interfere with its resolution, or with any octave thereof. Any "preparation" of it is, therefore, entirely unnecessary: to approach it by a single scale-step is quite sufficient (*pars. 186, 192, and 205*). A ninth and an eleventh, or an eleventh and a thirteenth, are mutually consonant: and the parts in which they are used may, agreeably, move together in parallel thirds. But no voice having a sound adjoining an eleventh may, by similar motion, proceed to the octave, or unison, of the resolution of the discord. (*Pars. 153, 179, 188.*)



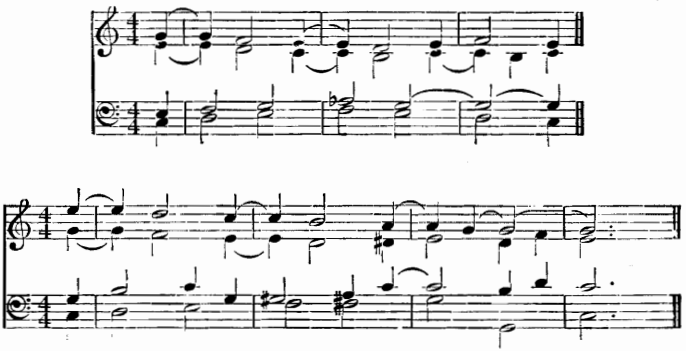
209. The tables of possible resolutions of an eleventh, although full of variety, must be incomplete until we become acquainted with the rising dissonances yet to be considered.



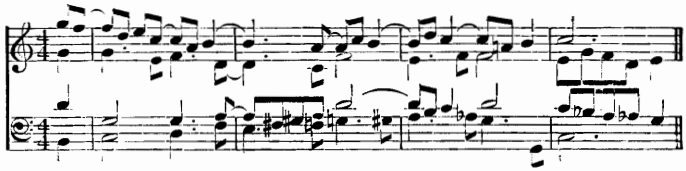
210 Like the previously described discords, an eleventh may be used upon any proper base. Upon the sub-dominant of a major mode, and the sub-mediant of a minor mode, the eleventh is naturally augmented; but, like a perfect eleventh, it will resolve downward.

211. By this time students will have learnt to appreciate the very great charm resulting from the definite progression of each voice-part, even when a positively melodic effect is not aimed at. Many things, generally unadvisable, are allowable when the purpose is obvious. The doubling of the third of a triad—although always rendering that sound somewhat prominent—becomes more than permissible when, thereby, the tune and consistent movement of a part are secured. The most acutely dissonant combinations are—as we shall soon perceive (*pars. 217 and 218*)—robbed of much of their harshness when cautiously approached by opposite courses. Thus is the ear—by the

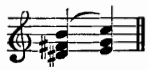
persistent moving of the parts in single scale-steps—reconciled, not merely to the doubling of the third of a triad, but to the clashing of an eleventh with that sensitive note (*par. 204*).



212. Not only may any voice—while the chord substantially remains—skip from a dissonance to some note belonging to the consonant triad of the ground-tone, before proceeding to resolve the discord; but it may leap a third to another dissonance; and then proceed to the intermediate note, provided that note forms a proper resolution for both dissonances.

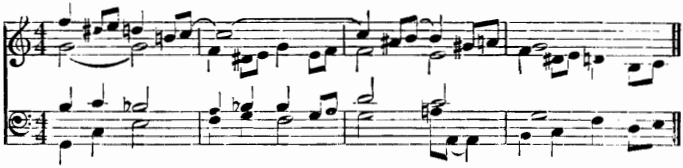


213. There are, yet, three rising dissonances afforded by every chromatic scale founded upon a major triad;—an augmented ninth, an augmented eleventh, and a major seventh.



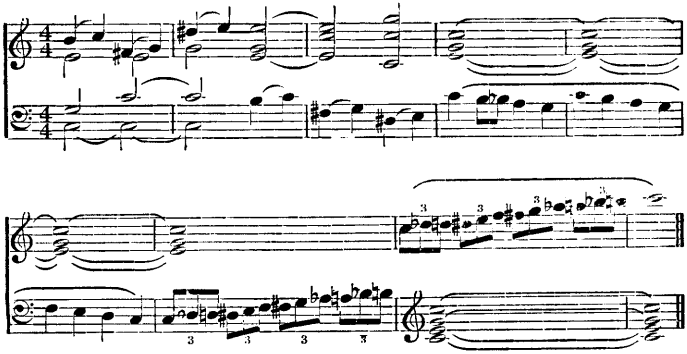
214. These sounds are, occasionally, spoken of as though they were, in some way or other, exceptional; being called "auxiliary notes," or by some fanciful name betokening an indisposition frankly to recognise the chromatic scale, and its value as the true basis of music.

215. But the rising discords belong to the same category as the falling. Like them, they help to fill up the interstices between the sounds of a consonant triad: and, like them, they tend toward the nearest sound of the common chord. They have their natural tendencies (upward), coupled with an extreme pliancy, and a readiness to turn in any direction. Moreover, they serve (like other dissonances) to bind together otherwise unlinked triads: and they have their natural inclinations, the gratification of which reconciles consecutions of wholly unconnected chords. And—just as a part may, while the base of a chord remains unchanged, leap a third, from one discord to another (*par. 212*), and then move to an intermediate sound forming a proper resolution to both dissonances—so may a like leap be made, even as the chord changes; especial care being taken that the note following the second dissonant sound should duly, and sufficiently, gratify the tendencies of both discords.

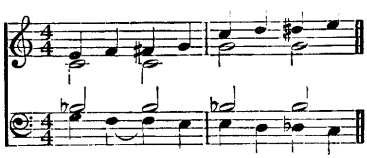


216. Discords which fall a semitone are very harsh when used below any octaves of their natural resolutions. Those which rise a semitone should *never* be so used, except when their natural progression is reversed, or the note or chord with which

they clash has been so well established (*par. 185*) as to have become a kind of fixed point, regardless of which any lighter, and extremely transient, sounds may be approached by skip, and may harmlessly play.

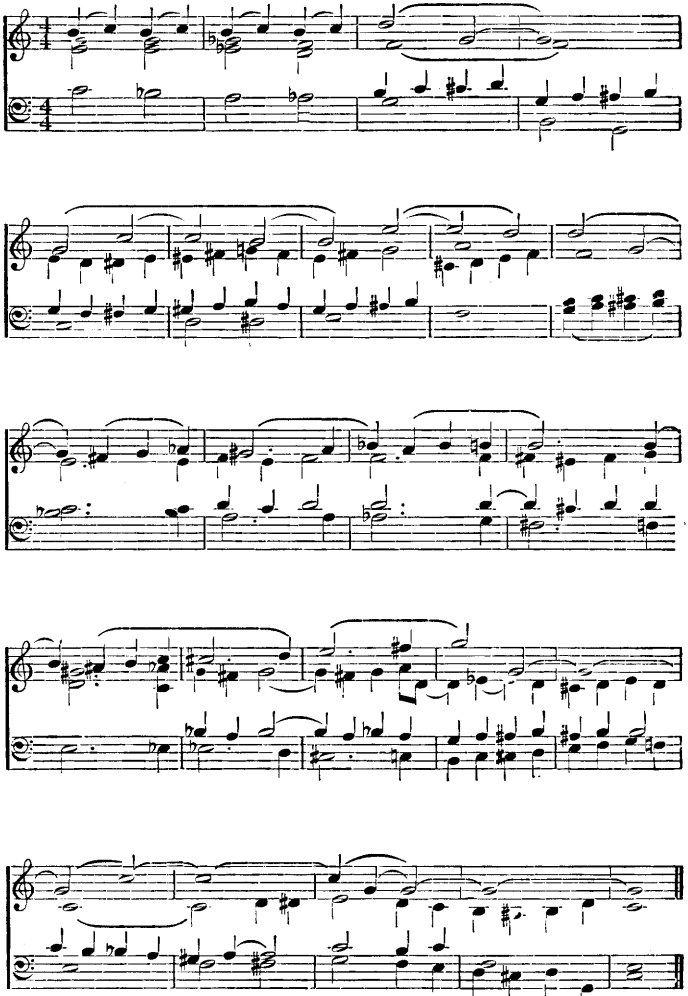


217. The naturally rising dissonances may be combined with any of the falling; even with those of the same number, if approached by contrary motion and in single scale-steps. Like all other dissonances harsher than minor sevenths (*pars. 186, 192, 205, and 208*) they should, generally, be carefully approached.

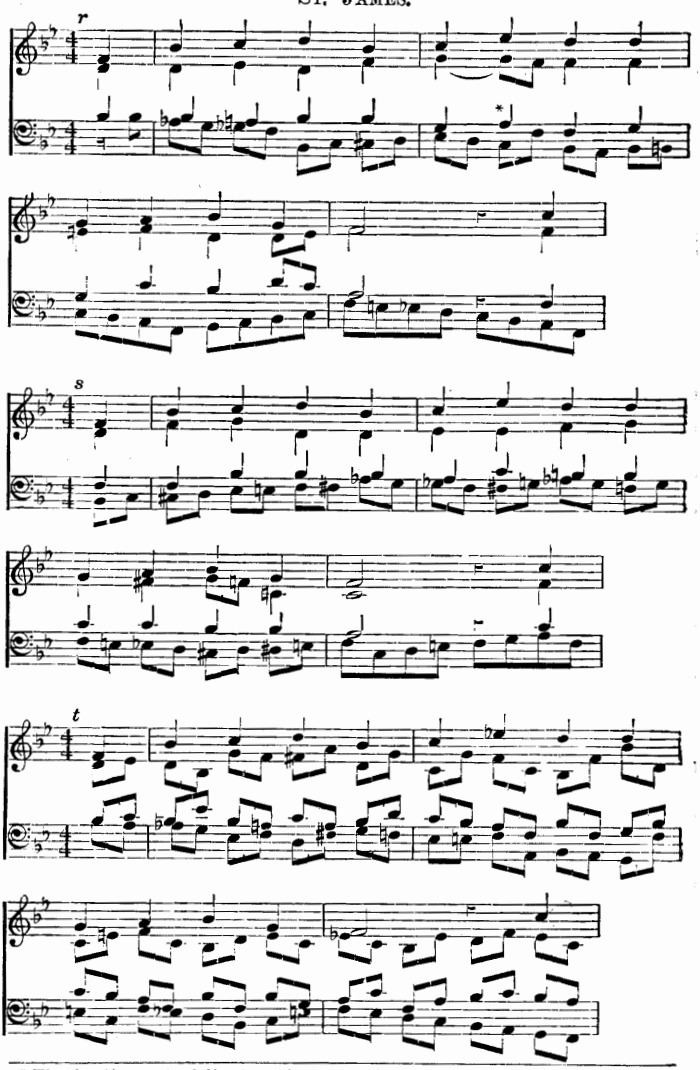


218. A major seventh may be used with any kind of ninth —minor, major, or augmented—with either a perfect or an augmented eleventh, or with a minor or a major thirteenth. An augmented eleventh may be associated with either kind of seventh or thirteenth, or with any sort of ninth; and an aug-

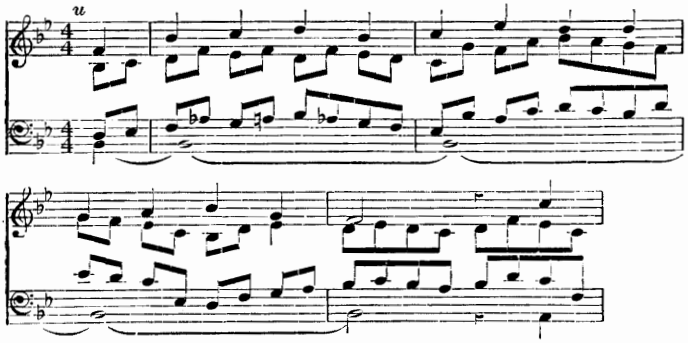
mented ninth may be used with either seventh, or thirteenth, or eleventh.



