DR. MARX'S

GENERAL MUSICAL INSTRUCTION.

INTRODUCTION.

Review of the province of Music, and of the object of General Musical Instruction.

General musical instruction is essential to every person who in any manner, whether as Singer or Player, as Composer or Teacher, desires to employ himself in music on a solid foundation,—in order that with full preparation and foreknowledge he himself may be enabled to pursue, or may be capable of communicating to others, the special branch which may be the peculiar object of attainment. This treatise is therefore the elementary school for the musical world in general; and by its assistance, instruction may be obtained in vocal and instrumental performance and in composition, while, so far as music is concerned, its materials can be wholly dispensed with by no one. As moreover, our work bears a character of universality, in necessary information on our subject, we will not scruple to communicate some peculiar methods (for example, of score reading and playing) which are indeed not indispensable to every musician, but are nevertheless desired by many, and can be nowhere better given than in this book.

General musical instruction is not desired to be merely a grade of scientific distinction, but is intended for all who take any interest in music, that they may have a full comprehension and just appreciation of the art in all its aspects. In order, therefore, the better and more extensively to accomplish our object, we will assume no previous instruction. We will take nothing for granted—but what is universally known by common intercourse, or what is self-evident. By this it will be seen at once that our instruction will be eminently practical. Its rational foundation is demonstrated by the science of Music, whereof in this book, we can only here and there throw in a ray of enlightenment, and then, simply to develop and fix irremovably some important and fundamental ideas, which would not be sufficiently understood and impressed without the deeper illustrations of Science.

If we wish, then, to collect the universal elements of musical knowledge, we must first learn what are those elements upon the nature of which we desire to obtain information. In our conception they are everything that belongs or relates to music. Let us therefore contemplate this art as we everywhere find it.

We know that music works first upon our hearing Everything that we hear is known by the general name of

Sound,

in what manner soever that sensation may affect us; whether it be loud or soft, pleasant or repulsive, and so forth.

In the application of the human voice to music, words are in general combined with it; and in this operation, not only the meaning of the words is manifested, but also their manner of utterance and the single sounds of which the words are composed. The single sounds are called

Vocal Sounds (Laut*).

We see, further, that music is produced either by the human voice or by instruments of various kinds; as flutes, violins, trumpets, and so forth. Everyone knows, that these different instruments are distinguished by their respective kinds of sound. The flute gives a gentle, soft, flowing sound—the trumpet resounds with vehemence, forcing and crashing, and so forth. This distinguishing quality we will call

Timbre, or Character of Sound.

We ought to have said, therefore, just now, the character of the sound of the flute is soft; that of the trumpet is crashing, and so forth.

We observe, lastly, that in one and the same instrument the sounds produced have another special difference between themselves. That, for example, the four strings of a violin, or the strings of a harp, sound on each instrument quite differently among themselves. In common parlance, some coarser, some finer; that is, the longer strings of the harp and the thicker strings of the violin sound coarser (lower), and the shorter strings of the harp and thinner strings of the violin sound finer (higher). Considering sound in this relationship, we call it

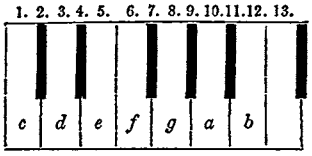
Tone.†

* The expression *Laut* is indeed understood to be synonymous with *Schall* (Sound): it seems, however, advisable to use it in the above sense exclusively, as the prescribed name for a determined and really distinct object. The distinction of *Laute* into *Selbstlaute* (Vowels), *Doppellaute* (Diphthongs), and *Mitlaute* or *Beilaute* (Consonants), is familiar.

† This word is in italics to distinguish it from tone meaning distance or interval, and this practice will be observed throughout the book. Thus the middle C on the piano (called in this book the one-lined $\underline{c}$), which is represented in notation by the note on the first ledger line under the staff in the G clef, and on the first ledger line above the staff in the F clef, is called the *tone* C—the fixed and determined sound C, or one-lined $\underline{c}$, of an absolutely fixed and invariable pitch or height in the scale. In like manner we might say the *tone* C♯, or the *tone* D, or D♭, or D♯, or any other *tone* whose height or depth is determined. But on the other hand we should say, the *tone* C is one tone below D, two tones below E, &c., speaking of the tones D and E next higher than C.—Translator.

We therefore have several and very different *tones*. The *tones* of the longer and thicker strings we call *deeper tones*—those of the shorter or thinner strings, *higher tones*. In general, the *tones* of men's voices are deeper than those of boys or women's voices. The *tones* of flutes, violins, or trumpets, are higher than those of the bassoon, bass, or French horn. We say the *tones* in general, because as each voice and instrument is capable of producing many *tones*, it may well happen, that the highest *tones* of a deep voice, be higher than the lowest *tones* of a high voice.

The clearest idea of the difference of height and depth of *tone* will be obtained by the inspection of a pianoforte or other keyed instrument. Here every key—be it a black or a white key*—gives a particular *tone*. We have in this sketch before us:



twelve or thirteen keys, for just that number of different *tones*. The *tones* towards the left, are the deep—those towards the right, the high *tones*. The extreme left therefore gives the lowest *tone*, the next a higher, and the keys 12 and 13 the highest *tone*.†

Let us now proceed to other matters.

Every *tone* or sound produced, must begin at a certain time and occupy a certain time, longer or shorter, determinately measured, or indeterminate. The prescribed time for a *tone* or sound we call its

VALUE.

We therefore say of a *tone*, it has no determined value, or it has a value of such and such a length, or it has a definite value longer or shorter than, or equal to, that of another *tone*.

Now, if we produce a succession of *tones*, or sounds of any determined value according to any law, in any order of succession in time, this order of succession in time is called

RHYTHM.

If such an order do not exist—if the *tones* have either no determined value, or follow each other in no determined order of duration—the succession of *tones* is called unrhythmic. A succession of *tones* without rhythm, and also without any determined value, is certainly imaginable; as for example, in most of the singing of birds. On the other hand, rhythm may be easily produced without determined *tones*, by means of sound only, as for example, by drums.

A rhythmically arranged succession of *tones* (whether it be pleasing, expressive, &c., or not) is called

MELODY.

A piece of music may consist of one single line of successive *tones*, which is then described as

IN ONE PART,

or of two, three, four, or more simultaneous lines of single successive *tones*; this is said to be

IN TWO, THREE, FOUR, OR MORE PARTS;

but every line of successive *tones*, whether sung or produced by an instrument, is called, in technical language,

A PART.

Also, if various simultaneous lines of successive *tones* are produced on one and the same instrument —for instance, on a pianoforte—they are considered as so many *separate parts*.

