THE MUSICAL EDUCATOR

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CONTENTS

LIST OF PLATES

ON THE TEACHING OF SINGING AND THE SINGER'S ART.

By Madame BLANCHE MARCHESI.

THE PARENTS.

We may imagine the father and the mother having a talk — one example out of thousands: "I think our daughter is going to have a voice," says the father; "if that is so, I would like her to be a public singer; she might make a great name and earn a fortune, and all our friends would be jealous." "But what are we going to do?" asks the mother. Yes, what?

The girl is, say, fourteen years of age. Her parents are completely ignorant of anything connected with music or art; in fact, music has not hitherto been a subject of discussion between them. They do not go to concerts, have never even heard "The Messiah"—a fact in itself significant of much, since to go and hear the oratorios is for an English family the same as it is for a German, French, or Italian family to go and hear a favourite opera.

A friend comes to tea in the afternoon; the parents confide to him their plans, and ask his advice. He knows of a piano teacher whose brother gives singing lessons. The real profession of this "teacher" is cabinet-making, but he used to sing in the chorus of an operatic travelling company, where he heard many of the great artists. He had also taken part in some local charity concerts, and, in consequence, is regarded as an authority in musical matters. The daughter of the house should be heard by this eminent expert: *he* will say at once if she has a voice worth cultivating.

Father, mother, daughter, and friend proceed the following day to the local authority aforesaid. The "authority" tries the girl's voice, and declares that *there* is an instrument of rarest quality. The girl, he says, should start having lessons at once. "Is she not perhaps too young?" ventures the mother timidly. "Oh no!" replies the teacher, anxious to inveigle a victim, "she is just the right age; the muscles are tender, and it is better to impart the right thing on a tender muscle than on a ready-formed one!" The parents have no idea of muscles,

tender or otherwise, and are overwhelmed at hearing a scientific explanation of such deep importance; the less they have understood, the more clever they think it!

The daughter starts lessons at once. The teacher suggests that two lessons a day would be of greater value than one, not mentioning the financial benefit to his pocket, which naturally has to be considered first. The parents, willing to do anything to build up a future for their child, give their ready consent. Needless to say, the teacher is completely ignorant. The daily practices, the wrong production of the vocal tone, are followed by a complete breakdown of the girl's voice, after quite a short time. The voice has now become husky and unsteady, and the girl complains of intense pain after the lessons. The family are alarmed; they consult a specialist, who finds the throat in a very bad condition. He suggests an absolute rest. The parents are much distressed, but the idea that their child is to become a singer has firmly fixed itself in their minds and nothing will uproot it.

After the rest prescribed by the doctor, they bring their daughter back to the same teacher, and repeat to him the doctor's diagnosis. The teacher defends himself as best he can. "The girl has a delicate throat," he says; or "This is often the case at the beginning"; or "The child must have overworked at home; pupils are so tiresome"; or, "The winter has been especially damp and cold." If the teacher has a conscience, he may suggest that the girl should wait for some time before continuing her lessons; but as the pupil is usually nothing more to the teacher than the means by which he earns his living, he will advise the resumption of the lessons.

The lessons are therefore resumed. After a few weeks the girl has lost even her speaking voice! The teacher, becoming slightly alarmed, says it would be best to wait a year or two until she grows older. Then he proceeds to "explain," with more or less success, why the girl *has* lost her voice. Even now the parents do not believe that he is responsible for any of the harm done.

They decide that, while the girl is waiting, she shall be very well educated, to enable her to meet, later on, the demands of a great career; so they send her to a very superior boarding-school. At this school there are sight-reading and chorus singing classes. The girl joins them, like every one else. These classes are held without regard to the age, capacity, or health of the girls. Notes are put before them, and they have to be sung, no matter whether they are too high or too low for the individual voices. In the case of this girl whose life we are now picturing, there very soon follows an acute attack of laryngitis; and

coming home from school at the end of the term, she has to give up all hopes of ever being able to do anything with her voice—at least for the present. However, several years of complete rest bring back a few notes of her voice; new hopes are formed, and the parents send their daughter to a large town. There she tries every available teacher, until nodules are formed on her vocal chords. A great authority in the medical world, to whom she is then taken, declares that she will never again as long as she lives be able to *speak* in a clear voice. So this story comes to an end. It is not the story of a girl who had to earn her own living.

What, however, about those who have nobody in this world to give them anything, and to whom their voices mean their only fortune? The loss of that voice means the destruction of every hope of becoming famous or wealthy. Parents, if they have a gifted child, ought never to ask advice except from the highest authority in the profession chosen by or for that child. The old idea that "any one will do" for a beginner is a completely ignorant one. Parents think they can engage a great master later on, when the pupil is more advanced; but when they bring their child to the real teacher, he discovers such destruction, or such deeply rooted faults, that he has either to work long years to repair the evil done, or to declare that such reparation is impossible. The great poet Heine says somewhere, about something else:

"It is a sad old story,
But ever will be new;
The man to whom it happened
It broke his heart in two."

THE TEACHER.

To teach singing is more serious than to teach any other thing in this world. The singing teacher can often give a voice, but he can more often take it away and break it for ever. Therefore, to teach singing aright is an infinitely important matter. The singing teacher has a mission, as noble a mission as that of the man who seeks to save souls; *he* also can save and lose souls. Whatever work you take up alone can only hurt yourself, not your neighbour. In teaching singing, you may not only rob but kill your neighbour. There are, indeed, many people who have committed suicide after having lost their voice. Nay, girls have become actually wicked, after having fought through years of toil and anguish, to suddenly realise the great decep-

tion which had been played upon them. It turns their hearts to evil. This also is suicide! When you teach a musical instrument you can also impart the wrong thing; but in that case the pupil can re-start on a new line, and learn the right thing. With singing it is different. Either the voice has been spoilt and it will take years and years of tears and pain to regain the lost treasure by the aid of the greatest expert in teaching, or it will be gone for ever!

The voice that is brought to the teacher is the joy, often the only hope for bread, of a whole family. What a task! what a great thing accomplished if the voice is well brought out! But what a crime if it is ruined! The singing teacher not only has to "place" the voice, but to cultivate it with love and patience; he has to observe the general health of his pupil; he must direct her steps, teach her to clothe and to protect herself against fatigue and cold; and all the while he must also train her soul. How can the pupil, later on, stand in front of thousands if she does not know how to behave, and how to make her appearance pleasant and interesting? Even if the arrangement of her hair is in bad taste, it must be corrected. Often a small trifle overlooked in the appearance of an artist has ruined her career. A lady singer who stands on a platform bent forward and never lifting her eyes, or one opening a mouth like a cavern, is impossible, whatever voice she may possess. And what about disagreeable or bored looks? Even "stage fright," that terrible malady of nervousness known to all who have to appear before the public—even that must not be too noticeable. The public does not want a frightened artist; the public wants to enjoy itself; and a nervous artist makes the listeners nervous. A little nervousness at the beginning of a career is naturally allowed for, but it must not dominate the whole performance; if it does, it will spoil the whole effect, artistic and otherwise. The soul of the pupil must be open to poetry, to love of beings and things; the thought must be wide-awake, else how can the singer understand the poem and the story which underlies every song or air? The horizon of her views must be widened.

I was profoundly astonished when I came to England to find that the girl who follows the ordinary school course without specialising in anything is the least educated of all the daughters of the great nations. The English girl is not taught enough; she knows a very little of some things, and nothing of many things. I always question my pupils about their studies; and my experience is that they have never learnt the things which they ought to have learnt. For

example, they do not learn universal history, natural history, science, or mythology. How can they get on without a knowledge of mythology? How can they understand paintings, sculptures, even literature? They do not learn the story of art, nor the literature of all the countries. I know that the Bible and Shakespeare are great teachers, and that a vast deal can be learnt from both, but to have read them is not enough.