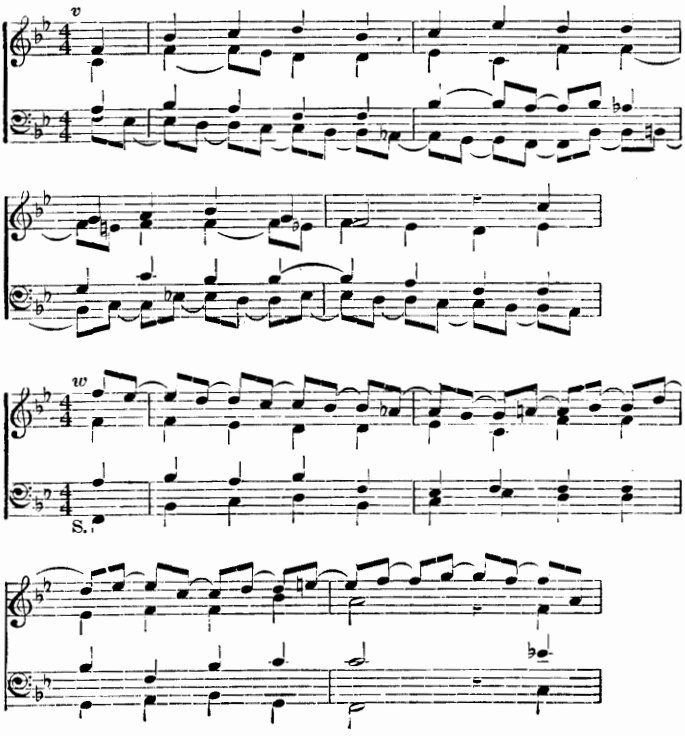
"ST. JAMES."

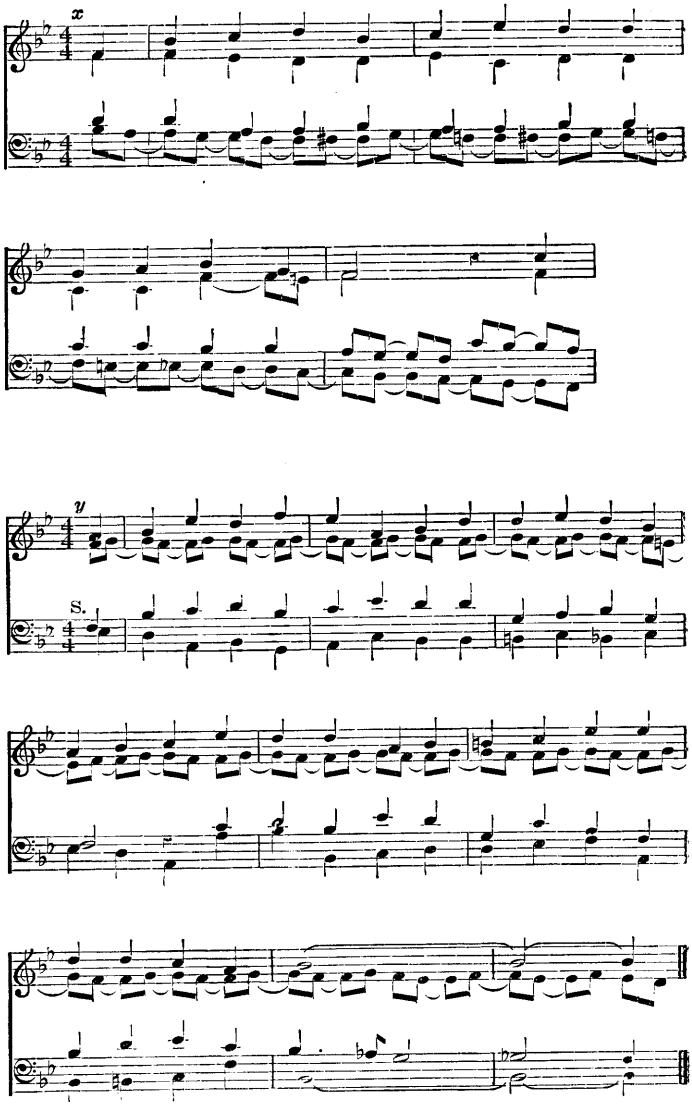


* The leading-note falls, in order to avoid the major 7th appearing below the octave of its resolution.

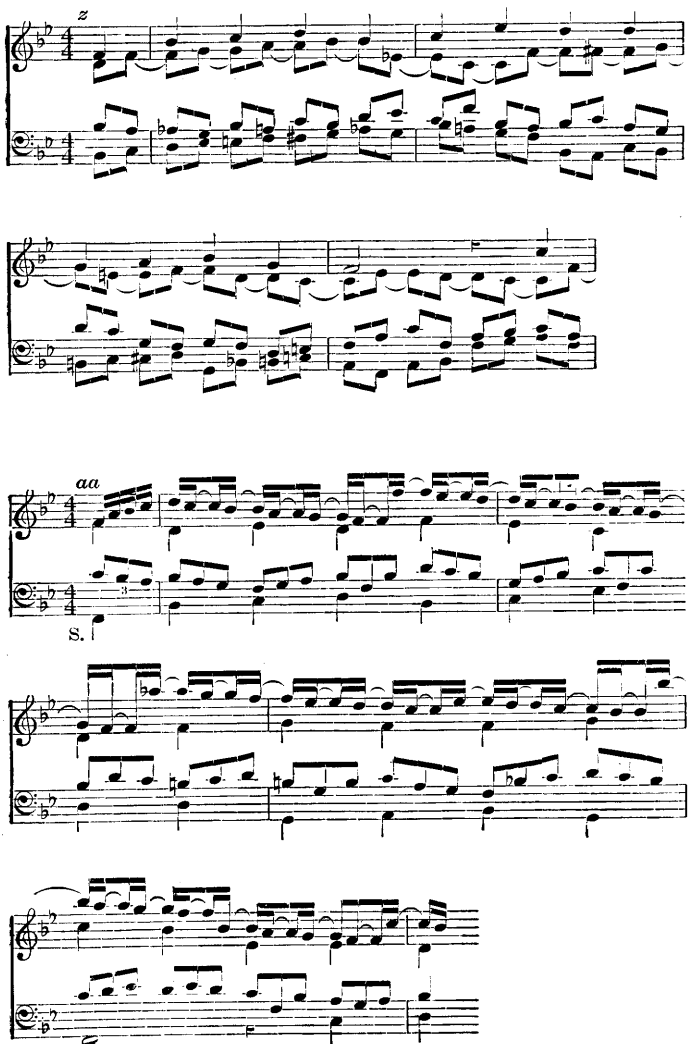


With suspensions:—that is, with a part, or parts, syncopated.

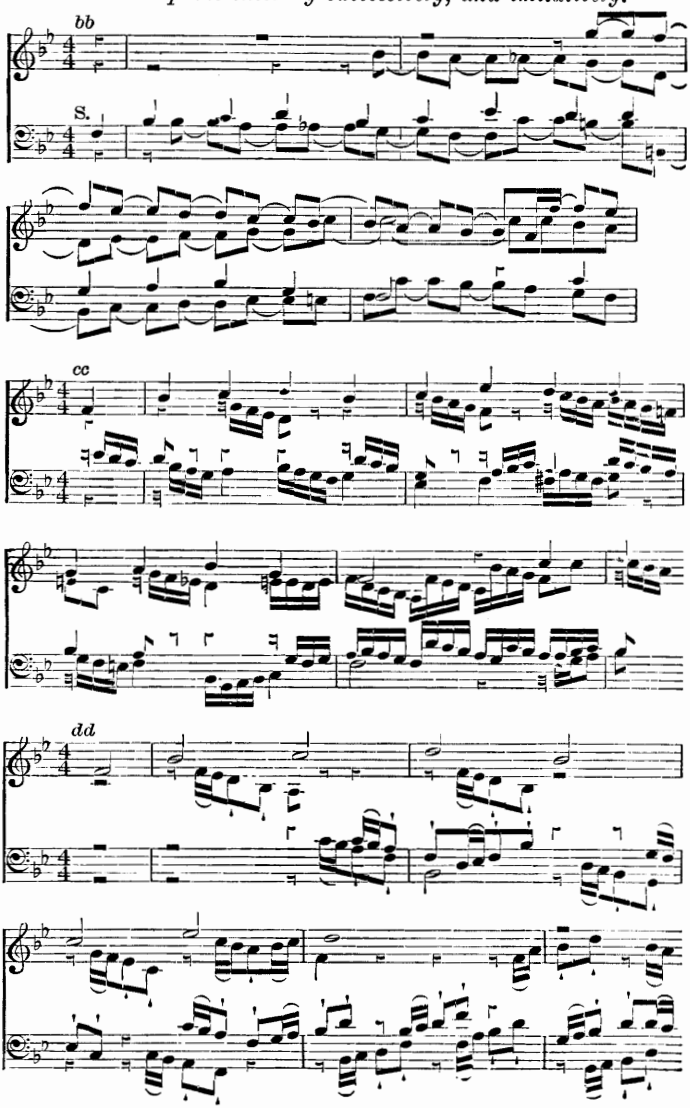


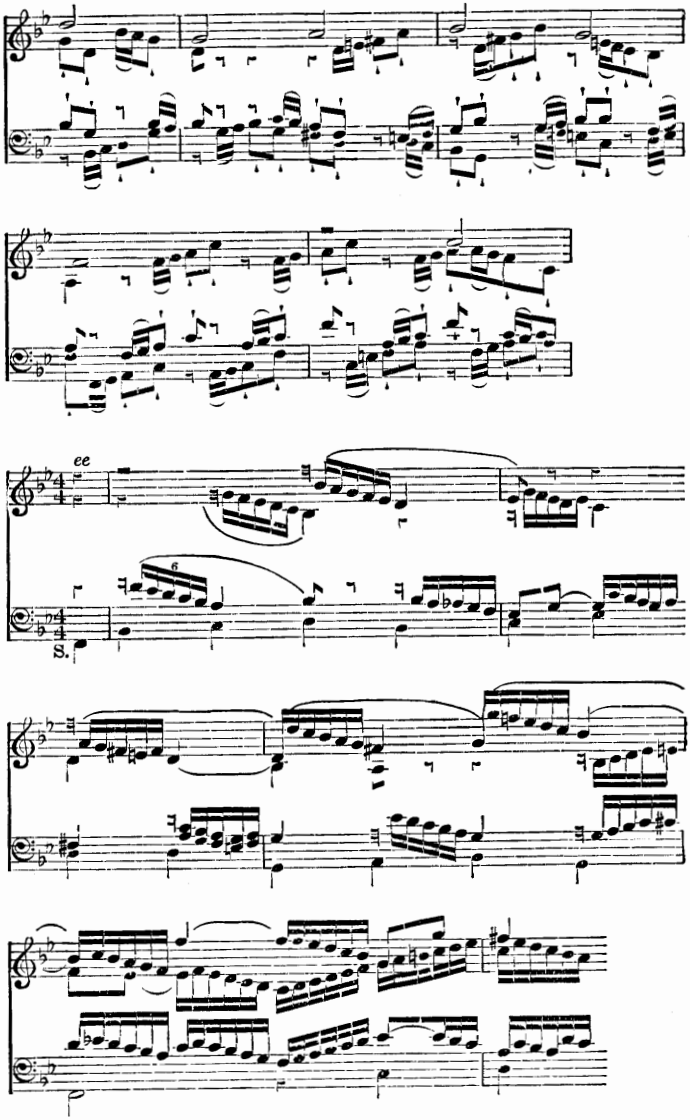

x
y
S.