The simultaneously uniting *tones* of different parts must have some rational relationship among themselves, in conformity with the rules of art; they must in some manner agree with or be adapted to each other. This relationship is called

HARMONY.

In ordinary intercourse we apply this name to the agreement or compatibility of different things: thus we say of two colours suitable to each other, or of two persons agreeing together, that they *harmonize* with each other.

Out of all these essential parts—*tones* and characteristic sounds, successions of *tones* and rhythm, melodies and harmonies—is produced

MUSICAL COMPOSITION.

Whoever has heard various musical compositions, and compared them together, must have remarked, superficially at least, that many of them differ considerably in extent and management; while others are more or less of a similar arrangement with each other. So we soon become aware that Marches differ from Dances—Secular Songs from Chorales—even in outward appearance; while on the other hand, all Marches, among themselves, Chorales, &c., in their general appearance, more or less resemble each other. These arrangements—these outward distinguishing appearances of works of art—we will call

FORMS OF COMPOSITION.

From the above examples we can now specify the form of the March, of the Dance, and of the Chorale, as different artistic forms. There are, however, many others.

* See page 8.

† Timbre or character of sound and *tone*, therefore, are not, as it were, in themselves substantive appearances; but merely *qualities* which we distinguish in sound or in that which is audible. If we consider a sound (of an instrument or of a bell, for example) in regard to its height or depth, we call it *tone*; but if we contemplate a sound (irrespective of its height or depth) as distinguished from other sounds (as for example, all the *tones*, or the same *tone* of the flute as distinguished from the same or from all the *tones* of the trumpet), we call it timbre or character of sound.

There are sounds, indeed, which have neither any distinct appreciable timbre or character, nor any determined *tone*. These we call by various names: noise *(Geräusch)*, clashing, or clattering *(Gelöse)*, whistling, roaring *(Sausen)*, chirping, warbling *(Schwirren)*, and many others, imitative of various kinds of noise. Other sounds have a definite character, but no determined height or depth; for example, drums, bells, and others. One can indeed perceive, approximatively, that such and such drums or bells are higher or lower than others; but their difference cannot be measured with exactness. All this, however, may be set aside for the present: we do not as yet want it, and have only introduced it here to prevent misapprehension.

We must here mention that the term *Klang* (timbre or character) in musical instruction, has been hitherto used in a different sense. A. Gottfr. Weber, in the Introduction to his Theory of Music, has characterized Klang as being a sound of *determinable height*; *Ton* (*tone*), a sound of *determined* height. For the musician, this distinction seems unimportant; while a sure and precise designation of what we call *Klang* (timbre or character) appears to be indispensable, and therefore justifies our manner of appropriating it. In the absence of any such correctly distinctive term, various expressions have been used, such as, *the inherent stamp of the tone*, *timbre*, *colour of the tone*, *colour of the Klang*, *quality of the Klang*, and several others. This wavering and uncertainty shewed of itself that none of the terms completely satisfied the feeling: indeed, they are partly circumlocutions, partly comparisons, and partly quite incorrect. A more particular explanation belongs to the Science of Music.

In fine, let it be further observed, that in common conversation, also, the word tone is often incorrectly used for Klang. We hear—"This instrument, this voice has a good tone," whereas the expression should properly be,—"They have a good *Klang*" (timbre or character of sounds).

Now let us return to the beginning of our considerations. We have already observed that Music may be produced both by the human voice and by instruments. Musical instruments, and the human voice in its application to music, we will distinguish collectively by the name of

MUSICAL APPARATUS.

According to the different species of apparatus brought into action, so is the music divided and classed into different species. If instruments alone are used, the music is called

INSTRUMENTAL MUSIC:

if the human voice be used, the music is called

SONG, OR VOCAL MUSIC.

Vocal music and instrumental music may each be used separately, as

PURE VOCAL AND PURE INSTRUMENTAL MUSIC;

or united, as

ACCOMPANIED VOCAL MUSIC.

Finally, music may have simply itself for its object, or it may be dedicated to other specific purposes; to the social dance, for instance, as

DANCE MUSIC:

to artistic representations in Ballets and Pantomime, as

BALLET MUSIC:

to the Drama, as

DRAMATIC MUSIC:

to religious objects in public devotion and edification, as

ECCLESIASTICAL MUSIC.

So far, then, we have given a general sketch of the fundamental elements, forms, and objects of music.

According to, or in, all these directions, music may be employed

PRACTICALLY,

as by a Singer, Player, Director, Conductor, or Composer; and

THEORETICALLY,

as by a Teacher or Learner. Every branch, however, of practical employment presupposes more or less theoretical education.

Instruction in the nature and properties of tones is called

THE SCIENCE OF *Tones* (Tonlehre).

It comprehends instruction in

MELODY and HARMONY,

and in the uniting of several parts in one score; or

INSTRUCTION IN COUNTERPOINT.

The instruction for producing pieces of music according to the rules of art, is called

COMPOSITION,

which embraces, besides the science of *tones* and rhythm, the setting or arrangement of vocal and instrumental subjects, or the realization of musical ideas, through the organ of the voice, in union with the text or words and the accompanying musical instruments.

The scientific foundation of all musical knowledge we will call, in fine,

THE SCIENCE OF MUSIC.

To this may be added the art of

MUSICAL NOTATION,

and instruction in Playing and Singing.

This latter instruction we leave to the singing and instrumental schools, and to the able Professors of these various arts. Composition and the Science of Music require separate treatises. The other branches of our subject we shall either unfold completely, or explain in their elemental principles or general ideas, so far as they may be universally necessary.

These, then, are the indispensable contents of General Musical Instruction. We shall conclude with a few general observations (as an Appendix) on musical education and instruction—on the vocation to music as a profession—and on the manner of learning, as the most important of our additional matter, promised in the beginning of our Introduction.

The History of Music and the building or construction of instruments, do not come within the compass of our present treatise. They must be the objects of separate works.

FIRST DIVISION.

OF THE DOCTRINE OF *Tones*.

FIRST SECTION—OF THE TONAL SYSTEM

A *Tone* is a sound of a determined height or pitch.

We have already seen in the Introduction, that there are many *tones*, many sounds of different height and depth: the number indeed of the different possible gradations of *tones* must be infinite. In music, however, all possible gradations of *tones* are not employed, but only a certain number in a determined arrangement.*—The totality of these *tones* is called the

TONAL SYSTEM.

This system of *tones* contains, therefore, all the *tones* employed in music.

These *tones* are above a hundred. Now, it would manifestly cause difficulty if we assigned a different name to each of these. It has therefore been judged expedient to comprise them all in *seven* groups and names, which are called the seven

DEGREES.