The consequence of this limited education is that the fields of girls' imaginations have not been enlarged. Their moral eyesight is dim and limited; their conversation touches only a few subjects, and in life only a few things interest them. Also they very rarely read serious literature. The most stupid love stories, with an *olla podrida* of railway "literature," are the only things they are familiar with. Once a year, perhaps, they open a newspaper, and then only look up the corner where their favourite sports are reported. This is more important than it appears to be at first sight, for a girl who is not trained to appreciate serious and instructive literature will always lack depth and thoroughness. It is inevitable that this should be reflected in her art, if she chooses one, or if it chooses her. Why not put flowers in your garden? Does it not make it much more attractive?

A very difficult task for the teacher, after having "placed" a voice, is to discover the particular path which the pupil ought to follow. The discrimination of gifts is the outcome of great knowledge and experience. To make a girl sing oratorio when she is fitted for opera; to try to make a serious ballad-singer out of one whose forte is light opera, are fatal mistakes on the part of a teacher. *Knowledge* and *inspiration* form the base of the art of teaching, and it is most necessary to understand the pupil's capacity. The teacher who is impatient is *not* a teacher. We are all human beings; every one of us has moments of fatigue; but the teacher who, instead of giving the necessary explanation, becomes annoyed when a pupil asks an important question, is either ignorant or quite unfit to be a teacher. The teacher is there to impart, the pupil to take in; and if the pupil has difficulties in learning, it is the task of the teacher to overcome them. His bounden duty is to impregnate the spirit of the pupil with the truth of what he teaches—things which she must learn. In a case where the teacher recognises the utter impossibility of imparting his art to a pupil, because of the latter's want of the essential qualifications for an artist, he must have the courage to state the fact. No consideration whatever should deter the teacher from telling the truth. After all, honesty always goes furthest! One is born a dramatist, a painter, and so on; one also must be born a *teacher*.

The greatest of all gifts necessary to a singing master is that of being able to *see with his ear.*

THE STUDENT.

You wish to sing? Why? Because you are longing to become celebrated, or because you love money? Or do you really love art itself? Some people come to me, candidly confessing that they want to sing in order to make a little money to be able to pay the rent of their house. Others avow frankly that they want to sing because they have to earn their own living, and they prefer singing to doing anything else, as it is learnt "so quickly, and brings in so much more money at the end." One thing is certain: whatever you undertake without love —I mean love in the best sense of the word, not love of worldly matters—cannot be accomplished. It was love—love for God, for nature and art—which made the ancient painters and sculptors so great; and it is the lack of this love which makes our modern artists so hopelessly small. The old idea is replaced by the desire of making money to procure luxury. One must live, of course, and if an artist makes money by his art, well and good: it is perfectly legitimate. But to regard an art solely from the point of being able to make money out of it is absolutely to be condemned. Art is serious; the pupil who wants to play with it should give it up; it is a grave matter to become a singer.

You must first of all form your character; without that you can gain nothing, least of all a career. You must be able to dominate your passions and desires; because, if you wish to sing, you will have to give up every kind of sport and amusement, everything that tires or injures the body or hurts the voice. All physical effort, any moral or physical strain, reflects back upon the voice, for the voice is produced by a group of muscles which form a part of the body. Everything, therefore, which is done to that body affects the vocal organ. The first condition towards becoming a singer is to have general good health. Only moderate walking exercise should be taken; a little swimming, riding, or cycling will not hurt the voice, but I say a *little.* Colds are naturally to be avoided; hence to clothe carefully is an important matter. In general, the clothing of English girls should be seen to. English girls always want to appear slim (this is a fixed idea of theirs); therefore, they dress as lightly as possible. Hating warm wraps, they try to hide thick flannels under very smart dresses, which prevent a free circulation, and which they cannot take away upon entering a hot room. In this way, of course, chills are easily caught after leaving the

room. In no other country does one hear so much about chills as in England. The skin must be kept free, or bad circulation is the result; but to keep up a good circulation massage and exercise are the two best things that one can recommend. As regards food, we have to fight against very bad nursery habits and lack of understanding on the part of mothers. Young people are not fed enough in this country; they usually take about three times a day what they call "tea"; they have only one good meal. At the schools the complaint is the same. Here the food is more often than not quite unfit both as to quality and quantity. I know of many cases in which the health of children has been utterly destroyed at school. English girls are so used to having small meals that they call a sandwich a luncheon; and when they are invited to real solid meals they merely play with their knife and fork. Later on, when vanity comes into the girl's life, the idea of getting fat makes her eat even less than before, if that *could* be possible! This idea of keeping a slim figure is especially dangerous in the present connection: the starvation system is naturally quite impossible for a singer, for whom good meals and proper clothing are absolutely necessary. Exciting drinks have to be avoided; wines are not only ruinous for the body, but they produce gout and rheumatism; alcohol in every form weakens the muscles. It has destroyed more singers' voices than the public is aware of. A singer's heart must not be weak or over-excited; the heart being the most necessary factor of the body, its condition has the greatest influence on the voice.

All violent exercise is to be avoided. I have met many girls who have had to give up singing because their hearts had been strained by violent games. English parents do not, as a rule, consider the physical capacities of their children. Even too much walking may strain the heart; how much more dangerous, then, is tennis, hockey, and climbing? As girls in their most delicate age of development are often physically overworked, and at the same time underfed, the result is that they start life with a weakness which can never be overcome. The number of delicate girls in England is really alarming. The fault lies in the education of their mothers, who do not know how to explain to their children the way in which to live, to feed, to clothe, and to protect themselves.

The greatest sacrifice, and perhaps the hardest, to a singing student is that she may only work her voice a little. Singing is the only musical art which is completely executed by a part of the body; there is a human instrument to be considered, and *that* will not stand over-practice. A girl should never

begin singing before the age of sixteen; indeed, many girls are too young to start even at seventeen and eighteen. All depends upon the general development. The practices have to be timed, and they may only be increased by minutes. It is the teacher's duty to regulate this important feature in the studies of his pupil. The work that the pupil is anxious to get through may be learned by *thinking about it;* she can study it for hours with her brain, and she will find that this will advance her considerably in her progress. The real practices with the vocal instrument itself should not last for more than *minutes* to begin with; and only much later on can they be stretched out to half-hours. I must add that forcing the voice by shouting is very dangerous. Singing with what is commonly called "half-voice," or humming with open or closed mouth are equally dangerous. All these bring on the same evil result, namely, complete relaxation of the muscles of the throat.