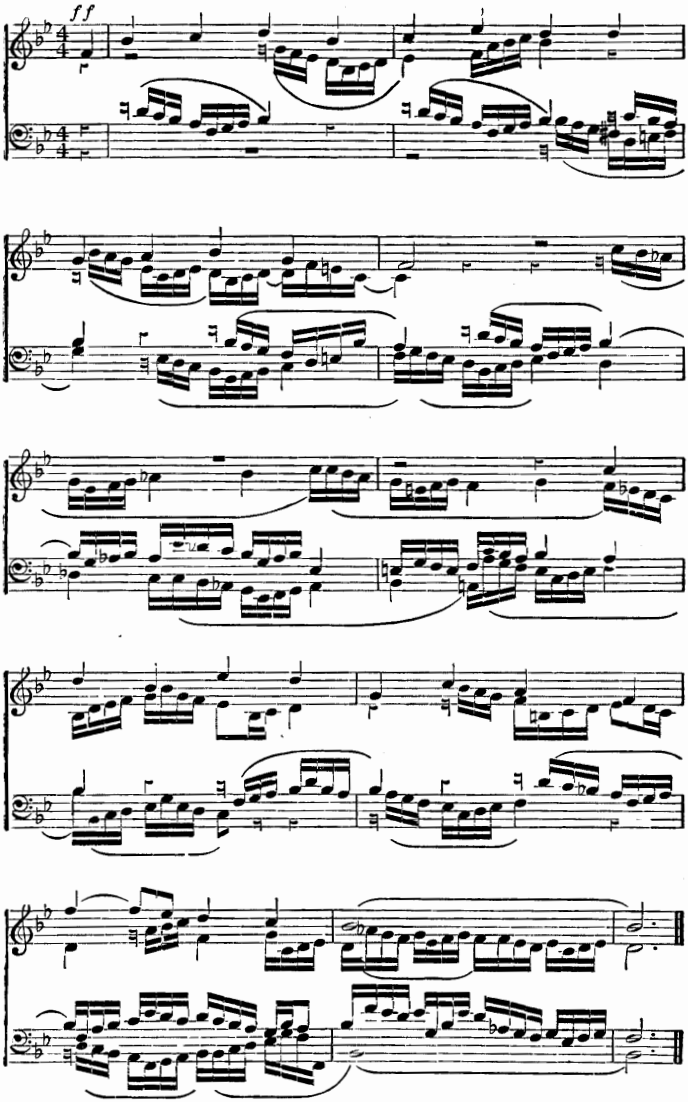
Combined use of suspensions and of passing discords.



With the parts entering successively, and imitatively.



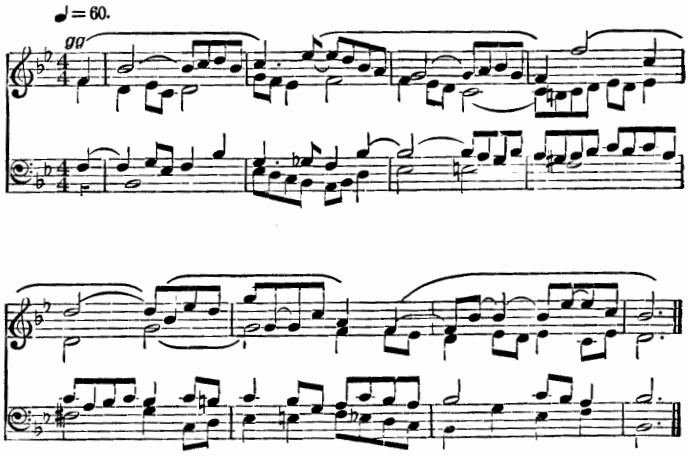

ee
6
S.

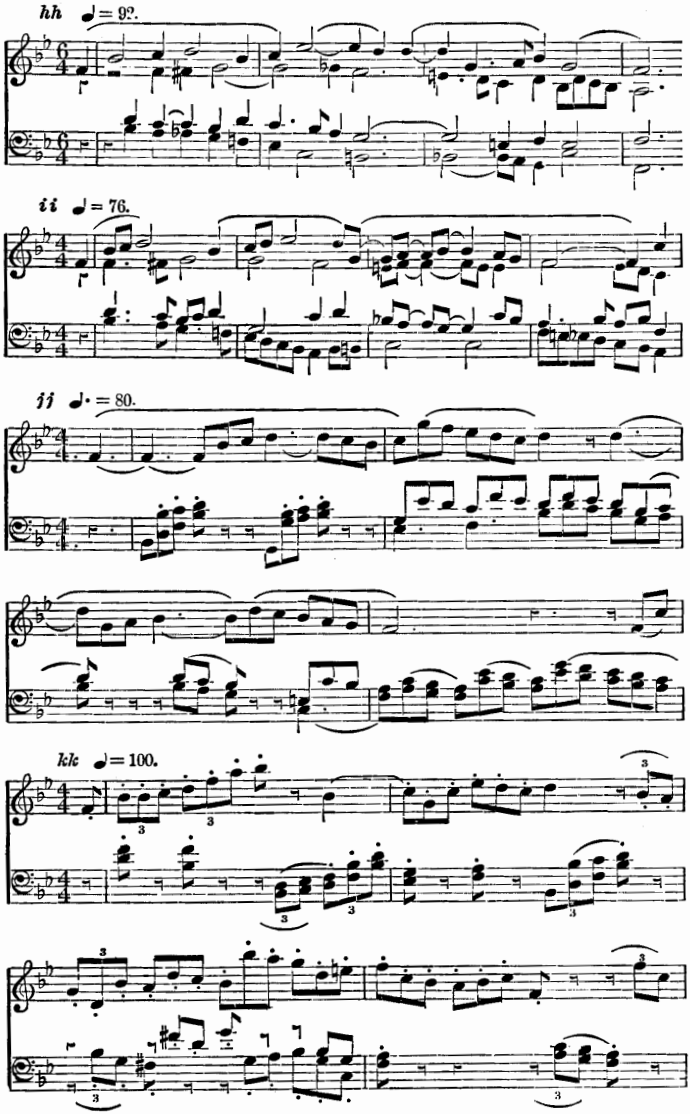

ff

In all the preceding settings of the selected hymn-melodies the very decided marking of the pulsational steps, which is necessary (*pars. 142-3*) in all strains intended to control the action of large numbers of people, is carefully preserved. But such insistence upon, and prominent display of, the accentuation is apt to become wearisome; and is unnecessary in music of higher, and more developed, character. The following variations of the tune "*St. James*" will suffice to show how easily, and entirely, the effect of a melody may be changed by a less rigid display of the pulses.

Students must have noticed that the illustrations have grown less and less within the reach of voices. In the following examples—whether of the emancipated hymn-tune, or of national melodies—the treatment is essentially instrumental, as respects both rapidity of motion and the extended range of the parts.

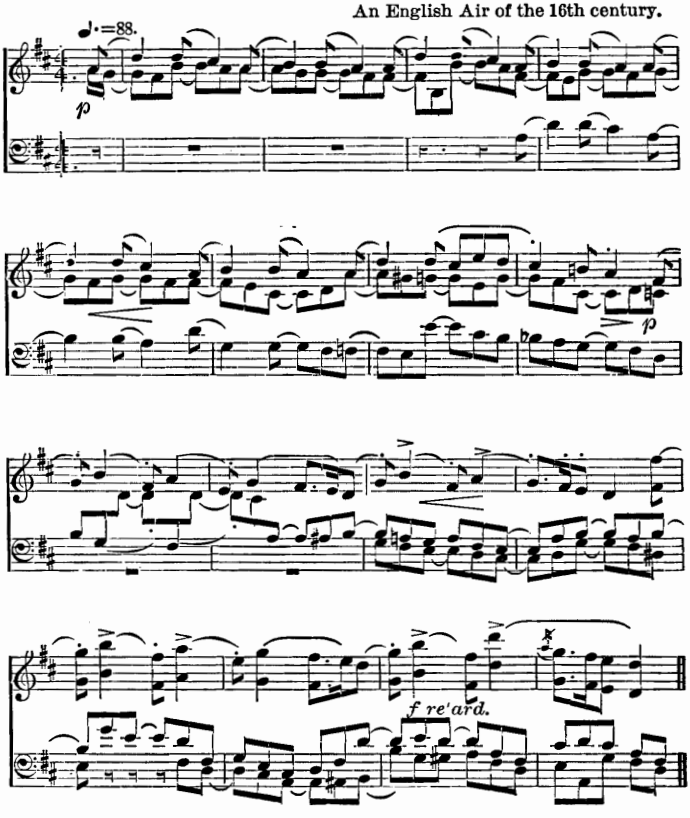
"ST. JAMES."



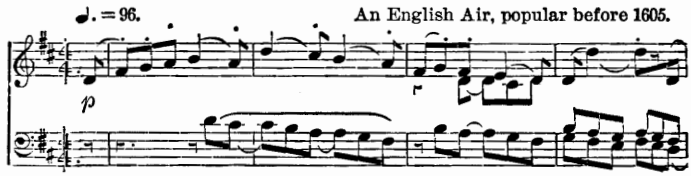

hh ♩= 92.
ii ♩= 76.
jj ♩· = 80.
kk ♩= 100.

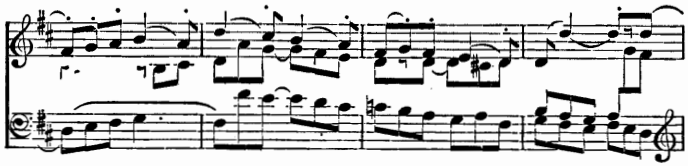
"THE CARMAN'S WHISTLE."

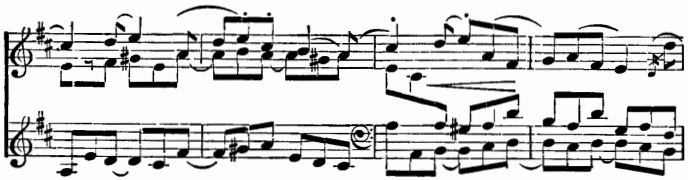
An English Air of the 16th century.

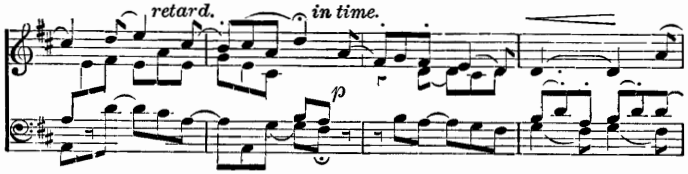


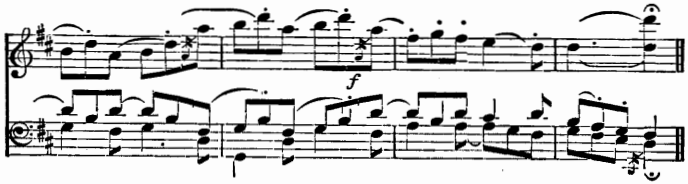
"DEAR KITTY."



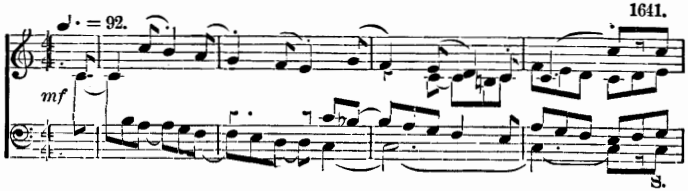


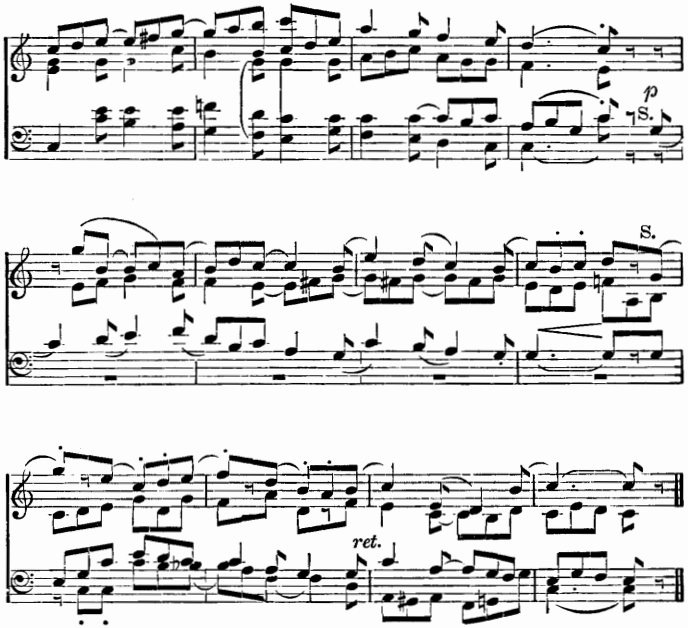




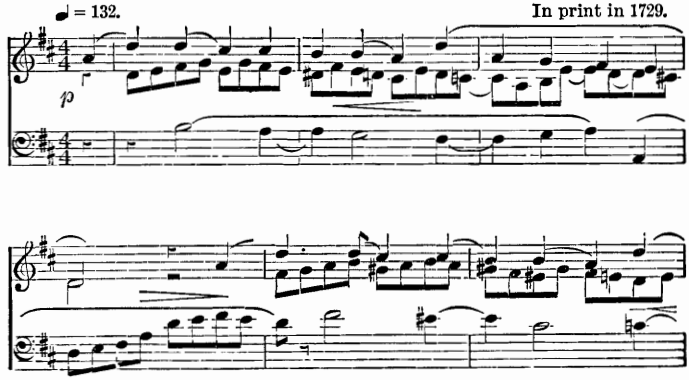


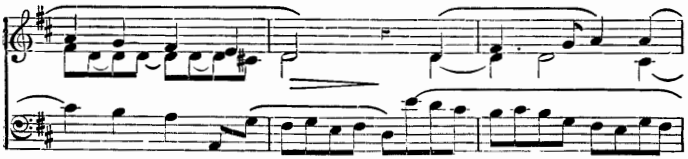
"HEY, BOYS, UP GO WE!"