These degrees are named† after the letters of the alphabet:

C—D—E—F—G—A—B.

* The gradations of *tones* really used in the production of music, are not selected arbitrarily nor indeterminately, but according to fixed principles, evolved from the laws of Acoustics. We wish to say a few words here, merely to fix the idea of *tone* more distinctly.

Acoustics show that sound is produced by the vibration of an elastic body. Elasticity is the property of a body, whereby its parts return to rest after being set in motion by an external force.—So we see, with a sword-blade, that if we bend it out of the straight line, and suddenly set it free, it will vibrate until it recover its original state of rest; and so with the low strings of a pianoforte, if we strike them forcibly and hold up the dampers, the vibration goes on visibly before us, while the sound gradually subsides and at length dies away, as the strings resume their former position of rest.

Such an audible vibration may be irregular, as to the continuance of each vibration, as in the drum for instance, and then we hear simply a noise; or it may be regular, each single vibration occupying the same space of time, so that the vibrations can be counted or numbered, and then a *tone* is produced.

In our system, we place those gradations together, which, while they are perfectly and clearly distinguishable, are still in near, easy, and therefore agreeable relationship to each other: other gradations which are difficult to distinguish, and are moreover repulsive to each other, we reject.

The determination of the relationship of *tones*, as applicable to the wants of our art (in which, for reasons which cannot be now detailed, we are not allowed to use the *tones* in their original most simple and natural relationships) is called Temperament, and the practical operation of preparing an instrument (namely, a pianoforte, violin, organ, &c.) so as to render it capable of producing those *tones*, is called *tuning*. Should the instrument not give the true relationship of *tone*, it is said to be *out of tune*, but the incorrect *tones* themselves we call false.

† In France, Italy, and the Southern Nations, the syllables,

ut, re, mi, fa, sol, la, si

are used for the names of the *tones*, instead of our *c d*, &*e*. The first six

All *tones* bear the name of one of these letters, or a name derived from them.*

We easily understand this system of names if we look at the keys of a pianoforte, or the fig. at page 6. We there see longer and wider keys, generally white, and between them, shorter and thinner keys, usually black. Of these black keys, first two, and then three, lie nearer to each other—for instance—in our fig. page 6, those marked 2 and 4, and further on, those marked 7, 9, 11, lie nearer to each other than the black keys, 4 and 7, or 11 and 14. These divisions, easily perceived, will serve us for land-marks.

The nearest white key placed immediately before two black keys (we proceed always from Left to Right), gives us

THE DEGREE—*c*;

the following white key, *d*—the next, *e*; the white key lying on the left, before three black keys, gives *f*, and so on. In our figure, all the names of the degrees are written on the white keys.

We see on the pianoforte many more keys than we have represented, but the same arrangement of *tones* and of keys, and therefore of names, constantly returns. The next white key after *b* (marked 13 on the figure) gives consequently again *c*; then follows again, *d*, *e*, &c., always in the same relationship of *tone*, but always higher.

We observe, therefore, that every degree in our system of *tones*, that the whole scale of degrees appears several times; that we have more than one *c*, *d*, &c. How shall we distinguish them from each other?

We range the seven degrees together until we return to the first, and, since this would be the eighth, we call it the

OCTAVE.

An octave is therefore a group of all the seven degrees up to the return of the first, which is considered as it were an eighth degree.

These octaves again are distinguished from each other by particular names. The deepest *tones* on the pianoforte, beginning at *c*, up to the next *c*, are called the

COUNTERTONES;

the next octave is called the

GREAT OCTAVE;

then follows the

SMALL OCTAVE;

after which follow the

ONE-LINE OCTAVE, TWO, THREE, FOUR-LINE OCTAVE, &c.

Higher octaves would require additional lines.

The deepest string on the violoncello gives *c* in the great octave, or the *great C*. The deepest string on the tenor is the *c* in the small octave, or the *small c*; and the deepest string on the violin, the small *g*, and so forth.

In writing, great roman characters are used for the great octave, and small for the small octave—small with one line above or below for the one-lined octave—small with two lines above or below for the two-lined octave, and so forth. The whole succession of names of *tones*, from the Counter-*B*, is therefore as follows:—

Counter-*B*,—*C*, *D*, *E*, *F*, *G*, *A*, *B*,—*c*, *d*, *e*, *f*, *g*, *a*, *b*,—*c*, *d*, *e*, *f*, *g*, *a*, *b*,—*c*, *d*, *e*,—and so forth.

Such a succession of *tones*, in which we proceed constantly from degree to degree, higher or lower, as on a ladder, is called the

SCALE,

or also, in a Latin or Italian word, *Scala*. The scale is complete whether it contain the seven degrees only, or also the eighth; for all beyond is indeed mere repetition in a higher or lower octave.

The countertones, the great and small octaves, and at all events a part of the one-lined octave, are comprehended under the name of the

BASS,

or bass *tones*. The higher octaves, with the whole of the one-lined octave and the higher *tones* of the small octave, are included under the name of the

TREBLE,

or treble *tones*. The exact boundary would therefore be the one-lined *c*, but it is allowable not to adhere rigidly to that limitation. The whole distribution is but superficial, for the sake of dispatch when no precise object is in question.*

SECOND SECTION—THE SYSTEM OF NOTATION.

For the representation or indication of *tones* we use a particular kind of writing, called

NOTATION.

This invention is suggested by the idea of the scale *(note ladder)*, which has indicated the steps *(Stufen)* or degrees whereon the notes in the form of round, blackened or empty spots, are placed.†

It would seem necessary to make as many degrees as there were tones; for example, seven or eight degrees for an octave:—

are the initial syllables of a verse in a hymn to St. John, and were employed by a music master, the Monk Guido d'Arezzo, in the eleventh century, in order to enable his scholars to pitch their voices more easily. The producing of these *tones* according to these six syllables, is called solfaing, and was long the torment of students of music. Much later, the thought occurred, to give a seventh name (*si*) to the seventh degree; and it was taken from the initial letters of the last line of that verse, Sancte Johannes.

* Why exactly these, and not the first seven letters of our alphabet in its original order? This arrangement arose as follows: Originally, the alphabetical names were, in fact, used in their common order, *A*, *B*, *c*, *d*, *e*, *f*, *g*, and *B* denoted the *tone* now called by us *H*, *(B in English)*: but the *tones* produced by our black keys were then defective; and that key which lies under our *H*, *(B English)*, was introduced, and was also called B. There were, therefore, two different *tones*, both having the same name, *B*. They were at first distinguished by the names of *B quadratum*, our *H*, *(B English)*, and *B rotundum*; and later, the *B quadratum* received the name of the following letter (after *G*), *H*. Still later, the succession of *tones* beginning with *C*, [therefore *c*, *d*, *e*, *f*, *g*, *a*, *h*, *(B English)*,] was recognised as the most important; as the true foundation of all the others; and so, in substance, the matter became correct, although the succession of names remained irregular.