One thing that has always struck me as incomprehensible, is the patience exercised by the average singing pupil with the "teacher" who has either imparted nothing to her, or has ruined her voice for ever. In ordinary life I generally find people revengeful, easily upset, having no memory for past benefits, but a splendid one for ill-treatment or unkindness. The singing student is different. She certainly forgets the good things received (there are a few exceptions), but she as certainly forgets the bad things too. I have never known a girl who came to me for advice about her broken or lost voice say an unkind word against her former teacher; nor have I ever seen a lawsuit about a lost voice. It is true that the result of such a case would be very doubtful, as there would be no Judge who could really look into the matter and decide it satisfactorily. What mystifies me, however, is, that a pupil, after a few lessons, should not be able to *judge her teacher.* Girls have told me of pain and agony after having sung, of constant hoarseness followed by complete loss of voice, of a daily diminishing of the vocal compass, of breaks between the registers, of cracking of notes, and so forth. Pupils patiently stand all this and continue with the same teacher. It is only when the danger becomes more serious that they realise they have been victims. Certainly a pupil must have faith in the teacher to be able to learn anything; but if this teacher imparts things which the pupil immediately feels to be damaging to the vocal instrument, if the teacher brings about no real discernible progress, then the pupil ought to understand that he has fallen into the wrong hands. A proof of the right method is that from the day the lessons begin (in a more or less rapid way, according to the special or general condition of the pupil's voice), the progress must be constant and

never decreasing. One of the greatest drawbacks in the education of English singing pupils is that they do not give the necessary time to their chosen art. Many want to sing songs after a few lessons; and very few will understand that, even if the right method is being imparted, everything cannot come at once. It takes time, and time will always accomplish things with a physical instrument. Even the cleverest teacher, with the best will in the world, cannot obtain what he wants in some days or weeks, or even months.

Another very tiresome drawback for a student is the persistency of the student's friends. I know of nothing more dangerous than these so-called friends. They simply persecute a singing student, making her sing for their own pleasure, either before or after dinner, whether she has the permission of the teacher or not. They do not pay the girl anything for the pleasure given; and, notwithstanding that her education is not finished, they will make very disagreeable remarks behind her back about this or that in her execution. So on one side these "friends" induce the pupil to disobey the teacher, while on the other side, they sharply criticise what never should have been laid before them!

To educate singers in a country where there is not one permanent Opera House is a sorrowful business. First of all, there is no tradition in the whole country about great operatic style; there is no knowledge of the innumerable works of art which have been produced in the operatic world; there is no field for the English composer born with a gift for operatic work, or for the girl or the singer born with a special operatic talent. How, therefore, can they "come out" and make a living by their art? Talents born for the opera are forced into other directions, involving a loss on both sides—to the public and to the artist. Let us hope that in some future time England will have not only Soap Factories, but also Temples of Music.

THE PUBLIC.

How shall I describe this oracle? It creates kings in art, and destroys them later with the same smile. It makes those who have reached the highest realms of fame sink into the dark night of oblivion; while, on the other hand, it elevates creatures of obscure birth to the rank of heroes. Nevertheless, in spite of everything, artists crave for it, work for it, and suffer for it. They offer this Moloch their heart's blood, they tremble before it, and adore it. Why? Because

the public is to the singer what the light is to the painter. Without eyes to see and sun to shine, where and what would the painter be? Without ears to hear, what would music be? The one cannot exist without the other. I will say more: a considerable part of the artist's talents depends upon her hearers. You may be the greatest living artist, but if you stand before an uneducated, indifferent or ironical public, you will be unable to impart or develop your art. You will lose your talent instantaneously if you begin to feel that cold waves of indifference are flying towards you across the space. On the other hand, you will be inspired and double your talent if you have sympathy, love, enthusiasm, and praise from your audience. What we should do to win the applause of this great Hydra, *nobody can say*. One artist will charm the public because he has the lowest voice; another, because he has the highest; and again another, because he looks pale and unhappy. Some have had great success through having worn a forgotten lock on the forehead, and a large black tie round a scraggy neck. Another one will make a "hit," because at the moment of his appearance some old favourite has perhaps retired, and the craving for a new one is being felt; thus a fresh-comer turning up at that time will most probably have the crown and sceptre passed over to him. If the art of that person is not real, the "boom" will only last for a short time, certainly. Sometimes things take another turn. A very great artist with quite superior gifts will make his way very slowly, have to go through great difficulties, and will only reach the "top" after much time and patience have been spent.

The public can unfortunately direct an artist's taste, force him to perform what it likes best, what seems a pleasure to it, because pleasure is the principal benefit it wishes to derive from art. The public wants to be pleased, to amuse itself; if it must work or struggle to understand what is offered to it, the singing will no longer be a pleasure. Therefore the public likes things known to it, as in listening to them it enjoys itself. The serious artist who wishes to educate the public remains very poor indeed, and advances very slowly. I only speak of the singer, as she stands in front of the public in an especially difficult position, which is unknown to instrumentalists. The classics of music for the violin and pianoforte are known by every concert-goer all over the world; the pieces that can be executed are limited in number, and the artists play them over and over again, until the public is thoroughly familiar with them. The singer's repertoire is, so to say, unexploited as yet. The singer, wishing always to please instantaneously, and especially having to consider that she *must* please so as to be able to earn her own living, has to

give up searching for unknown or forgotten novelties; she gives the public what it knows and therefore does not add to its education.

When some artists venture to give unknown works, they can only count on the appreciation of a circle, a very small circle, of people, and not on the general public. This circle is formed of highly cultivated persons, who look out for intellectual feasts, and are happy to stroll with the artist through unknown fields. Therefore, it is the public who could, *if* it would, educate the artist, because it is the public which pays. So, naturally, the artist who has to make her own living cannot afford to teach the public, as she is the one who receives.

If I might speak to the public as if it were a person, I would ask the British one to show more discrimination. The one thing that so much hurts my feelings and those of all serious artists, is that they never *hiss* artists who are unfit and tear your ears by singing false; that they equally bestow their applause on artists of mediocre quality as well as those of high merits. It is no compliment to be asked for an encore when the person who appears after you, and often is quite unworthy of standing by at your side, is asked to do the same thing. But, after all, why should I complain? Such indulgence is only an excess of kindness and courtesy and artists ought to be grateful for it.

THE MUSICAL EDUCATOR.

RUDIMENTS OF MUSIC,

OR MUSICAL NOTATION,

By JAMES SNEDDON, Mus. Bac. Cantab.

DEFINITIONS.

A note	A sign to represent a sound.
Pitch	The comparative height or depth of a sound.
Interval	Difference in pitch between any two sounds.
Harmony . . .	Tones sounded in combination.
Diatonic	Belonging to a certain key.
Chromatic . . .	Literally, *coloured*. In practice, notes additional to those of the diatonic scale.
Enharmonic . .	A change in name but not in pitch; or more correctly, the change in pitch is not generally perceptible.
Key	Notes of a scale arranged in relation to a certain Tonic.
Score	Arrangement on separate staves of different parts, as Soprano, Alto, Tenor, Bass, to be performed at one time. These parts are generally bracketed together.
Short score . . .	Four distinct parts written or printed on two staves.
Treble	The highest voices of women and boys.
Contralto (Alto) .	The lowest voices of women and boys.
Tenor	The highest voices of men.
Bass	The lowest voices of men.

INTRODUCTORY.

1. Sounds of every kind are the result of vibrations or waves of the atmosphere. When these vibrations are regular and continuous, a musical sound is produced. Noise of any kind causes these sound-waves to reach our auditory nerves at irregular intervals.

2. "Musical notation" may be defined as the means whereby, by certain signs or symbols, we represent to the *eye* sounds which, as the word implies, are to be heard. Thus in music, as in other arts and sciences, one sense, under mental guidance, is ready, often, as it would appear, *anxious*, to minister to the pleasure and instruction of another. In a notation for the blind, as eyesight is wanting, another of these "gateways of knowledge," viz., the sense of touch, is brought in to supply, in some measure at least, the deficiency.