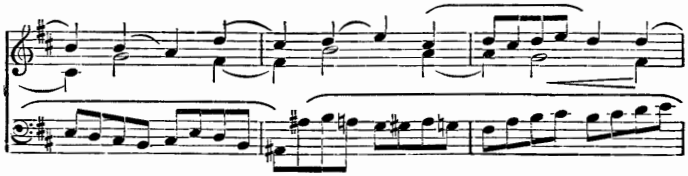


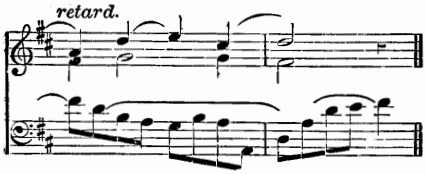


"FAIR ROSALIND."



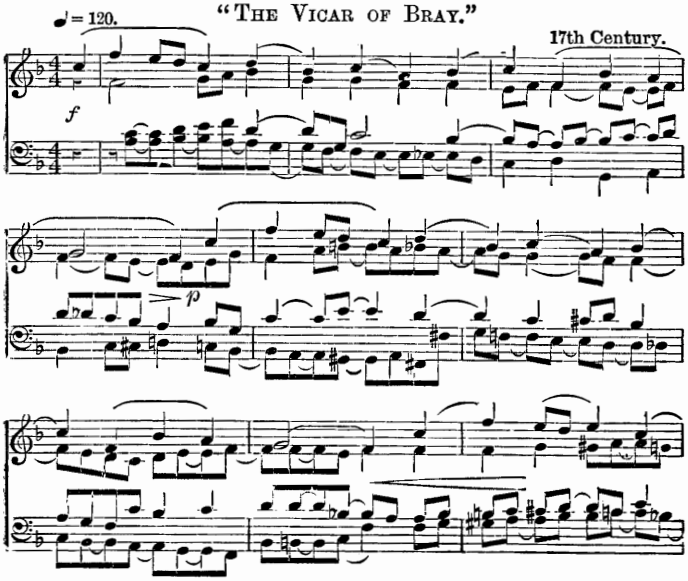


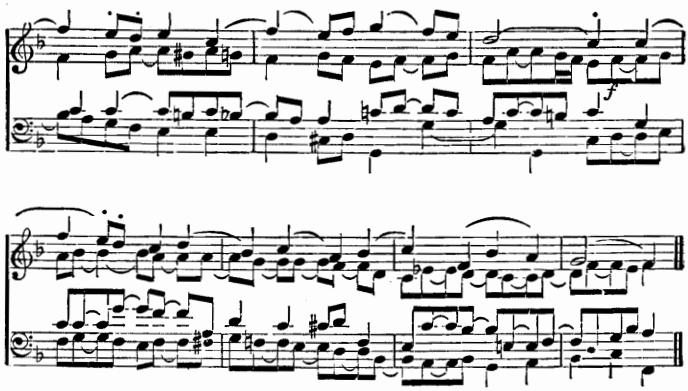




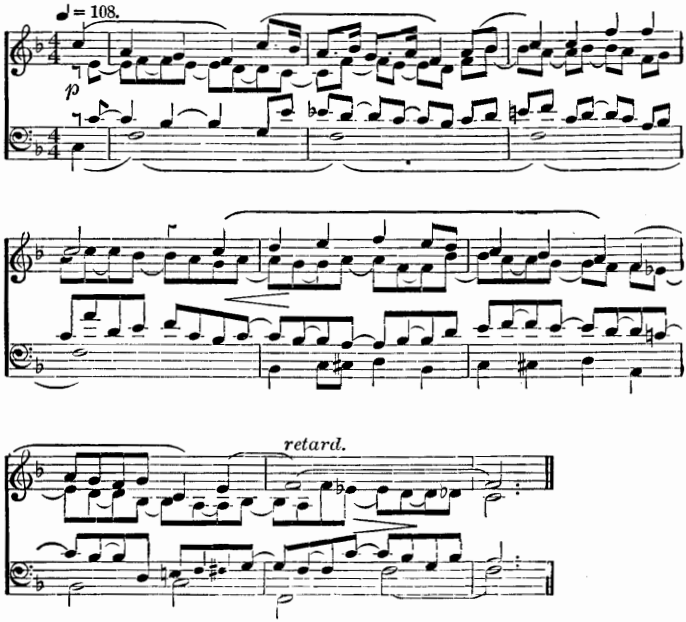
"THE VICAR OF BRAY."

17th Century.

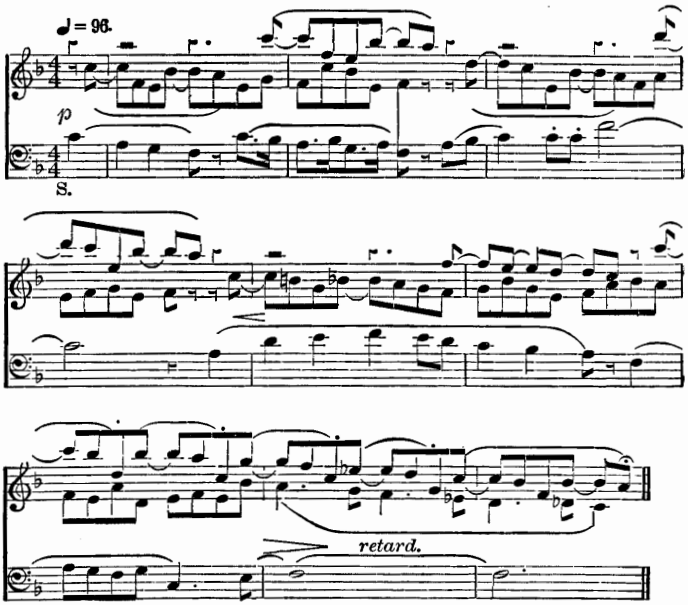




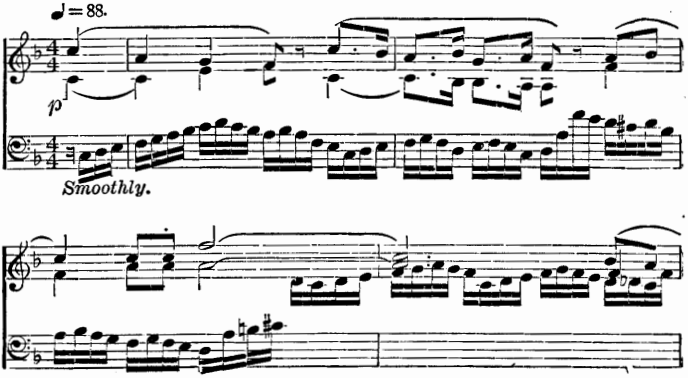
"THE BAILIFF'S DAUGHTER OF ISLINGTON."