* Is now, our system of *tones*, *such and so far* as we here know it, the only one that has been employed—the only one that can be used? By no means. History informs us that in ancient times, instead of *seven* degrees, five only were employed, and in the following order:—

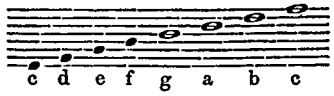
c—d—e—g—a—

to which, after a while, the octave of the first *tone* was added. This five *tone* system remained in use even after the intervening *tones* were known. The Greeks *(see the Author's Article on Greek Music, in the Universal Lexicon of Music)*, first adopted the seven *tone* system, which they arranged in this order,—

g—a—b—c—d—e—f.

Their *tone* system was (in part) employed by the Christian Church; and now first appeared by degrees the semitones. The temperament which we now use, has not been thoroughly and firmly established in theory and practice much more than a hundred years.

† Formerly, square notes were in use; of which we shall have to say something hereafter.

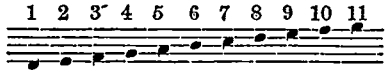
1. 

that the undermost of these lines or degrees should have been the place of the lowest or deepest *tone*; for example, *c*—that the next line should have been the place of *d*, the third, of *e*, and so on. But upon that plan, so many lines would have been necessary, that it would have been scarcely possible to identify the notes upon them.

Therefore the number of *lines* for places of notes, has been limited to *five*,* together with the *spaces* between, above and below them. This combination of five lines is called the

STAFF,

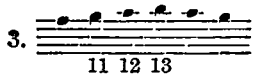
which furnishes, together with the spaces and the places immediately above and below it, positions for eleven notes, as we here see—

2. 

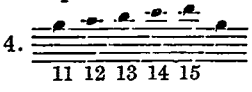
Here, also, the note of the deepest *tone* is the undermost, and under the first line; the following *tone* is on the first line—the third *tone* between the first and second lines, therefore in the *first space*, &c. The highest *tone* is over the last or fifth line.

Now we have many more than eleven *tones*. How do we represent higher *tones* than the above eleven?

The twelfth *tone* would require another line. But as we wish to avoid a superabundance of lines, so, instead of a complete line, we place a small supernumerary line, called a Ledger line, near the staff which still strikes the eye as the principal object. Now we can

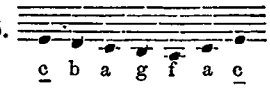
3. 

place the twelfth *tone* on the ledger line, and the thirteenth over the ledger line. A second ledger line would give us places

4. 

for a fourteenth and fifteenth *tone*, and so forth.

Let us apply the same expedient to the lower *tones*. Let us place (for example) the one-lined *c* on the first line: then we should have to write the little *b*, under the first line. If we wish to note deeper *tones*, we must have for *a*, the first ledger line (that is, under the staff); *g* would be under the first ledger line; *f* on the second ledger line; and so on, as is here shewn,—

5. 

Now, we should be in a condition to write and read all the notes, if we only knew which particular *tone* should be on any particular line. If we agreed, for example, as in No. 5, that the one-lined *c* should be on the first line, then we should know that the one-lined *d* would be immediately over that first line—the one-lined *e*, on the second line—the small *b* under the said first line, &c., since the notes follow each other in the same order as on the scale. But instead of the one-lined *c*, we might place any other *tone* on the first line; and then all the other *tones* would take their places thereby. Suppose, for instance, that *e* stood on the first line, instead of *c*; then would *d* be under it, *f* over it, *g* on the second line, and so forth. It must be settled, therefore, where any particular *tone* shall be fixed, whereby the places of all the rest shall be determined.

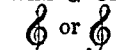
For this object, there are certain signs, called

CLEFS;

which indicate that the line on which they are placed, is appropriated to a certain determined *tone*. There are three of these Clefs:

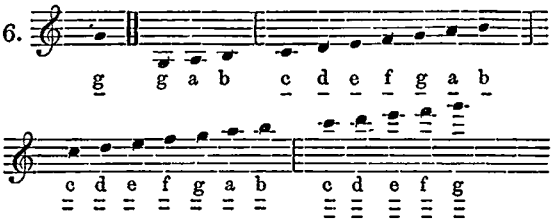
The *G* or Violin Clef, *C* Clef, and *F* or Bass Clef.

1. THE *G* CLEF,

has this form,—  or

and shews that the *one-lined g* is to be placed on the line encompassed by its lower curve. It is at present constantly put on the second line. Formerly (especially in French notation) it was placed also on the first line, so that on that line the one-lined *g* was written. In this application it was called the *French Violin Clef*.

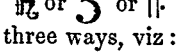
We present here a succession of notes in the violin clef now in use:—

6. 

If it were desired to write the small *f* in this clef, it should be placed on the third ledger line under the staff. The three-lined *a* would be placed above the fourth leger line over the staff, and so forth.

2. THE C CLEF

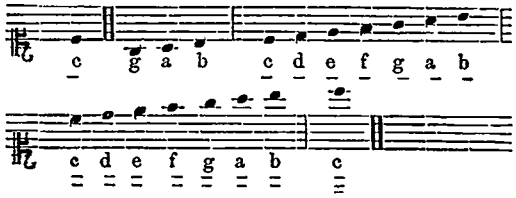
intimates that the one-lined *C* is to be placed on the line on which it is marked. It has this form:

 or or  or 

and is used in three ways, viz: as soprano, alto, and tenor clef.

a, THE SOPRANO CLEF,

shews the place of the one-lined *C* to be on the first line, viz:—

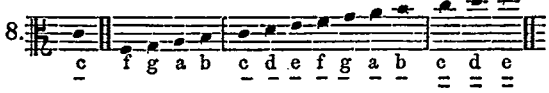
7. 

* Why exactly limited to five lines? In the first place, because an odd number of lines has a middle line, which divides the staff into halves, and so makes it easier of inspection. Secondly, three lines with their spaces, do not give room, even for an octave, and therefore do not suffice for our system: whereas, five lines, from the undermost to the uppermost, gives ample room for the octave. It follows that a greater number of lines—seven, for example—are not wanted.

This succession of notes might be extended upwards or downwards, according to the foregoing instructions.

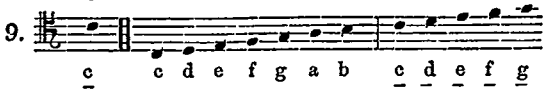
b, THE ALTO CLEF

indicates the third line as the position of the one-lined *C*, and therefore produces the following succession of notes.