3. Musical sounds may vary in many particulars, the most prominent of which are—(1) height or depth, according as they are the result of very rapid or comparatively slow air-vibrations, technically called "pitch"; (2) length or duration, as one sound may require to be sustained

two, three, or four times as long as another; (3) tone-relation, generally spoken of as key or scale relation; (4) accent and rhythm, which are known as "time" in music; and (5) quality of tone (French, *timbre*, "stamp"; German, *Klangfarbe*, or "sound-tint"), as one sound may be pleasing, another harsh and disagreeable, one sharp and piercing, another dull and heavy, and so on. The last of these particulars may be heard, felt, imagined, or described; but it cannot be *noted*—at least no notation of it has hitherto been attempted; and it therefore cannot properly be treated under this heading. It may here, however, be stated that *amplitude* in the sound-wave gives loudness or force, *rapidity* gives pitch, and *form* gives tone-quality. Let us endeavour to explain the notation for the first four particulars in the order named.

CHAPTER I.

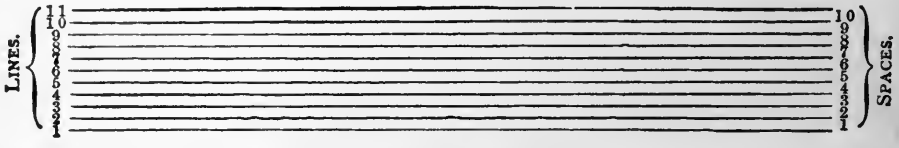
Notation of Pitch.

4. Shrill sounds, as those produced by touching the keys of a pianoforte towards the right-hand side of the player, are said to be "high in pitch;" those produced towards the left-hand side of the same instrument, duller, heavier, and more sonorous in effect, are "low in pitch." The difference between *loud* and *high* should be carefully distinguished. We may have a soft *high* sound, and a loud *low* sound, and *vice versâ*. Loudness and softness are often spoken of as "volume of tone."

5. The relative pitch of musical sounds is made clear to the initiated by the position of certain characters called "notes," which are placed (written or printed) on parallel and horizontal lines, and on, or in, the spaces between those lines; which lines and spaces are termed, collectively, a staff or stave—we prefer the first word, because the second is often used in another musical sense.

The staff is frequently said to consist of five lines and four spaces; but this may be pronounced a popular mistake, as such a staff is, in reality, only a *part of the whole*. In its entirety the staff consists of *eleven* lines and *ten* spaces, the usual name for which is—

THE GREAT STAFF.



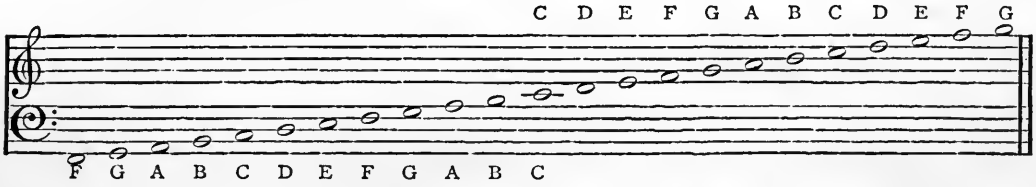
Lines and spaces are always counted from below upwards. Thus the lowest line is the first line, the lowest space is the first space, and so on, proceeding to the eleventh line and tenth space. The use of a staff of only five lines and four spaces is accounted for in this way:—

6. Human voices and orchestral instruments may be broadly divided into four classes, viz., (1) *soprani* or treble, the voices and instruments highest in pitch; (2) *contralti*, generally pitched a fifth below the *soprani*; (3) *tenori*, an octave below *soprani*; and (4) *bassi*, a fifth below *tenori*, or an octave below *contralti*. Taken altogether, the compass, *i.e.*, the number of notes producible by these voices or instruments, is so large that the great staff is fully required; but *no single voice* or instrument (except the organ and pianoforte) requires at one time *all* the lines and spaces of which this great staff consists. For those low in pitch, therefore, a selection of the lowest five lines and spaces of the great staff is made; and in the same way, for those highest in pitch, the upper five are set apart; the middle line, called from its position, *middle C*, being left unwritten, or employed as an additional *leger* or helping line above the lower five-line staff, or below the

upper, as occasionally required. In the same way a selection of a five-line staff is made from the *centre* of the great staff for those voices and instruments which are of medium pitch. Thus every voice and instrument has its own particular staff, much space in printing is saved, and great confusion to the eye is avoided. The different five-line staves are distinguished thus :—

7. At the beginning of every "score" (see "Definition") and part of a score, a certain figure called a clef ( ,  ,  , or ) is placed to show (1) from what part of the great staff the selection is made, and (2) for what voice or instrument the particular piece or part is intended.

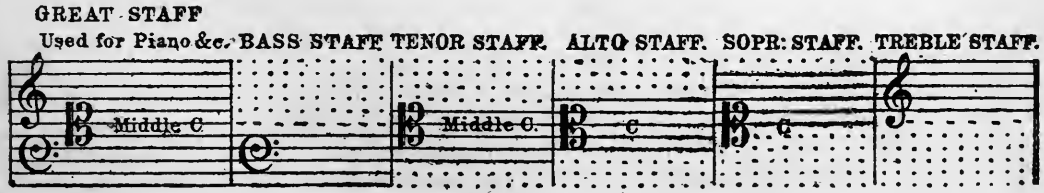
8. The names and functions of the different clefs will be better understood, if it is here stated that all lines and spaces are named from the first seven letters of the alphabet, which are repeated over and over again as required, and as shown in the following illustration :—



Middle C line is here printed short, and named twice to call attention to the fact that it is above one five-line staff and below another It is generally, as already stated, only printed when required.

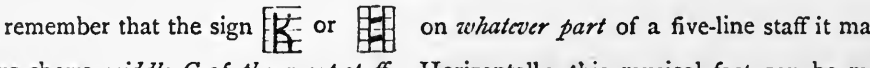
The treble or G clef, so called because it is used (1) to show the upper lines of the great staff, and (2) because the turn of the sign () is made round the second line of this staff, which is named G, and the bass or F clef, (), so called (1) because it shows the lowest five lines, and (2) because the  or  turns on the fourth line of this staff, named F, both of which are shown above, are the two clefs most frequently employed. Dots, it should be observed, are placed on either side of the F clef sign to call attention to the fact that the  or  is *intended for that clef.*

9. Four distinct harmonic parts are frequently printed on these two staves (see Definition, "short score"); but when a separate staff is required for each vocal or instrumental part, middle C is taken as a *new clef* note, the clef sign being  or  , and a new five-line staff, drawn from the centre of the great staff, is constructed to meet the wants of contralto and tenor voices, and instruments such as the viola, which take corresponding parts in the harmony. The relation of this C clef to the others may be tabularly shown thus :—



Here the lines are to be considered as if they had been drawn right along. The lowest voices and instruments, as already explained, use the five lower lines with their spaces between; the tenor, being higher in pitch, does not require the lower two lines of the bass staff, and takes instead middle C and the lowest line, E, from that of the treble; the contralto (more frequently alto), being still higher, leaves off the third line of the bass, and takes yet another line from the treble; the soprano, being still higher, middle C is taken as the lowest line of its staff, and the first four of the treble are added to complete it; the treble, as has just been shown, uses the upper five lines; and thus every voice and corresponding instrument has its special five-line staff.