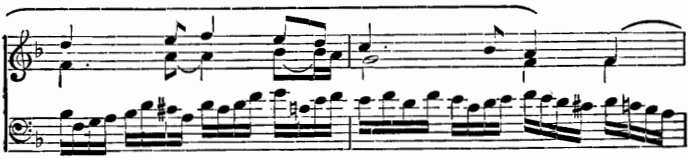


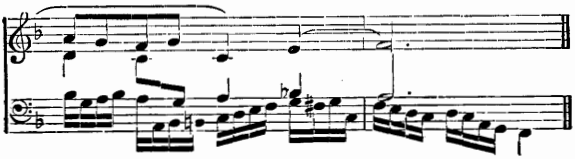
Variation 1 :—



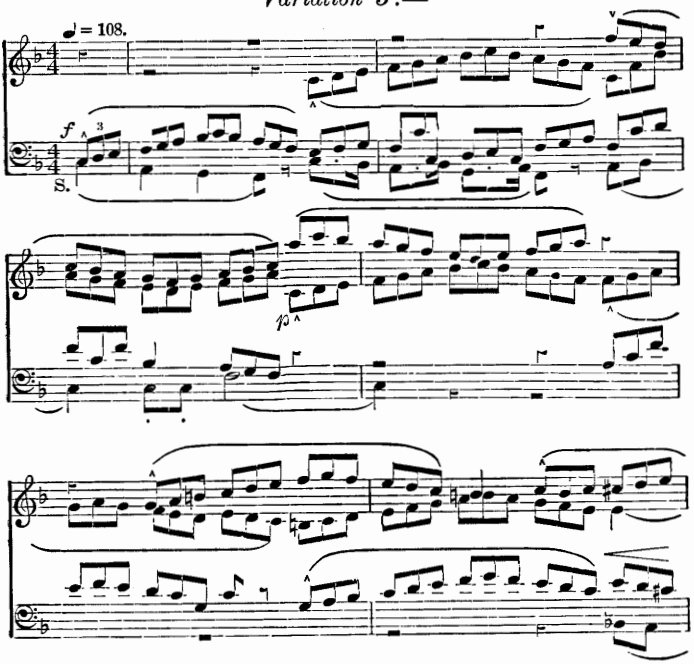
Variation 2 :—

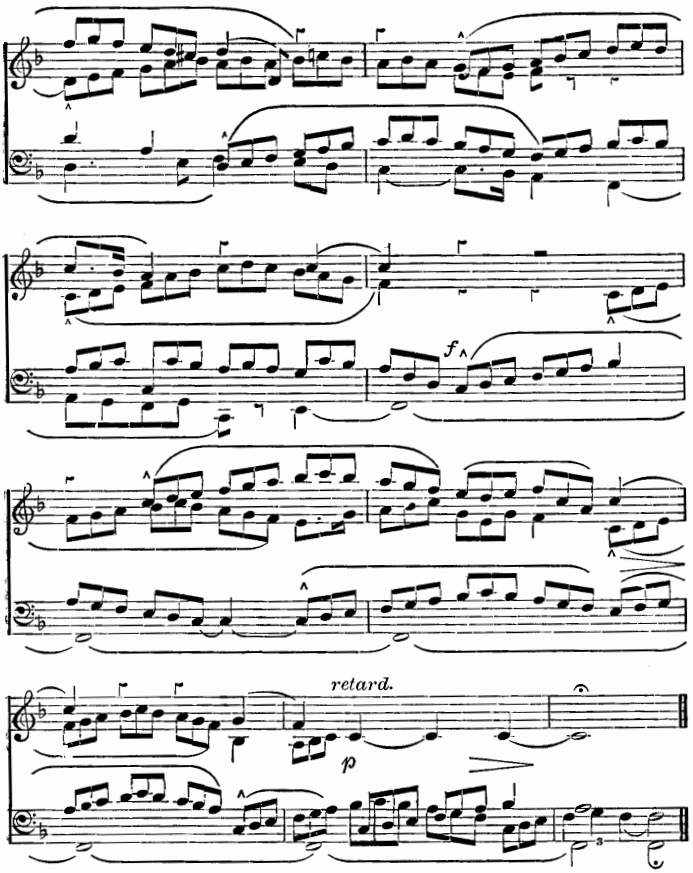




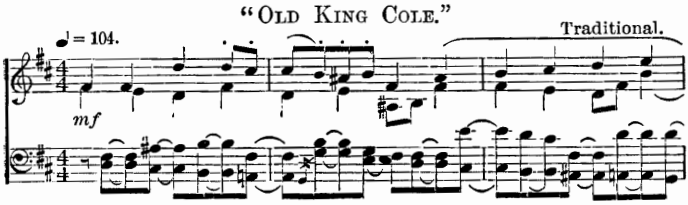


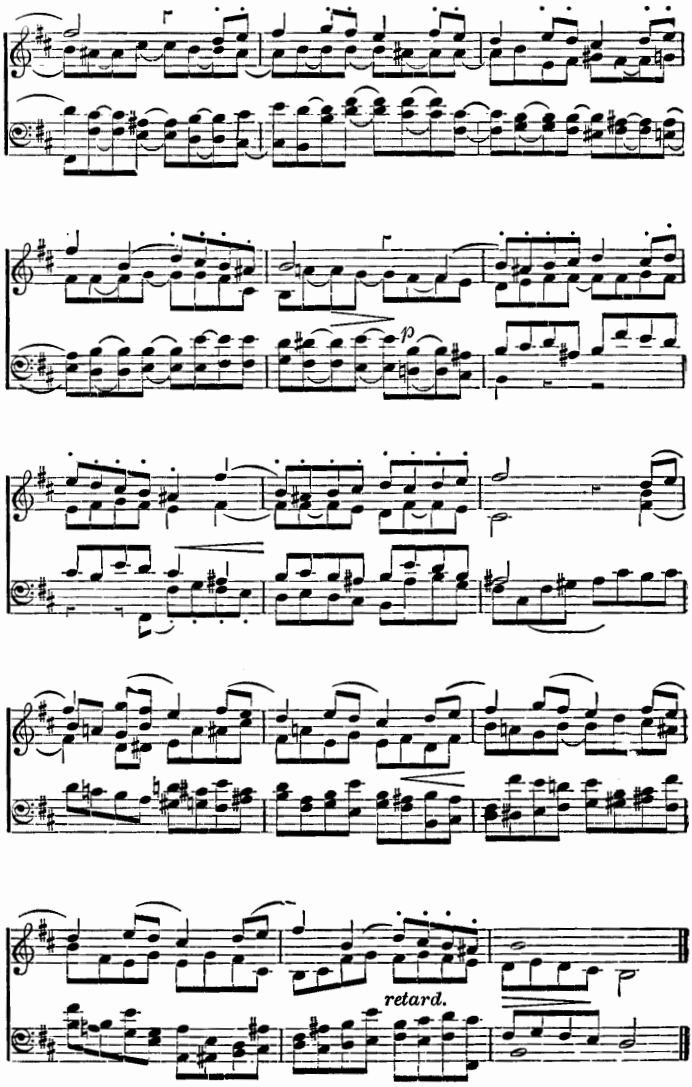
Variation 3:—

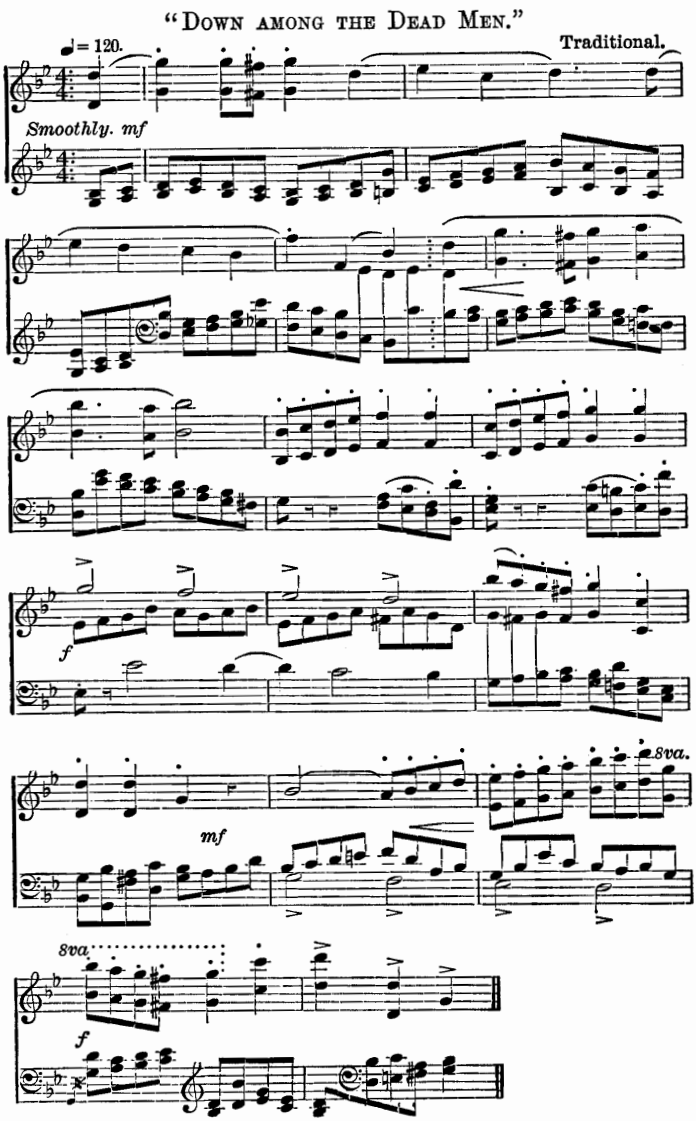




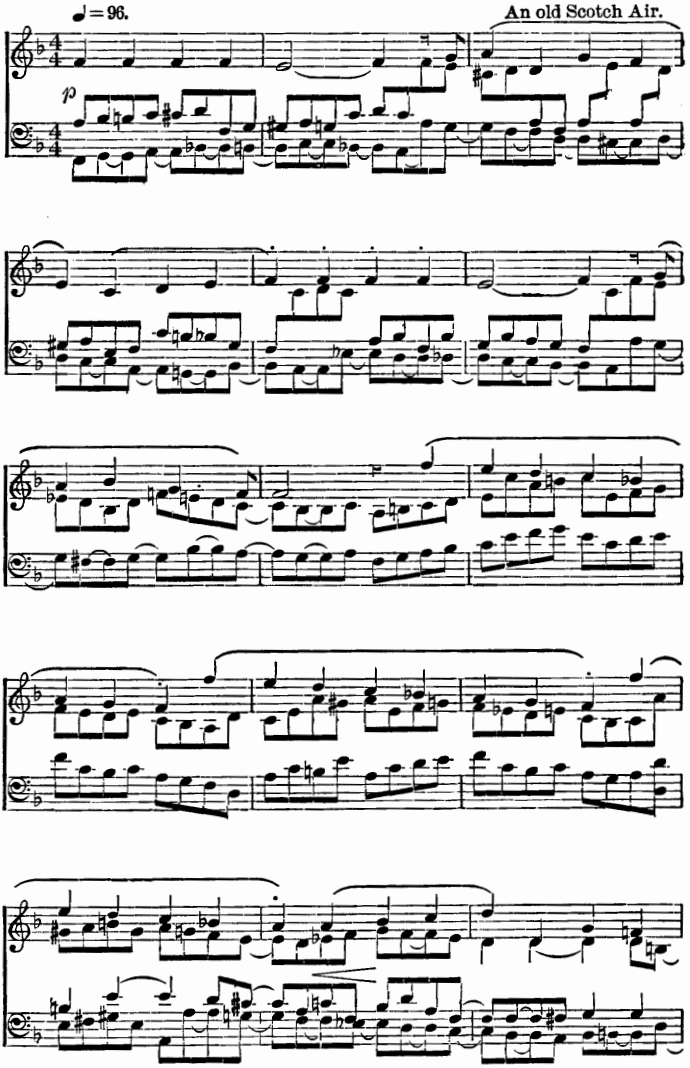
"OLD KING COLE."

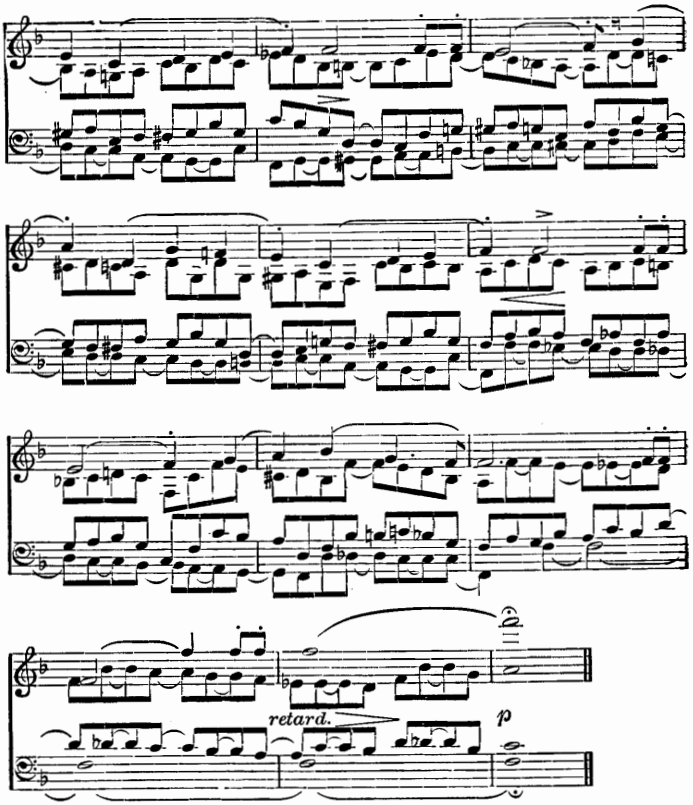



p
retard.

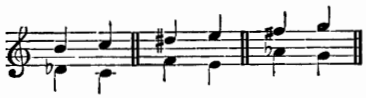

"DOWN AMONG THE DEAD MEN."
♩= 120.
Traditional.
Smoothly. mf
f
mf
8va.
8va.
f

"Caller Herring."





219 When a minor ninth and a major seventh are used together, or a perfect eleventh and an augmented ninth, or a minor thirteenth and an augmented eleventh, the interval called an augmented sixth is formed; an interval which has caused theorists a great deal of perplexity.

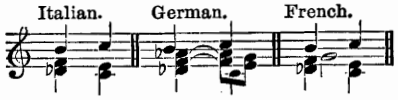


All these notes are found in the chromatic scale of C: those in the first bar belong also to the scale of F; those in the second bar to that of A; and those in the third bar to that of G.

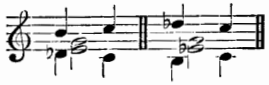
220. The force given to the sound upon which an augmented sixth resolves is so great as not only to invest it with the strength of one of the perfect consonances of a triad—the fifth or the eighth—but to make it a very powerful influence toward modulation when it does not happen to belong to any fundamental triad (*pars. 28-30*) of the key.

221. Not only have all sorts of far-fetched explanations been given of the origin of this interval—as of the rising dissonances necessary to its formation—but stereotyped modes of accompanying it have prevailed; and have been distinguished by names conveying the idea that each of them has some peculiar geographic connection, or is characteristic of a special harmonic school.

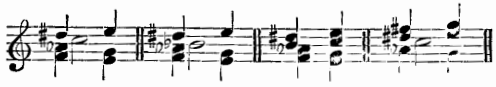
222. With the major third of the lower sound added, the chord is called an "Italian sixth;" with the further addition of the perfect fifth of the lowest note it has been christened a "German sixth;" but when that perfect fifth is exchanged for the semitone below it—an augmented fourth above the lowest sound of the chord—the combination is known as a "French sixth."