8. 

c, THE TENOR CLEF

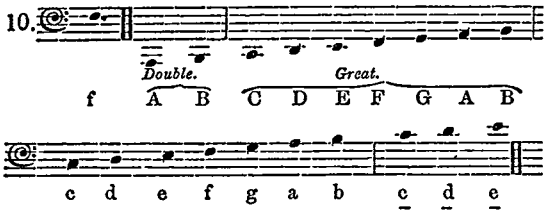
places the one-lined *c* on the fourth line, and has the following succession of notes.

9. 

These are the three usual applications of the *c* clef. In old writings, it is also found occasionally on the second line. We come now to the third clef.

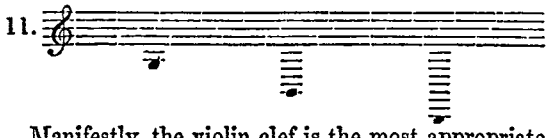
3. THE *F* CLEF.

It has this form,—  or  and shews us that the line it encompasses is the place for the small *f*. With us it is invariably put on the fourth line, and has the following succession of notes :—

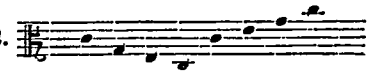
10. 

If we wish to extend this line of notes, the double *G* must be placed under the third ledger line, double *F* on a fourth ledger line, double *E* under it; and in like manner the one-lined *f* over the staff must be placed *over* the second ledger line, the one-lined *g* on a third ledger line, and so forth. In old notation, the *F* clef is sometimes found on the third, and sometimes on the fifth line.

What is the use of so many clefs? Would not one have been sufficient? We shall soon be persuaded of the contrary. If we used any one clef only, we should want too many ledger lines, either above or below. With the *F* clef, for instance, we should want two ledger lines for the one-lined *e*; the two-lined *e* would require five, and the three-lined *e* nine ledger lines. If with the *G* clef we wanted to write the great and double G, we must use six and nine ledger lines. How inconvenient such a method as this would be to write and to read.

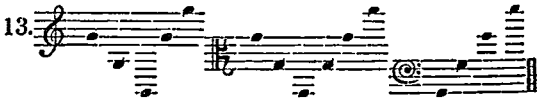
11. 

Manifestly, the violin clef is the most appropriate for the higher octaves (for instance, for violins, flutes, &c.), and the bass clef for the deep octaves, such as those of the double bass, low voices, the bass, &c., while the first is unsuitable for low and the last for high successions of sounds. Accordingly, we soon perceive why even two clefs, for instance, the G and F clefs, are not sufficiently accommodating for all successions of sounds and voices. For a voice, such as the Tenor, or Alto, or the Tenor Violin, which reaches from about the small to the two-lined *c*, the F clef would be too low and the G clef too high—the first would require more than four ledger lines above and the other as many below. How much more ease is obtained from the alto clef,—

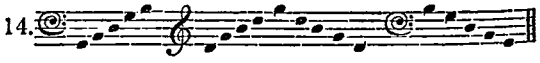
12. 

or even from the tenor clef. It seems, therefore, that we require intermediate clefs for intermediate successions of sounds, and that want is fulfilled by the three C clefs: for the soprano clef is two degrees lower than the violin (G) clef; the alto clef is four degrees lower than the soprano clef; the tenor clef two degrees lower than the alto clef; and, in fine, the bass clef four degrees lower than the tenor; so that every division of sounds has its appropriate clef.*

We must mention another expedient used to express successions of sounds, widely different in pitch. If, namely, a succession of sounds should stretch so far apart, that no clef can conveniently include them, we change the clefs. A succession of sounds, for instance, from the great to the two-lined *g*, would not suit the violin clef, nor the bass, nor any one of the intermediate clefs, as we here shew :—

13. 

We introduce, therefore, another clef at the appropriate situation,—

14. 

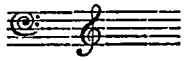
and thus, without a single ledger line, all the *tones* of these three octaves can be clearly expressed by the change of clef.

When several voices are united in a musical composition, they are noted on several staves running simultaneously together, and to every staff is given the proper clef for the voice to be written on it: that is, for instance, the G clef for the high, and the F clef for the low voices.† Under this arrangement

* It is true on the other hand, that by superabundance, the clefs may become perplexing and burthensome. So, formerly, the violin clef was found on the first line (as before-mentioned) and also the *C* clef, on the second line, as *Mezzo* soprano clef; the *F* clef was used on the third line, as baritone clef, and on the fifth line as deep bass clef These supernumerary clefs, however, are now very properly abandoned.

† A case, of rare occurrence however, must here be stated. Occasionally, in works of many voices, space is deficient for the introduction of each particular succession of sounds, or for the admission of separate staves, for successions of sounds, widely differing from each other. In this case, the two voices are compressed into one staff, with the clef most appropriate for both; and if needful, a second clef is added for such notes as could not be written conveniently under the clef first chosen, while this first chosen clef remains in operation for all the other voices. Thus in the richly scored Mass of Beethoven, S. 48, space is wanting to give

each clef is considered as operative for the whole length of the staff at the beginning of which it is placed, until the introduction of another clef. If the intrusive clef is to continue its effect in the following line of staff, it is customary to place first on that staff the original clef, and then the clef newly introduced: for instance, if the violin clef is to avail from the beginning of a staff of bass-notes, it should be written thus :—*

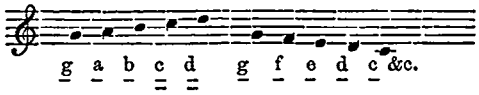


Method of learning to read the Notation.

Those who proceed no further in music than singing or playing some instrument, will not, in general, require the knowledge of more than two clefs. It must, however, be desirable to every such student, to read the notes easily and with certainty; and moreover, to learn them in such a manner as to render the acquirement of an instant command of the other clefs, a matter of equal facility.

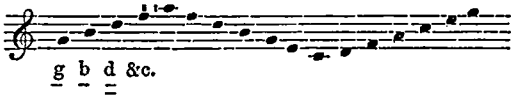
This is not to be obtained by learning by rote, nor by the note-table introduced by some Professors;† but by a clear insight into the notation, and its agreement or coincidence with the tonal system. It must be felt, that the *scale of notes is a true image of the scale of sounds*, this latter being the scale, properly so called—that the notes ascend and descend by degrees on the lines and spaces, in like manner as do the *tones* in the scale. Now, the first exercise, is to fix upon any *tone* or clef—for example, the *G* clef (the one-lined *g* on the second line)—and from that point, to *write* and *name*, upwards and downwards, the following gradation of notes; viz. :—

17.



