

**THEORY AND
RUDIMENTAL
HARMONY**

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Theory and Rudimental Harmony by James M. Tracy

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JAMES M. TRACY

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AND

RUDIMENTAL HARMONY.

BY

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TEACHER AT THE BOSTON CONSERVATORY OF MUSIC.

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MOST RESPECTFULLY DEDICATED

TO THE

President and Faculty of Dartmouth College,

BY THE AUTHOR.

This work is designed for all students and others who wish to become thoroughly acquainted with the numerous signs and characters used in writing music. It also gives the various forms and sizes of intervals, together with their appropriate names; the movement of the different voices or parts, the different divisions of time, the various kinds of chords with their inversions and relation to each other, and arrangement into fundamental harmonies. It also contains a large number of practical examples in writing harmony correctly, introducing all the intervals and chords as used by the best composers of modern times.

It is confidently believed this little work will prove a most valuable aid to all who are in pursuit of accurate musical knowledge, embracing as it does, everything necessary to be understood by first-class teachers and amateurs. The author's practical experience in this branch of musical education is sufficient evidence of his ability to issue a work which will be found useful, practical, and reliable. Hoping that all those who study these pages will not be disappointed in good results is the earnest wish of the author.

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CHAPTER I

MUSICAL SOUND AND MUSICAL ART.

In order to understand this subject thoroughly we must begin by stating the difference between general and musical sound, for they must be separated.

Sound comprises everything which is perceptible to our sense of hearing — or everything hearable. Sound is produced on our ear by oscillation, or vibrating motion of air, or any other intermediate body which is perceived by our auditory nerves.

MUSICAL SOUNDS are produced by a regular number of vibrations, fast or slow: if slow, the tone is low; if quick, the tone is high. The ear ought to be able to distinguish between slow and quick vibrations, (high or low tones,) otherwise there can be but little use for a person to study music. A musical sound of some definite pitch is called a *tone*.

Sound is a hearable action of a vibrating body. A *musical* sound is a sound of perceptible determinable pitch. A *tone* is a sound of known pitch, either high or low. *Unmusical* sounds are those which do not have a regular well defined number of vibrations. They are mixed or confused, of unknown pitch, and toneless — such sounds are termed *noises*. The string of a violin, piano, or guitar can be seen when vibrating, but the stroke of a bell or common drum-head is produced in a different manner, and cannot be so readily seen.

Elastic bodies are employed for musical instruments, as bell metal, steel for tuning-forks and piano wire, cat-gut for violins and guitars, glass for bells, &c.

On wind instruments it is the column of air within that vibrates and not the instrument itself; the length and breadth regulates the pitch, high or low.

CHAPTER II.

ON TONES.

THERE are two ways of producing musical tones: one by the human voice, and the other by inanimate musical instruments. Music produced by an inanimate instrument is called instrumental music. Vocal music, or music produced by voices, is called human music. The inventive musical art is the talent of being able to combine musical ideas and put them in form so as to produce a perfect musical composition. The executive musical art consists in the power and ability of rendering a piece of music properly after it has been composed, whether vocal or instrumental. The theory of musical composition teaches us how to put tones grammatically together in order to form a piece of music according to the laws of beauty, it also treats of signs and characters used in writing music.

CHAPTER III.

MUSICAL TONES AND PITCH.

MUSICAL ART embraces the entire compass of all perceptible tones, and the realm of these tones is unlimited in number and variety. In musical composition we can only make use of such tones as our ear is capable of distinguishing as being high or low. The human ear can only recognize those vibrations as sound which are neither too slow nor too quick. That is to say, beyond a given height or depth the ear cannot comprehend distances. It requires about thirty-two vibrations a second to make a musical tone, and this is the lowest tone which can be brought into use. The highest tone is nine octaves above this, and consists of several thousand vibrations in a second. The pitch of tones is the distance between any one tone and another, whether high or low. The easiest way of furnishing a clear illustration is by the keys of a pianoforte. It will be perceived that the keys are divided by white and black, the object of which will be explained hereafter.

CHAPTER IV.

NAMES OF TONES.

As a means of naming the different tones it is usual to employ seven letters of the alphabet, C. D. E. F. G. A. B. These seven letters taken together constitute what is called an octave, and, as before stated, there can

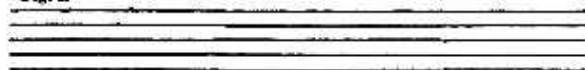
be only nine octaves recognizable in music. Now, from C. to C. again is an octave; or, from D. to D., E. to E., F. to F., is the same. The black keys, situated between the white ones, are secondary, and will be treated of in their proper place.