223. But it would be difficult to explain the general avoidance of the minor, and especially of the major, third of the scale from which the dissonances are derived;



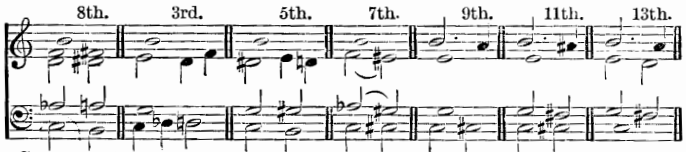
or why the chromatic scale should not be more largely drawn upon.



224. Such combinations may be used, and arranged in any possible forms. But the progression in the parts is clearer—always a matter of great importance—when, in the inversions of the augmented sixth itself, the two notes are separated by a distance not less than that of a diminished tenth.

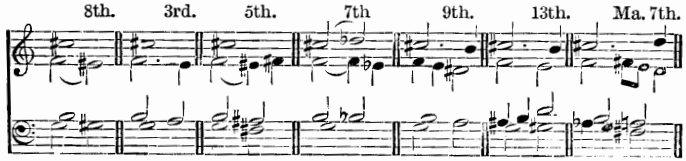
225. It is unnecessary to give a list of the resolutions of each of the rising dissonances when it makes its natural upward progression. But, as some of the most beautiful, and least known, changes are to be found among the resolutions to be effected by the retention of the dissonant note, the following tables should be studied.

A major seventh remaining, to become, in the resolving chord, the



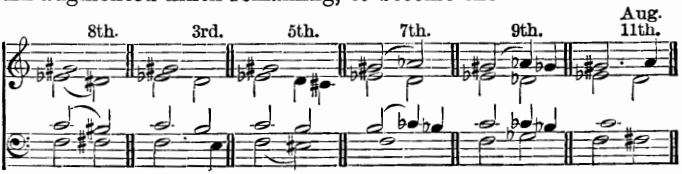
See par. 229.

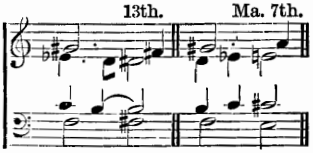
An augmented eleventh remaining, to become the



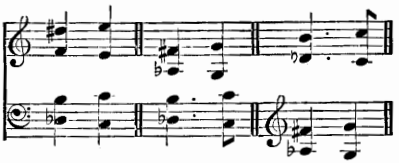
See par. 229.

An augmented ninth remaining, to become the



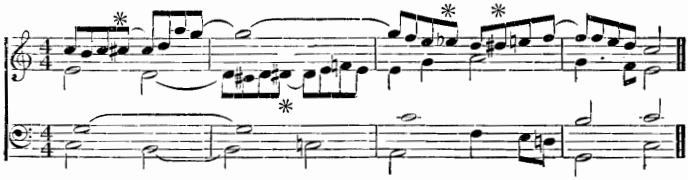


226. That there is nothing mysterious, or exceptional, about augmented sixths is evident from the fact that there is no difficulty in combining two of them, both belonging to one chromatic scale.



227. But it is still more obvious when we proceed to examine the sounds closely. The chromatic inflection of a note is, in a somewhat rapidly moving part, often written with reference to its *after* course, rather than to describe its relation to the chord actually vibrating. A chromatic scale is frequently very carelessly written. But we are so accustomed to consider the progressional tendencies of sounds, and to use sharps in rising, and flats in descending passages, that a wrong notation does, sometimes, cause performers (especially orchestral players) intuitively

to give the desired effect, in spite of the faulty description of the sounds. Thus, D sharp should really, in a truly enharmonic scale (were there such a thing) be a flatter tone than E flat. Now, a sound which leads upward by semitonic step, might agreeably be sharpened, and drawn in the direction in which it is tending. When so sharpened (as it generally is) E flat, more closely than D sharp, represents its pitch. But our habit is to regard a *sharpened* sound as a leading-note: and, so, the erroneous notation suggests the desired pitch. Such a mode of writing must, however, be understood to be purely conventional; justifiable only by custom and by *anticipation:* the inflected note being written with regard to its relationship to the succeeding chord; and not correctly described with reference to the harmony in which it seems to be included. In the next example all the notes marked * must be thus interpreted.

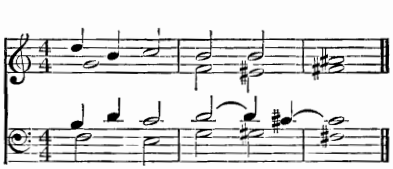


228. Chromatic dissonances have been described as the pliant degrees of a scale of sounds so admirably fitted together that each note is qualified to serve in any harmonic capacity; to stand firmly as the base, or as the perfect fifth, or as the less clearly marked third, of a triad; or to occupy a subordinate place, ready to yield to any requirement; and to be drawn into accordance with any group of notes mutually supporting one another, and strong enough to dictate terms. Thus, no sound is invested with an inherent, and unchanging, character: everything depends upon its relationship to its surroundings, and the amount of consonant

support it receives, or the violence with which it is attracted, or repelled.

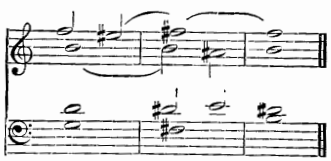
229. When the fourth and seventh sounds of a diatonic scale are brought into contact (*par 152*), certain tendencies are aroused through their relationship to a previously established tonic. But, as soon as the rule of that tonic is disturbed—if only mentally—the very same notes may be turned completely round, and their inclinations utterly reversed. The seventh is a leading-note looking steadastly upward: but only so long as the pole to which it points is firmly fixed, and is, therefore, strong enough to attract any wavering sound. "Augmented fourth," and "diminished fifth," are only different names given to one interval,

to denote its key, or chord relationship, and the progressive tendency of the sounds (*pars 110 and 115*). It was explained that the force of the dominant triad lay chiefly in these two sounds: yet, in the simplest manner, that force may be diverted so completely as to place us (not more firmly on the original tonic, but) on the very worst sound of its whole chromatic scale;—on a chord which cannot be used without modulation. (*Par 119*).



230. But even the slight change made in the fourth chord of the last example was unnecessary. The chord of the minor

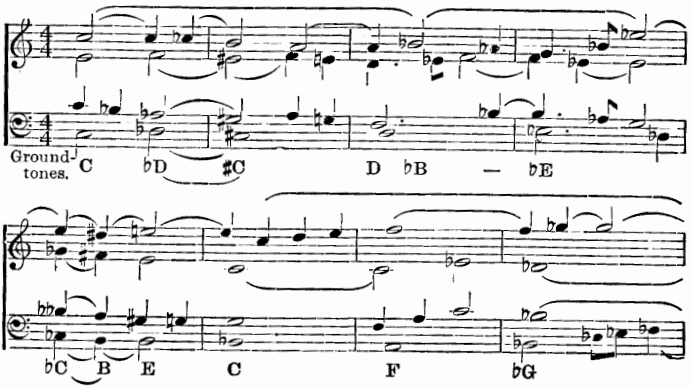
seventh and that of the augmented sixth are, absolutely, the same.

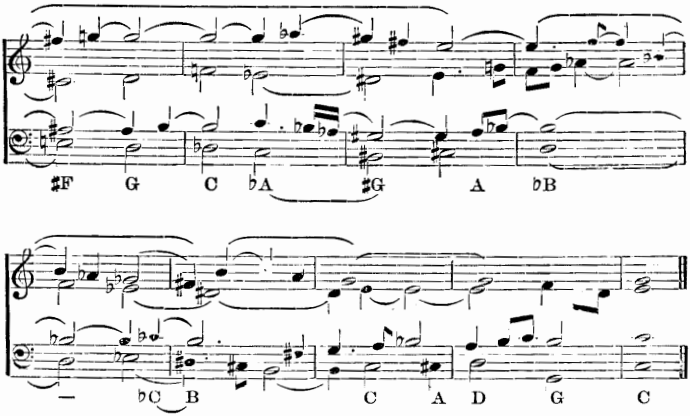


And the tables of the resolutions of a triad with a minor seventh added (*pars. 152-175*), may be extended after the fashion of those of ninths (*pars. 180 and 203*), of thirteenths (*pars. 192 and 201*), and of elevenths (*par. 209*).

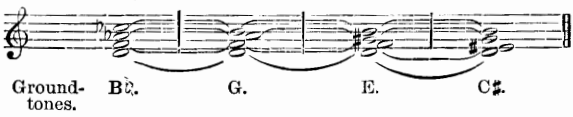
231. All dissonant harmonies are thus pliant and interchangeable. A minor thirteenth becomes the first inversion of a major seventh, and opens out new paths.

An augmented ninth changes into a minor tenth, or into any sound of the succeeding harmony; and affords suggestions of many fresh keys.



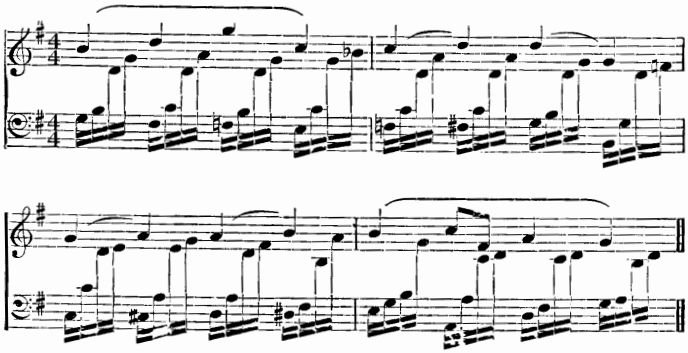


232. But the chord known as that of a "diminished seventh" (really a minor ninth, without the ground-tone which would give stability to it)—*par. 194*—is the weakest-kneed of all combinations. Like a diminished fifth, it is made up of minor thirds, the least confirmatory of all consonances: so that, without the slightest inflection of any one of its sounds, it may serve as a means of modulation into any key.



233. The triads of G and of C sharp being diametrically opposed—as are, also, those of B flat and E—it is clear that the greatest possible changes may be effected through the want of backbone in this combination of sounds, owing to the lack of that firmness and strength which two sounds a perfect fifth apart possess. The pliancy of this chord has often been expatiated upon as exceptional: but it is entirely in keeping with that of dissonant combinations generally.

234. In paragraph 92 reference was made to the possibility, in triads spread out in *arpeggi*, of objectionable parallelisms, arising from any carelessness in the arrangement of the different strata of the harmony. With chords, similarly distributed, the resolutions of dissonant sounds may be deferred to a corresponding, or convenient, position in the succeeding harmony.



235. We have now looked at the whole of what may be called the raw material of music. Sounds have been brought into social relationship; their affinities and tendencies explained: and respecting plain chordal harmony nothing further remains to be said, except to explain one point which, if not alluded to, might remain a stumbling block in the path of students.

236. In the infancy and youth of harmonic knowledge in Europe, as one by one some half-dozen triads were admitted—each reluctantly—into the sacred circle of orthodoxy; when every dissonant or inflected sound was supposed to break the boundary of a key; when the objection to consecutive fifths was said to be that they belonged to two distinct and irreconcileable scales; when the whole theory of the schools was (like a nursery rule) designed to restrain, rather than to encourage, liberty; even then,

certain possibilities were dimly perceived which could not be absolutely, and under all circumstances, forbidden; but which, as far as was practicable, had to be discouraged.

237. The scales (which we believe to have been known by the old eastern races) had been submerged: and, as their points began again to rise above the obscurity which had covered them, they had to be recognised, however reluctantly, as troublesome realities, which could not be utterly ignored. The code was rearranged, so as fairly to admit the new conditions: therefore, certain practices had to be winked at, and to be permitted occasionally, under a sort of protest.

238. But music broke away from Cloister-fetters; and the practical and inventive musician refused to submit to the restrictions of the mere theorist, who could not invent. Each pioneer in Art cleared away some of the obstacles which had impeded progress; and, by so doing, shook the faith of his followers in the reality of those which remained.

239. Among the delusions which have lingered, almost to the present day, is one respecting what are called "Pedal" laws. A "Pedal" is understood to be a deep sound—generally the tonic or dominant of the scale—over which, when properly established, any chords belonging to the key could be employed, however harsh some of them might be with the sustained note.