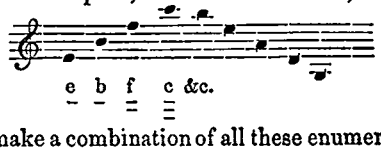
Now, let it be observed, that from line to line and space to space, a third *tone* is noted; and let this succession of notes be *written* upwards and downwards, as follows :—

18.



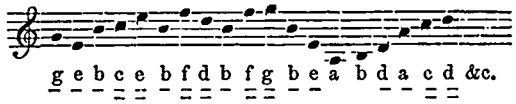
It will be observed also, that upon every third line and every third space, a fifth *tone* is noted, viz.—

19.



Then make a combination of all these enumerations, first one and then the other, thus :—

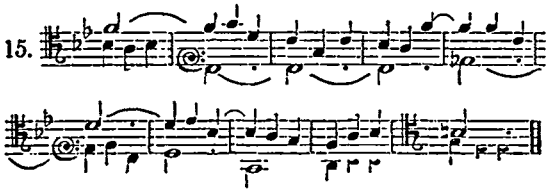
20.



Lastly, take a good musical composition, and read out aloud all the notes from it; and if a note should not be immediately recognised, its name can be soon discovered by ascending or descending, degree by degree, to its next neighbouring note. It is indeed possible, that this method may take more time in the beginning than learning by rote; but it impresses the knowledge more firmly, and has the effect besides, that if one or two clefs have been studied in this manner, the other clefs become known as it were of themselves, while the eye has already acquired much

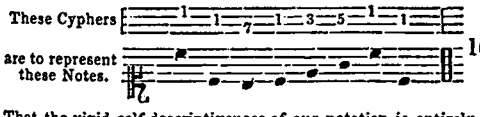
separate staves for the high and low bassoons, and therefore their parts were thus written :—

15.



The upper succession of notes here is throughout in the tenor clef; the under, from the second to the last bar but one (what we have so far said does not exemplify this case) is in the *F* clef. Let it be remarked, that the *F* clef, merely to strike the eye, is falsely placed; which seems to show that this manner of writing was solely employed as an expedient of necessity. It ought, indeed, to be avoided if possible, and is only justifiable, as in this instance, by its object and its success.

* It is very desirable that every one who takes an interest in music, should thoroughly comprehend the advantages of our system of notation (which will be still more manifest when we shew in the first section of the second division, its singular aptitude for the exemplification of rythmical proportions) since from time to time, up to the present moment, schemes for new systems, often of the most extraordinary description, have been made public. Such propositions, to abandon a system whose origin recedes unknown, into tens of centuries, coeval with all art, and improved and illustrated by all art-loving nations; such propositions can be entertained only where the reasonableness, necessity, and power of historical development are forgotten. These undertakings can indeed have no influence on the steadfastness and prosperity of art; but they may disturb and mislead the inexperienced, and the perhaps numerous bodies of students for a time, and even detach them from high musical education. Of this kind is the *Cypher System*, which is not as yet altogether laid aside. This was introduced many years ago by some well-intentioned schoolmasters, who were, however, not over well informed in music, for the purpose of facilitating the progress of their scholars. The Cyphers were in three compartments, (representing three octaves) whereby the elevation of the octave and the degree of sound could be expressed, viz :—



16.

That the vivid self-descriptiveness of our notation is entirely absent from this cypher system, and that it can only recite a number of notes without exhibiting their rhythmic proportions, is abundantly manifest. Moreover, the supporters of this system do not attribute to it an equal rank with our notation. It is to be used *for a time only*, to spare the learning of the notation until further advancement: but the notation must be learned at last, and therefore two systems instead of one only.

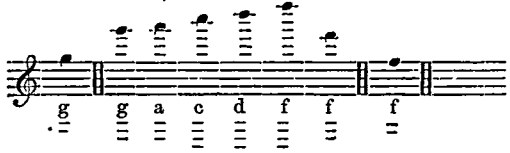
In other respects, there is scarcely a way or a bye-way that has not been searched for improvements or alterations in musical notation. The Greeks and their followers employed their variously placed and transformed alphabet, as signs of sounds. Then, out of, and with these, was formed a notation of separate signs, called *Neumen*, which were in use until the twelfth century. In order to assist their inspection, and make their height and depth more perceptible, the Neumen were placed higher or lower. Then, in the ninth or tenth century, *one single line* was drawn, as it were a foundation line. Afterwards *two lines* were used, the under one red, and the upper yellow. To these Guido Aretino added a black line over each, so that in all there were *four lines*, and at the beginning of these, the names of the notes were placed in letters of the alphabet, from which, in after time, arose our clefs. It was not until the tenth century, that some attempts at *notes* appeared, on seven, eight, ten, and even twelve lines and more. By about the twelfth century, the use of notes had become more general; still, however, the *neumen* signs, and various other forms of expressing sounds, particularly for different instruments (the lute for instance) called *Tablatures*, maintained a partial dominion during another century. See the article, *Notensystem*, &c., in the *Universal Lexicon der Tonkunst*.

† This is, as we are informed, an invention of Mr. J. B. Logier, and manifests equal ingenuity with the other inventions of this brilliant and highly talented instructor, but it is too mechanical; as, indeed, the whole system of this professor could not avoid being, with the particular objects he had in view. The Note-table is a board placed between the keys and the reading-desk. Upon it all the keys of the instrument are represented, as so many equal divisions, and upon each division are marked the clef (F or G) the name of the note of the key immediately under it. In this manner the student has constantly before his eyes four objects in combination,—the key, the clef, the name, and the note, which thus imperceptibly fix themselves by degrees in his memory. It is, therefore, a facilitated learning by rote.

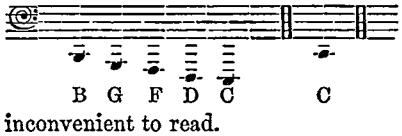
facility in the swift reading of notation. Furthermore, it secures a promptitude, which in all cases *must* be obtained, in finding and naming the *tones* of the tonal system, upwards and downwards, and in any order, with rapidity and decision.

THIRD SECTION—AUXILIARY FORMS AND SIGNS IN NOTATION.

We have no higher clef than the *G* clef, and no lower than the *F* clef. Nevertheless, we require in the former many ledger lines for the higher *tones*, and in the latter many also for the lower *tones*. *Tones* of the three and four-lined octaves are written for the former thus,—

21. 

and for the counter *tones* thus,—

22. 

and are inconvenient to read.