10. It may be mentioned that in former days other clefs were employed, but those just given include all that are usually seen in modern times. Even the soprano, here exhibited, has fallen into disuse, Mendelssohn being perhaps the last great composer who used it to any extent; so that for all practical purposes, four, viz., treble, alto, tenor, and bass, are all the clefs with which the modern musician requires to be thoroughly familiar. The chief difficulty in connection with this will be found in relation to the C clef, the best way to master which is to remember that the sign  or  on *whatever part* of a five-line staff it may appear, always shows *middle C* of *the great staff.* Horizontally, this musical fact can be made plain by means of the following illustration: Let eleven pupils stand in a row, the pupils representing the lines, and the spaces between them the spaces of the great staff:—



Very little thought is required to bring home the fact that *any five* of these pupils (dots) may be selected to make a group or five-line staff, as F, A, middle C, E, G; or D, F, A, C, E. In the one case, middle C will be third; in the other, fourth in the group; but in both it would represent the *same individual.*

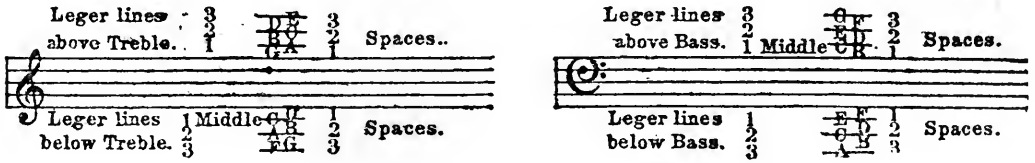
Music for the tenor voice is frequently written or printed on the treble staff; when, as the male voice is usually pitched by Nature an octave below that of the female, the music is really performed eight notes lower than its appearance would indicate. The contralto part is always sung or played as printed.

11. The letter-names of the lines and spaces used with the different clefs should be as familiar to the musical student as the multiplication table is to the arithmetician, and should be committed to memory in the same way. Names of the lines and spaces for the four clefs in ordinary use are here given, viz.:—

Treble clef	. . .	Lines E G B D F
„ „	. . .	Spaces F A C E
Alto „	. . .	Lines F A C E G
„ „	. . .	Spaces G B D F
Tenor „	. . .	Lines D F A C E
„ „	. . .	Spaces E G B D
Bass „	. . .	Lines G B D F A
„ „	. . .	Spaces A C E G

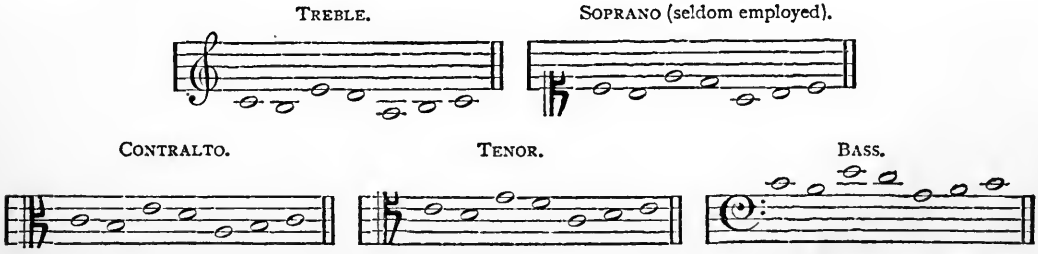
12. Not unfrequently the different voices or instruments demand a wider range or compass than the ordinary five-line staff affords, as the treble may require to go above its upper line F, or the bass below its lower line G, in which case or cases additional lines and spaces are employed to serve the *temporary* purpose. These, called *Leger* lines (French, *leger*, "light"), are always written short, and are always, with the spaces between them, counted *outwards* from the staff, whether used above or below it. Letter-names for leger lines and spaces are

obtained by simply continuing the series formerly mentioned, upwards or downwards as required, and as here shown:—



Leger lines and spaces for contralto and tenor are, as will now be understood, an appropriation, for the time, of others, above or below, which belong to the great staff; being taken from the treble clef in going up, and from the bass when coming down.

13. Still further to assist the student in gaining a clear insight into the uses of clefs and their relation one to another, we give here a short series of notes at *the same pitch*, in the five exhibited on page 3 (see par. 9).



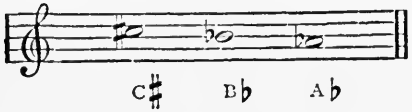
Exercises of this kind may be continued by the student with great advantage. It will be seen that by the use of the C clef many leger lines are avoided.

14. Names for the different voices, something of the power pertaining to each, and their compass as a whole, were given and explained in par. 6, from which it will be seen that middle C is, in pitch, about midway in the series of sounds that can be produced by ordinary singers collectively considered; and is to be found somewhat high in the voices of men, and rather low in those of women and children. Being thus "middle" in a double sense, this C is taken by musicians as the "standard of pitch," that is to say, it is made the starting place or point of departure from which all other musical sounds are measured. An elastic body giving 256 *complete, i.e., double* vibrations in a second of time, will produce this sound—to be heard most conveniently, perhaps, from the centre C in a pianoforte key-board. With this tone sounding in our ears, the figure with notes and letter-names given in par. 8, shows in notation, to some extent at least, the natural and consecutive order in which the other so-called scale sounds are to follow, ascending or descending.

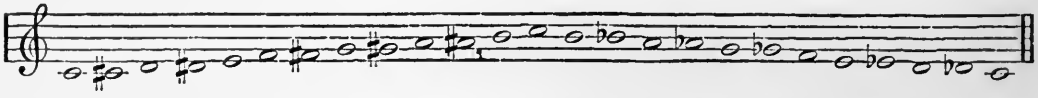
15. If, however, we listen attentively to a singer or player as this scale is performed, we shall hear for ourselves, or if not, we must be told, that the distances between these scale sounds are *not all alike*, the distance (technically "interval") between the couples E F and B C being in each instance little more than half what we may hear in the others. On the pianoforte key-board it may be observed that there are no black keys between the white keys corresponding to the letter-names just given.

16. It is found in practice that these shorter distances, "half-tones" or "semitones," can be readily recognised by ordinary ears; and so, for reasons which will be best understood when we come to speak of tone-relation, signs or characters (corresponding to the black keys of the pianoforte) have been invented in order that these semitones may be introduced wherever

required. Thus we can not only have C, but C sharp (written C♯); not only B, but B flat (B♭); and so with all the other letter-names and corresponding notes. Let it be observed that in speaking or writing of notes inflected (raised or lowered in pitch) by sharps or flats, we generally *say* or *write* C sharp (C♯), B flat (B♭), or A flat (A♭), naming or placing the inflecting sign after the note; but in notation we *always* place the inflecting sign, flat or sharp, or the sign which does-away with the effect of either, called a natural (♮), *before the note* inflected.

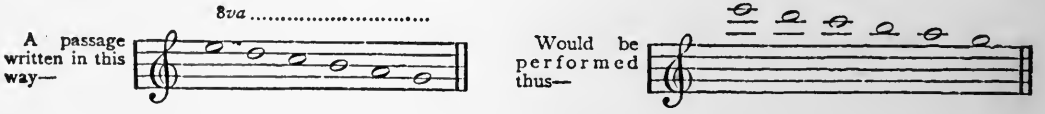


17. The figure in par. 8 gives what is usually termed the natural scale, *i.e.*, a scale whose notes are not altered by sharp or flat, equivalent to the series of white keys on the pianoforte. The following figure gives a specimen of what is called the *chromatic* (Greek, "coloured") scale, the different notes having greater distances (black keys) between, being raised by sharps going up, and lowered by flats coming down. It may be called the melodic chromatic scale.

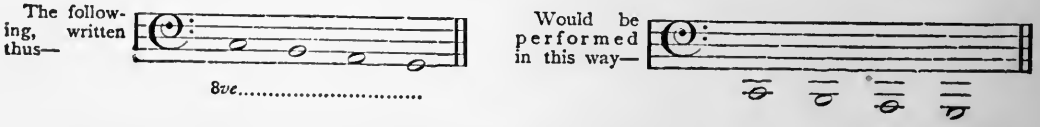


What are called a double sharp (x) and a double flat (♭♭) will be best understood when key-relation has been explained.