240. The final and full recognition of the chromatic scale has swept away all necessity to talk about such exceptional treatment. The ordinary laws of harmony suffice for all requirements, and cover all possibilities. Every combination which may be used above, below, or around any continued sound must be properly related to it, according to conditions already explained.

241. But the delusion concerning supposed "pedal licences" has been harmless in comparison with that which still causes many teachers to venerate the maxims of the past with respect to the higher, and more involved, patterns of part-writing, wherein attempts are made to equalise the value and charm of the different strata of the harmony, and to make each part tuneful and interesting.

242. In monophonic (or monodic) harmony only one part has an essentially melodic character. Generally, in modern music the theme, or tune, is assigned to the highest voice; but, when placed in a lower part, the necessary prominence may be given to it by increase of force, or by peculiarity of tone.

But, in contrapuntal—as distinguished from plain chordal—harmony, attention may be attracted to any part by some peculiarity either of rate, or of style, of motion. The part may move more rapidly than, or alternately with, its colleagues. And, although music is seldom written with strict adherence to any continued kind of movement, still the persevering study of pattern-writing is, unquestionably, useful; and is, indeed, a necessary discipline ere the higher, and more extended, forms of composition may be attempted with any chance of success.

243. For a full explanation of the advantages of such discipline students are referred to the author's treatise upon "Part-writing";* in which the whole matter is exhaustively explained from a modern, and practical, point of view. The information there given is all that could be needed for the completion of our study of the laws of sounds.

* "Part-writing: when, and how, to study it." By Henry Hiles, Mus.D., Oxon. London and New York: Messrs. Novello, Ewer, and Co.

244. When that work has been carefully pondered it may be interesting to the general student, and must be the duty of all teachers, to trace the rise of part-writing from the crude beginnings of the *Organum* and *Diaphony*—which formed the earliest recorded attempts of European musicians to combine sounds of essentially different pitch—through the rude *Descant* and *Counterpoint* of the middle ages, until the great masters of the early part of the eighteenth century—to whose works we look for guidance—resolutely freed themselves from the restrictions of rules which had become mere arbitrary dogmas; and laid the foundation of a system of Harmony, based upon the unprejudiced study of those laws of Consonance which underlie, and govern, all combinations and consecutions of sounds.

245. It is impossible to name any precise time when what are called the *rules* of "Counterpoint" (not, always, very closely resembling the *practice* of contrapuntal composers) attained their highest point. But the rule-makers most quoted by those who still affect to reverence a theory formed in the crude infancy of harmony flourished about the close of the seventeenth and the dawn of the eighteenth centuries; immediately before the time when, as is universally acknowledged, Bach and Handel finally adopted our modern scales; laid the foundation of a school of pure harmonic treatment of sounds; and formed a new era and a fresh starting-point, behind which none but the antiquarian need seek to penetrate.

246. A clear statement of the essential features of the so-called rules of counterpoint is appended; because, although they are not now—even by their most zealous admirers*—cited as

* See "Harmony, or Counterpoint," by the Author of this work. (Published by John Heywood, of London and Manchester.)

authoritative, or as guides to actual composition, they are still imposed in certain examinations, to which it may be to the interest of young musicians to submit themselves: and it is almost impossible for the student to find them stated distinctly and without ambiguity; or without such evident hesitation and distrust as to render him uncertain how much he is expected to believe.

247. Their position in the Appendix points out that they should not be mixed up with, or form a part of, any real course of study of polyphonic harmony. When that course has been fully pursued in the treatise upon Part-writing, nothing could be easier than to understand, and to remember, the restrictions imposed upon the mediæval musician by the schoolmen; and to estimate them at their proper value.

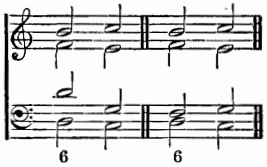
APPENDIX.

The rules of counterpoint refer to certain species, or patterns, of harmony and part-writing, classified as the distinctive features of different methods of musical construction.

I. The first species, which forms the outline of all the after patterns, is called "note-against-note counterpoint." Strictly carried out, the rule would oblige all the voices to move together; no sound being repeated in any part. But to adhere rigidly to such a plan causes such a useless skipping about of the parts as to necessitate some relaxation of the rule. Consequently, it is allowed that a note may be used not more than twice consecutively in one part. With one exception the consonant triads of the six lower notes of a scale, and their first inversions may, alone, be used.

There are no rules as to linking the triads together: consequently, the sequences of chords are, frequently, very disjointed and jerky. But the little fragments of ecclesiastic plain-song, used as themes, generally finish by falling from the second of the scale to the tonic: and, very soon, a feeling arose that, however pleasing the consecution of unconnected triads might be generally, the concluding tonic triad required to be led to in some more respectful way. Consequently, in order to form what we should call a cadence, when the penultimate note of the *cantus firmus*, or plain-song, was placed in the lowest part, the higher voices stood a minor third, and a major sixth, above it. This combination —really derived from the second inversion of the chord we know

as that of the dominant seventh—is, in contrapuntal language, spoken of as the first inversion of the imperfect (or diminished) triad on the leading-note. The chord is used only in this one form, with the super-tonic in the bass. Either the bass-note, or its minor third may be doubled; but not the seventh of the scale, which was formerly considered to be—or, at least, spoken of as—the true base of the triad.



The third of the bass-note, although really the dissonant sound, is not figured; because the idea of the combination being a *first inversion* has to be kept up.

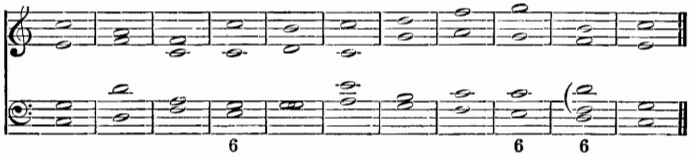
When the penultimate super-tonic is assigned to one of the higher voices it forms part of the dominant triad, or of its first inversion; and the sub-dominant is not admitted into the chord.

Themes *(canti firmi)* set for contrapuntal treatment are written in semibreves: each note marking a pulse, or syllabic step; but occupying a bar. The mode of notation being entirely out of keeping with our modern system of including several pulses in a bar, and of depicting them by crotchets, or by quavers, no rhythmic signature could be applied. The first species, or pattern, of counterpoint is, thus, the baldest of all plain, crude, restricted harmony;—not part-writing at all; and, therefore, not contrapuntal in any real sense of the term.

Second inversions are altogether forbidden. Or, rather, no part must stand a fourth above the bass: so that, when the

sequence of triads forces the ear to receive any combination of sounds as truly a second inversion, the base of the chord must be omitted, as in the so-called "diminished triad."

The following is a specimen of the variety and richness of harmony possible in regulation "counterpoint of the first species."



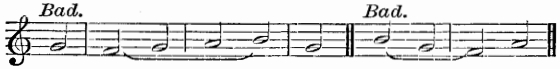
In two-part harmony it is customary, and well, to start from, and to finish on, an octave or unison; but, as much as possible, to avoid elsewhere such a convergence of the voices; which should, generally, be a third or sixth apart (*par. 62*); but with not more than three thirds, or three sixths, used consecutively. Two *major* thirds, upon adjoining scale-steps a tone apart, may not be used in the outer of any number of parts: nor may a major third be followed by a perfect fifth based upon the tone below (*par. 85*).

In the second, seventh, and tenth bars, second inversions are unquestionably, used: the consecution of harmonies absolutely prevents any other interpretation of the chords. But, as the higher voice is not a fourth above the lower, the rule is supposed not to be broken.

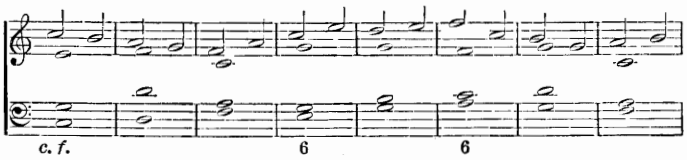
II. In the second species, or pattern, one, or more, of the parts constantly moves twice as rapidly as the pulsation—that is, in minims. At the beginning of each bar the chord must be

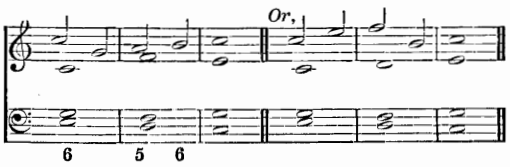
in a form allowable in the first species. Preferably, the second minim in each bar should be a dissonance; used as a passing note, to fill up what would, otherwise, be a skip of a third. But, unless the triads are so chosen and arranged as to admit such a progression, the moving part must leap from the ground-tone of a chord to the third, or from the third to the ground-tone: a comparatively weak progression; because adding no positively new sound to the harmony, and no effect beyond that of almost useless motion. Over the super-tonic in the penultimate chord a skip of a diminished fifth (but not of a tritone) is allowed.

Nor may the interval of a tritone form (in any species) the limit of the progression in one direction of any part.

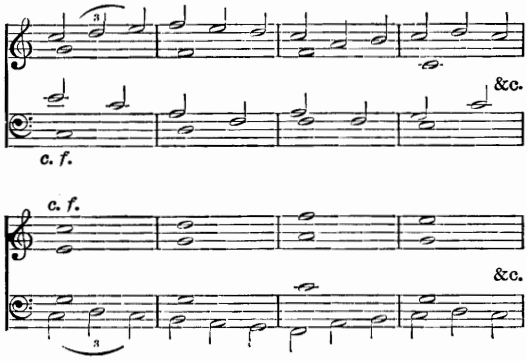


The doubling of the third is not objected to, except when it is the leading-note: and, even then, chiefly at the latter half of the chord. Sometimes the third, especially of the first or last triad, is omitted. (*See par. 100.*)

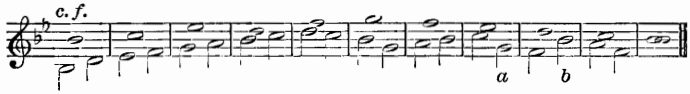




The second minim is not *supposed* to involve a change of the ground-tone: but, sometimes (as in the penultimate bar of the last example) it really does. A triple division of the pulsation is just as feasible as the duple. Indeed, it is more convenient with a consecution of triads upon adjoining scale-steps: and the regular and definite diatonic progression of the moving part—which attracts attention as, really, the melodic part—to some extent reconciles the ear to the disjunct chords.



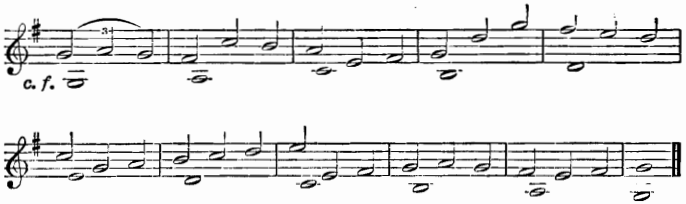
In two-part writing the voices will, generally, at the commencement of a bar, be a third or a sixth apart, except at the commencement and the close of the exercise.



It is clear that at *a* the triad is not changed: and, therefore, its second inversion is accepted. In the following bar either the triad is changed at *b*, or it was in its second inversion at the commencement of the bar.

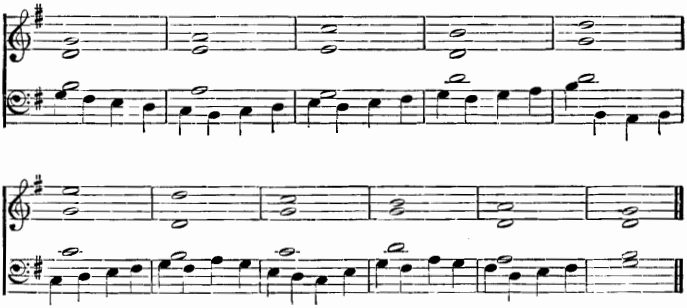
In effect, the ground-tone is often changed by the influence of the second minim of a bar. For example, it is beyond

doubt that, in the third bar of the above, the ground-tone is altered from E flat to F.