With such *tones*, therefore, an auxiliary kind of writing is used: that is, the higher *tones* are written an octave *lower*, and over the notes is placed the cypher,

8, or 8*va*,

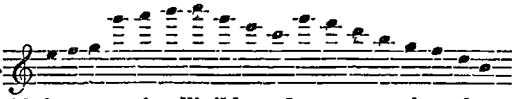
(ottava), in order to point out that they are to be played or sung an octave higher than written. If a succession of such *tones* should be written lower, the sign of the octave is elongated by a line so far as it is intended to act, thus,—

8~~~~~~~~~~, or 8*va*~~~~~~~~~~,

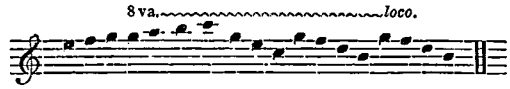
and the place where the notation is to have its regular meaning again, is marked with

l, or *loco*,

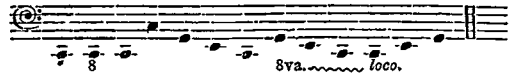
signifying, "at the right place." This succession of notes, for instance,—

23. 

would be more intelligible and easy to write, thus; viz.—

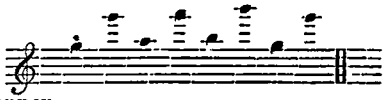
24. 

On the other hand, if very low notes are to be written, they are placed an octave higher, and the sign of the octave (8, 8*va*) is placed *under them*, viz.—

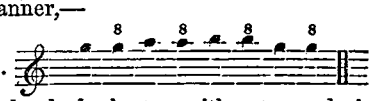
25. 

Here the second note is to be read as counter *C*, the eighth to the tenth as counter *G*, *E*, *C*, but the eleventh as great *C*.

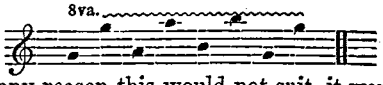
This manner of writing is of course applicable to every clef. It is well, however, not to use it to frequently, lest this method become rather an impediment than a facilitation. Nobody, for example, would think it reasonable to write this passage,—

26. 

in this manner,—

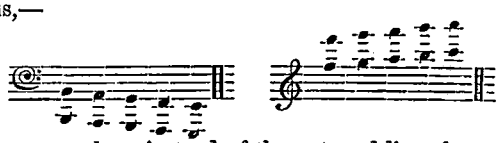
27. 

It would clearly be better, either to mark the whole passage with an 8*va*, thus,—

28. 

or, if for any reason this would not suit, it would be preferable to use ledger lines, as in No. 26.

Another similar abbreviation is used when a succession of *tones* is accompanied by another succession either higher or lower. If the succession proceeds thus,—

29. 

by octaves, then, instead of the outward line of notes (the lowest in the bass and highest in the treble), we may write under or over the inner line of notes,

all' 8*va*, or *all' ottava*

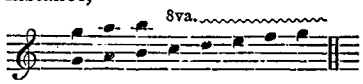
(to be played with the octave), as in No. 28, thus,—

30. 

The sign,~~~~~~~~~~~~~~~~~~~~

prolongs the effect of the 8*va* sign here, so far as it extends, as before in No. 24.

Sometimes we find in musical writings, instead of *all' ottava*, simply *ottava* (8*va*), which is an inexact, or rather an erroneous manner of writing. When this occurs, we are obliged to guess from circumstances, what was the real intention of the composer. If a passage began with a succession of octaves, and it were followed by a simple 8 or 8*va*, as in this instance,—

31. 

we might imagine that the succession of octaves was to continue; not, that perhaps, the lower notes from *c* upwards, were to be played in their higher octaves alone.

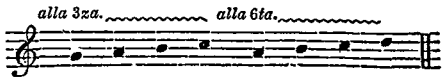
More rarely we meet with the sign—

alla 3*za* (*terza*).

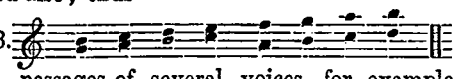
and

alla 6*ta* (*sesta*).

meaning that with each of the *tones* indicated by the succession of notes,—

32. 

a higher *tone* (or lower, if the signs were under the staff), at the distance of a third or sixth, is to be played also; thus—

33. 

In passages of several voices, for example, in choral and orchestral compositions, it is usual also to refer from one voice to another: to write, for instance, in the tenor voice, instead of the notes, simply,—

col Basso.

(*with the bass*) or in the second violin,

col 1*mo.* (*violino.*)

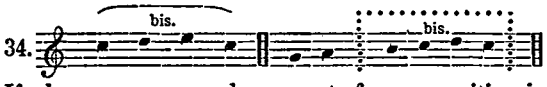
to indicate, that the former is to play the notes of the bass, and the latter, those of the first violin.

Moreover, there are certain signs and intimations whereby, in part, the notes are omitted.

If a passage is to be repeated, or played, two, three, or four times, the notes are written once only, with these marks over them; viz.—

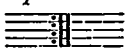
bis,—ter,—quater.

For better intelligence, the whole passage is included under a bow, or dotted lines, thus:—

34. 

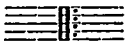
If a long passage or a large part of a composition is to be repeated, we use the—

Sign of repetition or Repeat.

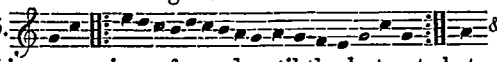


Two bars across the lines, with dots between the lines, on the left of the bars. Here the following distinctions must be observed.

If a part or passage of the composition is to be repeated from the beginning, it is only necessary to place the repeat as above, at the point from which the performer is to return to the beginning; but if the repetition is not to be from the beginning, the opposite sign of repetition must be placed at the point where the repetition is to commence, thus:—

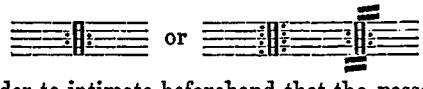


So that the whole passage to be repeated is enclosed between the two signs: viz.—

35. 

This passage is performed until the last note but one (*g*), then, repeated from the third note (*e*), now for the first time, to *a*, and then, the movement proceeds.*

If after the repetition of one passage or part, another is to be repeated immediately following it, the dots are placed on both sides of the bars thus:—



in order to intimate beforehand that the passage beginning at that point is also to be repeated.

If a longer passage is to be repeated, but, after the repetition, a small change is to be made in the termination, the end to be changed is to be marked with a bow or a parenthesis, and the words,—

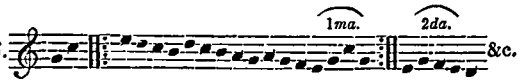
1*ma* (*prima volta*).

and the substituted passage which is placed after the sign of repetition, is marked,—

2*da* (*seconda*).

in order to express, that on the *first time* of playing the passage, the place marked 1*ma* is to be played; but on the *repetition* of the passage, that place is to be omitted and the place marked 2*da* is to be played in lieu of it.