18. To save the trouble and confusion that the use of a great many leger lines is apt to create, a passage or series of notes is often printed an octave (eight notes) lower than it is to be played or sung, when the sign 8ve or 8va (often simply 8 with dotted lines along to the point desired, as 8.....) is printed above, to call attention to what is intended.



The sign 8ve or 8va *bassa* written below the staff indicates that the passage is to be sung or played an octave lower than printed; but this device is not so frequently required.



At the conclusion of such an altered passage the word *Loco* shows that the notes from that point onwards are to be played or sung as written. In pianoforte and organ music the sign 8va below is often used to indicate that the notes printed are to be played *along with* those an octave below, in which case the Italian word *Con* (with) ought to be put before the sign as *Con* 8va...

CHAPTER II.

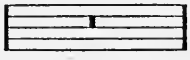
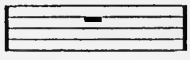
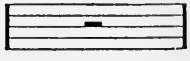
DURATION.

19. In every work of art something in the nature of variety is requisite; sameness cannot be tolerated. Thus the painter seeks variety by change of colour, subject, and style of treatment; the sculptor, by outline, general character, and ornamentation; and one of the many sources of variety open to the musician is that the various parts of his or her composition shall not all be sustained in sound for the same length of time.

20. From the earliest days of writing music, certain symbolic figures called *notes* have been employed to give (1) some general idea of the actual time required in performance, and more particularly (2) the *relative* duration of each. See par. 3.

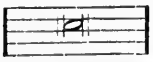
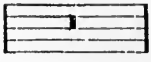
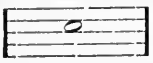
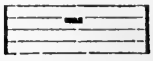
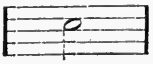
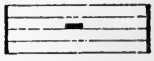
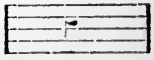
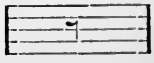
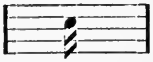
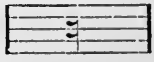
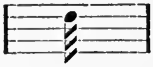
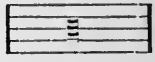
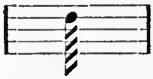
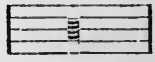
21. Like nearly everything else that has come down to us from our forefathers, these notes have not been brought to what we may consider their present state of, at least, comparative perfection without having undergone many changes. At various periods they have, so to speak, assumed different shapes. At one period what has been called the diamond form of note (◇), obtained; hence, as some authorities say, arose the term "counterpoint;" for when more than one harmonic part was printed, the points of the notes were set against or *counter* to each other ◇ ◇ *point counter point*, or counterpoint, the earliest examples of what is now understood as harmony.

22. Later in their history, to continue the figure of speech, these notes took unto themselves what may be called an assortment of appearances, being shaped, named, and related to each other as here shown :—

1. Maxim (greatest),		= two Longs. Sign of rest or silence for Maxim,	
2. Long,		= two Breves. Sign of rest or silence for Long,	
3. Breve (short),		= two Semibreves. Sign of rest or silence for Breve,	
4. Semibreve (half short),		= two Minims. Sign of rest or silence for Semibreve,	
5. Minim (least),		Sign of rest or silence for Minim,	

According to this table, one maxim would be equal to two longs, or four breves, or eight semibreves, or sixteen minims. The above will also call attention to the fact that just as notes are required to represent sounds, so from the earliest days signs have been required to represent corresponding "rests" or periods of silence. These are always called "rests," and named after their respective notes. As will be seen presently, some of the above signs and names are still retained; but to the eyes of modern musical students, most of them have a somewhat unwieldy appearance, and have been discarded in favour of others which take up less time in writing and occupy less space in printing.

23. The notes and rests now in use are shaped, named, and have relative value as follows :—

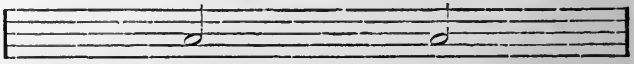
	NOTES.		RESTS.
1. Breve,		= two Semibreves. Breve rest fills the space,	
2. Semibreve,		= two Minims. Semibreve rest *below* the line,	
3. Minim,		= two Crotchets. Minim rest *upon* the line,	
4. Crotchet,		= two Quavers. Crotchet rest turned to *right*,	
5. Quaver,		= two Semiquavers. Quaver rest turned to *left*,	
6. Semiquaver,		= two Demisemiquavers. Semiquaver rest *two* heads to left,	
7. Demisemiquaver,		= two Semi-demi-semi-quavers. Demisemiquaver rest *three* heads to left,	
8. Semi-demi-semi-quaver,		Shortest note. Rest *four* heads to left,	

The first and the last of these notes are seldom required. The breve occasionally appears in what is called sacred music, and the "shortest note" in very rapid music for instruments; but, as a rule, they are not found requisite. The student should carefully observe the *appearance* of every note and rest; and their relative durations or values should be summed up in some such sentence as this:—One semibreve is equal to two minims, four crotchets, eight quavers, sixteen semiquavers; or thirty-two demisemiquavers. Conversely, the minim is half a semibreve; the crotchet is half a minim, or the fourth part of a semibreve; the quaver, one half of a crotchet, the fourth of a minim, the eighth part of a semibreve; and so downwards to the shortest note.

The Germans, and after them the Americans, have adopted the following terms or names for duration values and proportions. The various groupings show the different ways in which the quaver and shorter notes are or may be printed :—

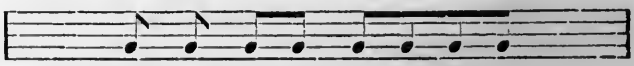
SEMIBREVE—the whole note, or 1.

MINIM—the half-note, or 2.

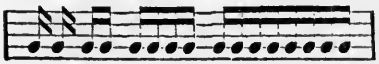


CROTCHET—the quarter, or 4.

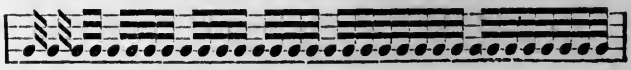
QUAVER—the eighth, or 8.



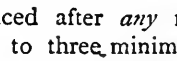
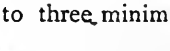
SEMIQUAVER—the sixteenth, or 16.

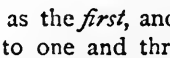


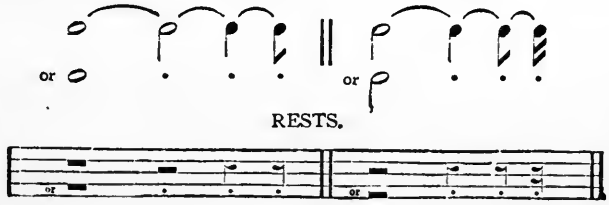
DEMISEMIQUAVER—the thirty-second part of a Semibreve, or 32.



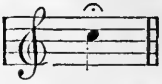
The above will be found extremely useful when the student comes to Chapter VII. in this course.

24. A dot placed after *any* note lengthens that note by one half. Thus a dotted semibreve is equal to three minims (), a dotted minim is equal to three crotchets (), a dotted crotchet to three quavers, &c. A *second* dot after a note is *half as long* as the *first*, and a *third*, *half as long as the second*. A double-dotted note therefore is equal to one and three-quarters, and a treble-dotted note to one and seven-eighths of the original. Dots placed after rests affect *them* in the same way, but are not so frequently used, the rest for the note next in value being in general written instead.