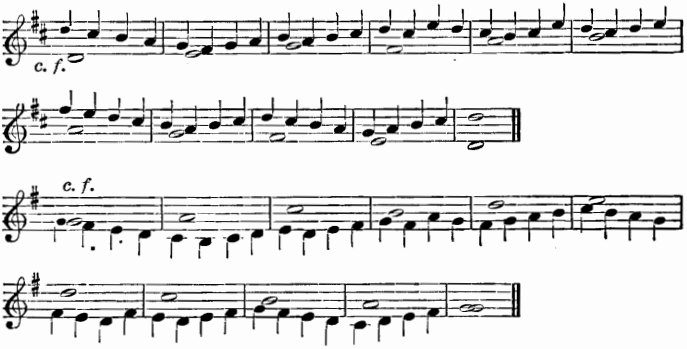


III. The third species is little more than a quickening of the moving part; with a greater liberty of progression, corresponding to its more rapid passage over any discord, or not perfectly satisfactory sound. The pattern is held to include any rate of motion exceeding that of three notes to each pulse. The fifth of a triad is allowed in the lowest part; not merely as a passing note, but even when taken by skip from the third, or from the ground-tone. But all *arpeggi* are ineffective, and entirely out of keeping with the spirit of contrapuntal writing. A leap from one sound of a triad to another should be permitted only when a more effective progression is not possible. Passing discords give life to the second and third species of part-writing. And with four, or more, notes to the pulse even the old contrapuntal rules permitted a part to leap from one discord to another at the distance of a third, if it then proceeded to an intermediate sound, forming a proper resolution of both dissonances (*par. 212*). To be in accordance with the old style of composition the parts should be as little chromatic as possible. The rapidity of motion of the third species fits it for instrumental, rather than for choral, writing; and, especially, for florid accompaniment by the violins (or other orchestral instruments) to a composition chiefly for voices. It will be borne in mind that the semibreves, not the crotchets, represent the pulses; and that, at the com-

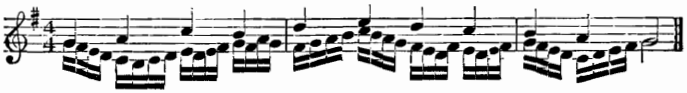
mencement of each bar, the chord must be consistent with the rules of the first species.



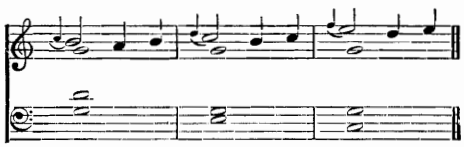
In the ninth bar of the above a careful harmonist would make the contralto note D: but the G (even with F sharp, and A below it) is not a transgression of any "contrapuntal" maxim. Reduced to two-part counterpoint the third species is thus written:



In modern notation the last of the foregoing examples would appear thus:—



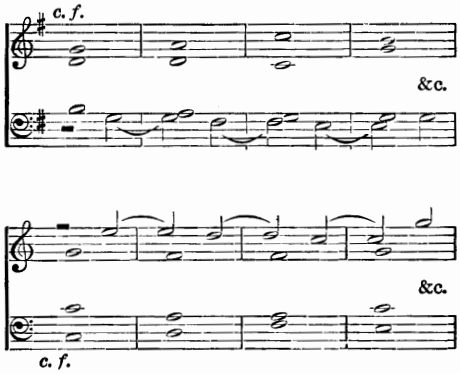
The very frequent use (in old music, and especially in instrumental works) of *appogiature* (leaning-notes) arose from a perception that dissonances on a pulse are often very useful (*par. 185*), combined with a desire to escape the charge of wilfully breaking an established rule. So the dissonance was presented to the *eye* as a very small note, scarcely worth cavilling about. What the ear made of it was another matter altogether!



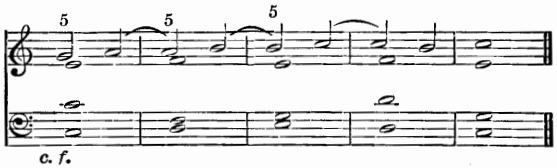
Dissonances on the pulsation were constantly used by the composers, but forbidden by the schoolmasters: and, in filling up examination papers, the pedagogues have to be respected; although we are *supposed* to derive our contrapuntal rules from the composers. The second and third patterns of construction are often combined: and either of them may be associated with the first species.

IV. As the second and third species utilise passing, and waving notes, so suspended, or retarded, discords give distinct character to the fourth pattern of construction. In this syncopated counterpoint a part drags behind, and becomes dissonant, *on* the pulsation. There is, therefore, a greater prominence given to whatever harshness is caused. Only the fourth species ever becomes difficult: and, really, the continuance of the syncopation is comparatively easy, except when there are only two voices whereby the harmony may be properly displayed; and when any harshness is all the more prominent

through the absence of the covering which other parts could give.

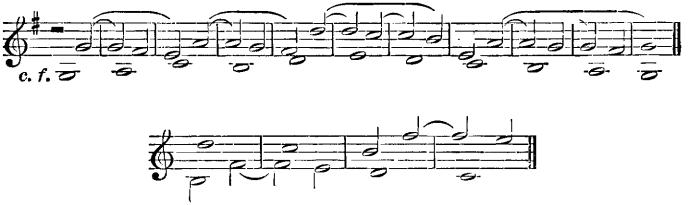


Some theorists tolerate a succession of perfect fifths on the pulses *even in the exterior parts;* on the plea that they are caused, solely, by the retardation of the voice; without which holding back no fault would exist. Students are not advised to trust implicitly to the forbearance of examiners on this point.



Unless with a *cantus firmus* specially designed the *unbroken* continuance of syncopation, in two-part writing, and according to the old rules, is impossible. The frequent breaking of the pattern being, generally, almost unavoidable, an endeavour should be made, by the sequential repetition of a figure, or by some other melodic device, to invest the syncopated part with

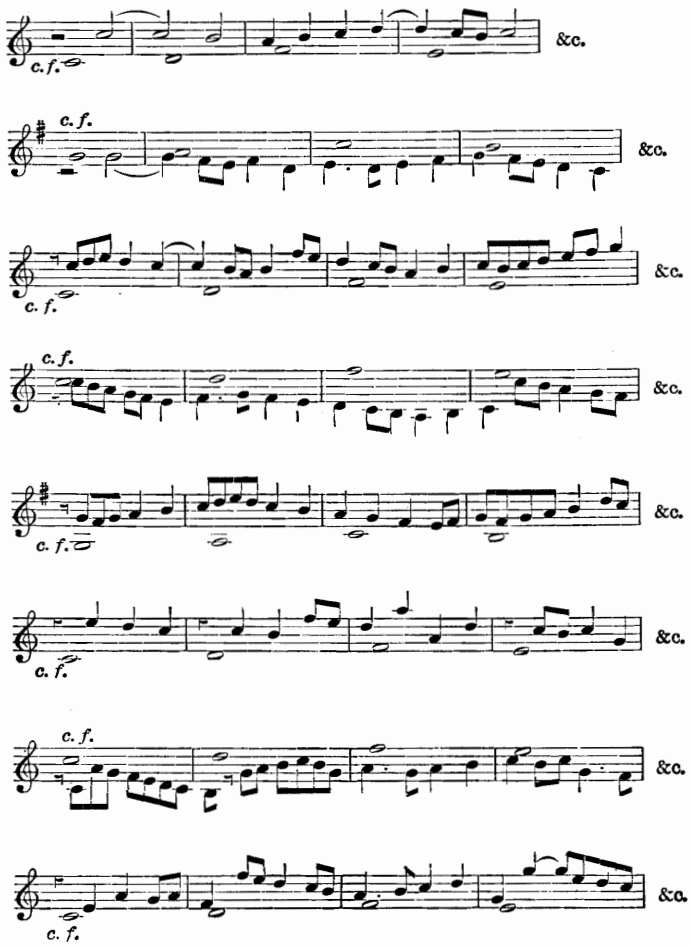
some definitely tuneful, or consistent, character (*see par. 54 in "Part-writing"*).

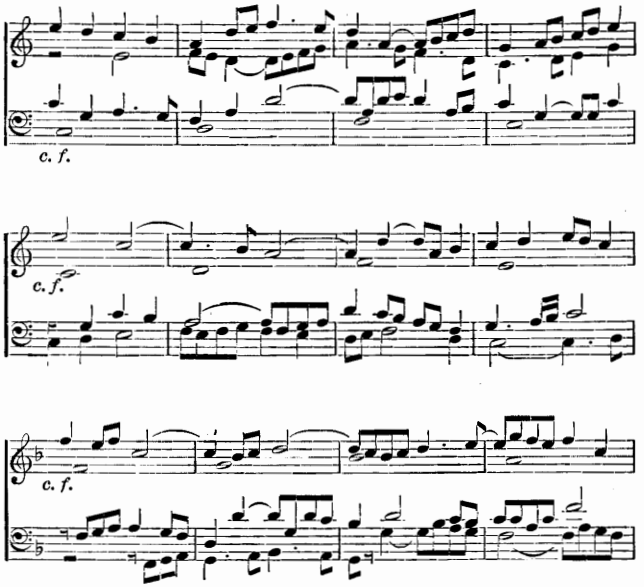


V. The fifth—called the *florid*—species does not conform to any pattern; but is compounded of all the previous modes. Its freedom, to some extent, represents that of actual composition: for which the discipline of the earlier methods of construction is supposed to serve as a preparation. When a syncopation occurs in any part it must be managed in accordance with the conditions of the fourth species: when passing, or waving, notes are used they are subject to the restrictions of the second, or third, methods, according to the rapidity of movement. Except when a prepared dissonance appears on the pulsation, each bar should commence with a triad fulfilling the requirements of the first species. As the rigidity of the previous forms must now be carefully avoided two syncopations should not be used consecutively: nor ought any mode of progression to be continued long enough to establish a model, or pattern. It is only fair to add, however, that the schoolmasters are not of one mind on these points: so that the fate of candidates depends very much on the views of the individual examiner.

The old contrapuntal rules are the only doubtful matters connected with music: and, happily, the connection is not very close. Some theorists altogether dislike any groups of short notes: others tolerate as many as four consecutive quavers: and a few permit much greater liberty if, thereby, a slight

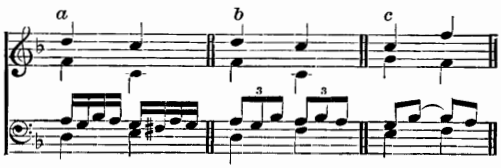
melodic charm may be secured. The following specimens show a gradual falling away from the safe, orthodox, modes of filling up an examination paper. Prudent candidates will adhere to the simpler styles.





A study of the foregoing contrapuntal rules shows the hindrance to progress interposed by the obstinacy which so long resisted the recognition of the combination of sounds most powerful in settling the tonality. But all the Masters, to whose works we look for guidance, accepted the chord of the dominant seventh as essentially, and above all other harmonies, contrapuntal. Its most pungent interval they used, even in two-part writing, with a freedom which entirely reversed the old proverb respecting "*Mi contra Fa*"; and established, beyond future question, the evidence that the "rule of the tritone" (which had, always, so puzzled everybody) really belongs to the code of laws referring to unlinked triads. And the danger of halting between two opinions is, repeatedly, shown in any attempt to reconcile the crude rules of the early harmonists with modern

practice. For example:—it is generally understood that, under some circumstances, the fifth of a triad may be used in the bass, with the eighth above it. But there is nothing like a consensus of opinion as to how soon such a "license" is permissible; whether with two or three, or only with four, notes to the pulse. And it is impossible for an inquiring student to understand why, if the second inversion may be used in the third species of counterpoint, it may not be safely employed in the second; or, indeed, in the first, if the progression of the outer parts and the linking together of the harmonies be properly managed. Then, again, it is understood that a quickly moving part may, while the triad remains, skip a third to the other side of the note to which it, immediately after, proceeds. But whether this "license" would be permitted (*a*) only with four notes to the pulse, or (*b*) with three (and why not with two, as at *c*) is not clear; and nobody seems to have the courage to say.



As it is, just now, a candidate enters an examination room full of perplexity; not as to what is really good part-writing, but with regard to the special views of his judges.

INDEX.

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