The foregoing passage written so,—

36. 

would be repeated as before; but the repetition would only go as far as the twelfth note (*f*), then the four following (*e—g—c—g*), would be passed over, and in lieu of them, those after the sign of repetition (*e—g—f—e*), would be played.

The following words or signs have the same meaning,—

Da capo (*D. C.*. or *D. c.*, or *d. c.*)

from the beginning; that is, to repeat from the beginning. If the repetition is to reach only to a certain point, and the piece of music there close, that point is indicated by—

F. or *Fine* (*end*).

It is well also to add to this sign, in order to make it more striking to the eye, this mark, over the last note,—

(which we shall find further on, employed for another object), and to write, instead of simply *da capo*,—

D. C. al fine.

that is, from the beginning to the (indicated) end.

If the part is not to be repeated quite from the beginning, but only from a certain point, that point is indicated by the sign—

and instead of *da capo*

d. s. (*dal segno.*)

which means, *from the sign*, is written.

This passage for example,—

37. 

would be played through from beginning to end, and then be repeated from the sign at the third note *c*, to the note where *Fine* and the sign are placed, which is the lower *c*, as the end of the passage.†

Other abbreviations and facilitations we shall learn hereafter.

Finally, we will mention one other sign which is used at the end of a side or of an incomplete pas-

* Instead of the few notes enclosed in this example, the reader is requested to represent to himself a whole subject, or part, of considerable length. Such a short passage as we have here given for the sake of brevity, would only require the word *bis*.

† Here also it is necessary to imagine a piece of music of some extent, instead of the trifle above. One would rather write those few notes over again, than employ the abbreviations.

sage, to shew what follows on the next side, or note the next continuation of the passage: it is this,—

and may be called

A Direct.

Here for example:—

38. 

it means that the next notes will be the two-lined *f*, and the one-lined *a*.

FOURTH SECTION—RAISING AND DEPRESSING.*

If we compare our systems of notation and *tones*, so far as we have hitherto considered them, with the row of keys of a pianoforte, or with our representation at page 6, we shall perceive that we have not as yet learned to know and to write all the *tones*, and, therefore, that we are not in possession of the whole system. We know nothing of the *tones* given by the black keys, which are distinguished in the figure above quoted by the numbers 2, 4, 7, 9, and 11. We have allowed ourselves this postponement, in order to secure a good foundation, and shall now proceed to the elucidation of the omitted *tones*, in doing which we crave reference to our said representation of the key-board at page 6.

(A.) Raising.

If we place before any note this sign,

♯

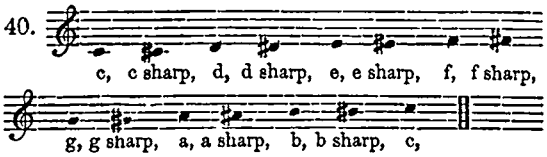
called a *sharp*, or sign of raising, the key and *tone* originally indicated by that note, are no longer meant, but the key and *tone* next above it, whether this latter be a black or a white key. If, for example, we place a ♯ before the note *c*—

39. 

it is not the key *c* (fig. page 6, No. 1), but the next higher—a black key, No. 2—which is intended. If a sharp were before *d*, the black key 4 would be understood. If it were before *e*, the key 6, which we see is a white key, would be meant.

The *tone* so raised must now also change its name, which is done by simply adding the word *sharp* after it. Thus *c* so raised, is called *c* sharp, and so of the rest.

There would seem to be 14 of these *tones* in the octave—

40. 

but there are in reality no more in use than 12, since practically *e*♯ and *b*♯ are the same as *f* and *c*.

The same process may now be gone through in an opposite direction.

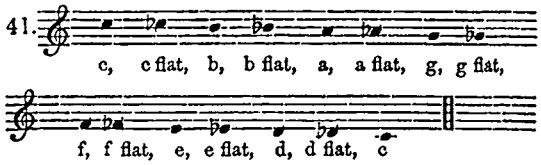
(B.) Depressing.

If we place before any note the sign,

♭

called a flat, instead of the original key and *tone* being meant, the note is understood to indicate the key and *tone* next lower, or deeper, whether that be a black or a white key. If, for example, a ♭ be placed before *c*, the key *c* (in the fig. No. 13) is not meant, but the next deeper, No. 12, and, as we see, a white key. If a ♭ be before *b*, the key No. 12 is not understood, but the next lower, No. 11, which is a black key. Such a lowered *tone* changes its name in a similar manner as the raised *tones*, by adding the word *flat* to the name of the tone.

Here we see the *tones* of an octave,—

41. 

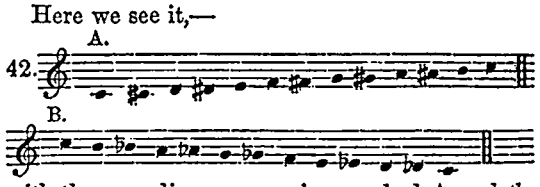
Such *tones* as differ in name only, but are in reality the same in pitch, we call enharmonic. Thus *b* and *c*♭, *e* and *f* ♭, *e*♯ and *f*, *b*♯ and *c*, *c*♯ and *d*♭, *a*♭ and *g*♯, *b*♭ and *a*♯, and so forth, are enharmonic *tones*.

It may seem surprising that we should have double names for the *tones*. Why don't we name the black keys *c*♯, *d*♯, &c., only, or *d*♭, *e*♭, &c., only? Why should *e* be sometimes *f*♭, and *f* sometimes *e*♯? These apparently superfluous double names, have been adopted for very sufficient reasons. They are quite indispensable to clearness and facility of notation. This will in part be shewn in this work; but it can be done conclusively only in the treatise on composition and the science of music.

The scale in which all the raised and depressed *tones* are introduced, which we have not already described above, under the name of enharmonic, we call the

Chromatic Scale.

Here we see it,—

42. 

with the ascending progression marked A, and the descending, B.

On the other hand the succession of all the degrees (shewn at page 7), in which each degree appears but once, is called the

Diatonic Scale,

which going through the *tones* omits no degree, but in one form and one scale only.

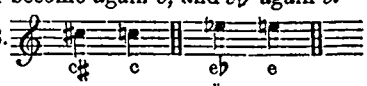
If we have employed a sharp or a flat, and wish the effect of either to cease, we use a sign called a

(C.) Natural.

which is of this shape,—

♮

and replaces the *tone* which had been either raised or depressed, on its original pitch. So, for example, *c*♯ would become again *c*, and *e*♭ again *e*.

43. 

The sharp had raised *c* to *c*♯, but the natural re-

* The instruction beginning here cannot be completed until the ninth section of the second division.