25. A tie, or bind (), is often employed instead of a dot, and serves the same purpose so far in that it shows that the sound represented by the note is to be sustained—*not re-struck*—by voice or instrument. The following illustration shows the relation of ties and dots with notes and rests:—

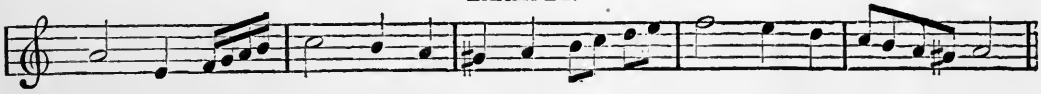


It may be mentioned that more than two dots are very seldom written. When a note is to be held or a rest observed for an indefinite time, this sign, called a pause, or hold is put over it—



26. In writing or printing, stems of notes may be turned up or down, or when hooked (as in the quaver) may be grouped, as shown in par. 23, without altering their time or duration value. When each part has a staff to itself, however, it is usual, in order to preserve uniformity, to turn the stems up from the first to the third lines inclusive, and from the third space upwards to turn the stems down.

EXAMPLE.



CHAPTER III.

TUNE, OR TONE RELATION.

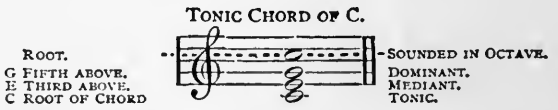
27. A SERIES of seven consecutive sounds, standing, if we may so speak, at certain distances *from*, and performing certain functions *for* each other, is termed a musical scale. Proceeding, in pitch, above or below these seven sounds, we simply repeat the same over again with the interval (distance) of an eighth or octave between, which in effect is so like the first—being the resultant sound of exactly double the number of vibrations in any given time—that musicians have come to regard the octave, or any succession of octaves, as the *same sound*, only higher or lower. Thus C in third space, treble clef, is a repetition of middle C, *an*

octave higher; D fourth line is a replicate at the same interval of D in the space below its lowest line; and so with all the other scale sounds whether high or low.

28. Just as in every well-governed state there must be law and order, some individuals born to bear rule, many to be under authority, but *all* more or less dependent one upon another, so, in this realm of music, some sounds, although by no means independent, perform, for the time being, functions more important than others; while, even what may be called the humblest sound in the scale, ministers to the general effect in such a manner as to make it almost, if not altogether, indispensable. Before we can have a tune we must first, either mentally or audibly, elect or select a "Governing Sound," or, as it is usually called, a "Key-note" or "Tonic." The former of these names really describes best the position which this sound occupies in modern music; but by the latter it is known universally, and we shall therefore here adopt it. This tonic, heard or imagined at the beginning of the tune, heard very frequently as the tune proceeds, and very prominently when it closes, is the sound around which the other six scale sounds may be said to revolve, each in its proper sphere, and upon which they all depend for musical life and power of expression. The tonic may be any sound, high or low in pitch, that we choose; but it will be convenient for us meantime to put middle C into that important place.

29. At the interval of a fifth above or a fourth below this C tonic, we find the tone likest to it in effect and next to it in importance; which, from its predominating influence in the scale is named "The Dominant." (See letter-name G, par. 8).

30. About midway between our C tonic and G dominant, we come upon a sound which may be said to stand third in rank and musical influence, which, from its central position between the two just named, is termed "Mediant." In the key of C, which we are now considering, E first line of treble will give us the sound in question. Collectively, these three sounds form what is called the "Tonic Chord," which, when heard in connection with other chords, and, more particularly, when the tonic (C) is reinforced by being sounded in octave, is generally considered to be suggestive of strength, boldness, steadiness, endurance, &c.



From this it will be understood that our C tonic is not only ruler in its own particular key or scale, but is the first of three sounds which please the ear well when heard in consecution, and sound most beautifully when heard together. Such a combination, having, as shown, an originator or root, a *third*, and a *fifth*, is called a triad, or chord.

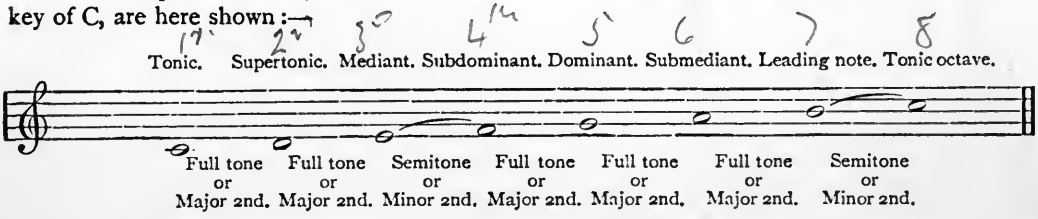
31. In the same manner the dominant (G) may be made the lowest note (root) of a three-tone series, or chord, when D, which stands in the same relation to G that G itself does to C, will be our over-fifth or under-fourth. D, as will be seen (par. 8), is the note immediately over or above C, our present tonic. The note immediately above *any* tonic is, from this circumstance, called "Supertonic."

32. A tone, to take that place in the dominant chord which the mediant occupies in the tonic chord, will now be required. The sound bearing the letter-name B supplies, in present circumstances, the missing link, which, because it may be said to live *very near* to C, our tonic, and because, moreover, it leads the mind to expect that important sound, is named "The Leading Note." The three sounds just described, viz., dominant (root), leading note (third), and supertonic (fifth), when sounded simultaneously, form "the dominant triad," the second great chord in music—a chord, however, which, when *properly introduced*, suggests unrest, motion, desire, rather than those qualities which are felt to belong to the tonic chord.

33. Two tones of this scale of key C are still unaccounted for; the first of which, F, from the facts (1) that it stands immediately below the dominant, and (2) because contrariwise to the dominant (par. 29) it is a fourth *above* or a fifth *below* the tonic (C), is called "Subdominant."

34. Taking this F as the root of another chord, we find a third for it in A, which, because it bears the same relation to the subdominant that the mediant does to the tonic, or because it is a third below the tonic, just as the mediant is a third above it, is named the "Submediant." The octave note of our tonic (C) is fifth in this subdominant chord, which, properly preceded and followed, leaves on the mind of the hearer a rather sad, serious, or solemn impression.

35. The chords just explained embrace all the tones of the diatonic scale, regarding which it yet remains for us to remind the student that the notes of which it is composed do not all stand at the same distance one from another (see par. 15). Although not mathematically correct, it will be found sufficient for all practical purposes to say that between the several couples, C, D; D, E; F, G; G, A; and A, B; the interval is described as a full tone, or major (larger) second: while between E, F, and B, C, the interval is only a semitone, or minor (lesser) second. The names explained above, and the intervals between the consecutive tones of the scale in the key of C, are here shown:—

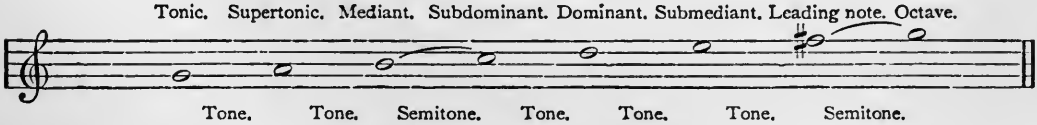


The above illustration shows what is known as the major scale; and the student would do well to know it familiarly, observing carefully the order of the intervals, viz., tone, tone, *semitone*, tone, tone, tone, *semitone;* and also that each of its sounds when heard in its proper place conveys to the mind an impression *in keeping with its name*, and quite distinct from all or any of the others.