The distance between one white key and another, above or below, is called a tone, or step. It will be seen that every white key has a letter of its own, but the black keys have none; they borrow their names from the white keys, either above or below, as the case may be. We will designate all white keys as *natural*, or *independent*, in contradistinction to the black, which are *chromatic*. *Chromatic* means colored, and in this work has reference to the black keys. The Greeks used to write their chromatic signs with different colored ink (hence *color* to represent different keys, &c.)

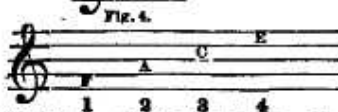
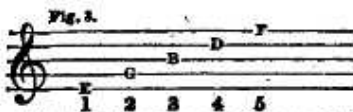
To simply write the seven letters of the musical alphabet without any other symbol or sign to designate their location, position, or pitch would leave us entirely in the dark regarding distance or pitch, and as a means to obviate this difficulty a *linear system* or *staff* has been furnished upon which to place the notes, and thus the exact pitch of any note can be readily ascertained or determined. For this purpose five lines are written, thus:

Fig. 1.

STAFF.



Every position between a line or space is called a degree. A note placed in a higher or lower position is said to be higher or lower in pitch; but to understand *exactly* where the true pitch is, it is necessary to have a fixed location or position for each letter, and usage has introduced other signs for this purpose called *clefs*.  This character or sign is called a G *clef*, and it is placed on the second  line, thus:  Fig. 2. With this line fixed as the clef line it is easy  to ascertain where the other letters must be placed.



The first line is named E, second G, third B, fourth D, fifth F. The distance between the lines are called spaces, and are named F, A, C, E; or, taking all the lines and spaces together they form all the letters of the mu-

sical alphabet. In case tones are to be used which are higher or lower than

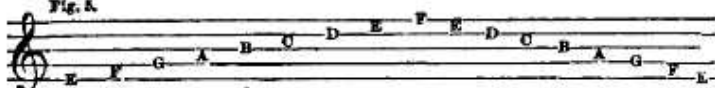
Fig. 5.

 in the example given above, other lines and spaces are used called *added* lines or *added* spaces. They are written both above and below the regular staff, thus:—

Fig. 6.


Fig. 7.


The above series of letters *must be thoroughly learned and committed to memory*, otherwise it will be useless to proceed further. No one can learn to read vocal or instrumental music with facility without first thoroughly committing to memory all the rudimental signs, and especially the letters.


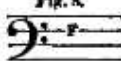
Having learned all the letters and tones of the G clef, which represents the *higher* tones of music, we now come to the Bass clef,  which represents the lower tones. thus:—

Fig. 8.


This clef is called the F. or bass clef, and is used for the lowest notes or tones, bass voices or instruments. The *fourth* line is the cleff line:—

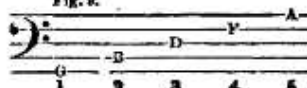
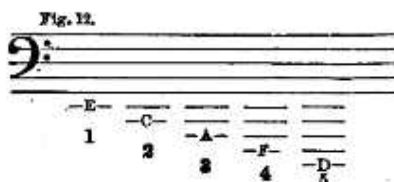
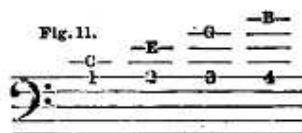




Fig. 9.


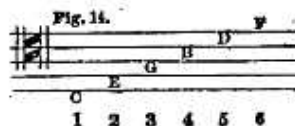
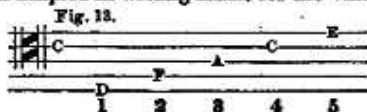
Fig. 10.


To more clearly indicate the clef line a dot is placed on each side of the fourth line. Added lines and spaces to any number can be placed above and below the bass staff, thus:—



To facilitate reading music when it runs very high it is usual to place 8 va --- above the notes, meaning an octave higher than written, instead of having too many added lines, as the lines confuse the eye. When music runs very low, we write 8 va --- below the notes, which means an octave lower than written. Examples will be given further on.

There is another clef which is used quite frequently, it is called the Tenor, or C clef, and is made thus:  or, sometimes thus:  This clef is a very useful one, because it  is movable, and for  this reason is particularly well adapted in writing music for the various instruments of the orchestra. The fourth line is the clef



To understand thoroughly this clef we will place it in the various positions where it is most frequently found:—