36. The scale in the key of C, just explained, may be obtained or heard in many octaves from the white keys of a pianoforte. The resources of the musician would, however, be greatly narrowed if this scale could only be employed at *one pitch;* and we have now to explain how, as was stated in par. 28, it may be started high or taken low, as required—comparative height or depth being the *only difference* between one major key and another. There is *only one major scale.*

37. In proceeding from "key" to "key" (see Definitions), the dominant of the *key to be left* or quitted is, as might be expected from its importance in the scale, the tone most frequently chosen as the new key-note or tonic. The dominant of C is G: let us consider G as a tonic, and try to find out whether the scale succession given above comes out correctly. G to A a tone, A to B a tone, B to C a semitone, C to D a tone, D to E a tone; but E to F is only a semitone, whereas, at this particular place (submediant to leading note) we require a full tone. In addition to this, between F and G a full tone is found where a half-tone is required. The necessary arrangement is obtained by raising F a semitone by means of a sharp (♯, par. 16), when we proceed E to F♯ a tone, and F♯ to G a semitone. In notation thus:—

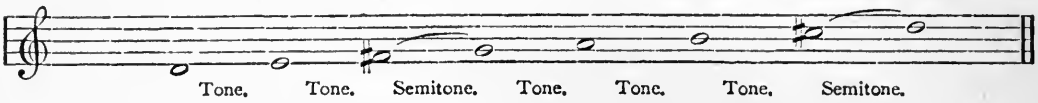
MAJOR SCALE IN KEY OF G.



38. After the same manner, let us take the dominant of G, which is D, to be found a fifth above or fourth below the present G key-note, and proceed to work out the scale as before. D to E a tone, E to F a semitone; but F *having been sharpened for the scale of G*, we retain that sharp, therefore we say, E to F♯ a tone, F♯ to G a semitone; G to A a tone, A to B a tone, but B to C is only a semitone. This semitone, coming, as in the former instance, where a whole tone is wanted, viz., between submediant and leading note, we are compelled to employ yet another sharp, and to say, B to C♯ a tone, and C♯ to D a semitone. In notation:—

MAJOR SCALE IN KEY OF D.

Tonic. Supertonic. Mediant. Subdominant. Dominant. Submediant. Leading note. Octave.



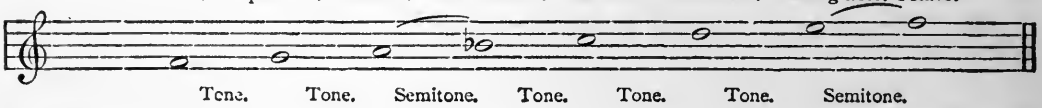
Tone. Tone. Semitone. Tone. Tone. Tone. Semitone.

39. Going further in this direction, we might work out the scale on the dominant of D, which is A, and again on the dominant of A, which is E, &c., but no exercise more improving could possibly be desired by the earnest student. We therefore advise all such to think out personally the scale in the keys of A three sharps, E four, B five, F♯ six, and C♯ seven sharps.

40. Next to the dominant, the subdominant is the tone most frequently taken as a new tonic or key-note. Going back to key C, let us take F, its subdominant, for that important place, and, as formerly, proceed to work out our series of scale intervals. From F to G a tone, G to A a tone, but from A to B is also a tone, whereas between the third and fourth of the scale a semitone is the interval required. Moreover, between the succeeding pair of notes (B and C) there is only a semitone at a place, namely, between the fourth and fifth degrees of the scale, where a whole tone or major second is demanded. The problem is solved in both instances by simply lowering (*i.e.*, flattening, par. 16) the B, when, continuing our scale ascent, we say A to B♭ a semitone, B♭ to C a tone, C to D a tone, D to E a tone, and E to F a semitone.

MAJOR SCALE IN KEY OF F.

Tonic. Supertonic. Mediant. Subdominant. Dominant. Submediant. Leading note. Octave.

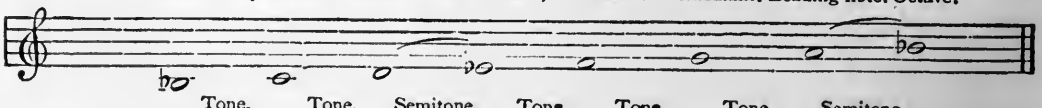


Tone. Tone. Semitone. Tone. Tone. Tone. Semitone.

41. It will be seen that the note just inflected by a flat is subdominant to F, and must, in consequence, according to our present course of procedure, be taken as our next tonic. Thinking out the scale in this new key, we shall find that just as B, the fourth from F, had to be flattened to bring the semitone into proper place, so, and for similar reasons, E has to be lowered a semitone in the key of B♭.

MAJOR SCALE IN KEY OF B♭.

Tonic. Supertonic. Mediant. Subdominant, Dominant. Submediant. Leading note. Octave.



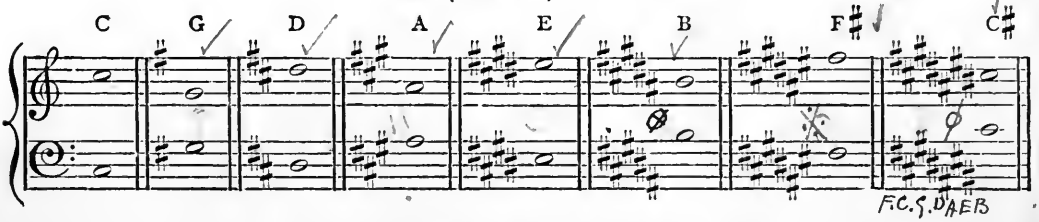
Tone. Tone. Semitone. Tone. Tone. Tone. Semitone.

42. As in the case of keys with sharps, the student is recommended personally to work out the scale in the additional keys for which flats are required. Progressing by subdominants, it will be found that the note *last flattened* will always be the new tonic; thus, as shown above, B♭, subdominant in F, is tonic in B♭; E♭, subdominant in B♭, is tonic in E♭. After B♭ the series of keys with flats are E♭ three flats, A♭ four, D♭ five, G♭ six, and C♭ seven flats; that is to say,

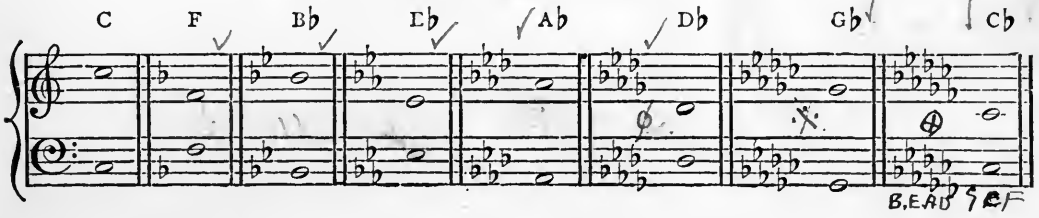
every note in the scale of C♭ is flattened. Practically the scale of C♭ is at the same pitch as that of B, having five sharps, and the one key is not unfrequently substituted for the other. Such a substitution is called an "enharmonic change" (see Definitions). The keys C♯ and D♭ are related to each other in the same way; thus the keys with sharps, and those with flats, as it were, meet, and the necessity for further multiplication of these signs is avoided.

43. It will be readily understood that if in keys with many sharps or many flats, these inflecting agents were dotted all over the page, they would become not only troublesome to the writer, but perplexing to the executant. To avoid these evils, musicians have adopted the plan of gathering the necessary signs into a group, and *in their order*, and as springing from key C, and of placing them at the beginning of a piece or harmonic part immediately after or behind the clef. This is called the key-signature. The key of C, as we now know, requires neither sharps nor flats; the keys of G and F have one sharp and one flat respectively: to all the other keys the word "group" applies. The following are the various key-signatures, with a note showing the position of tonic in bass and treble clefs:—

FIRST—KEYS (FROM C) WITH SHARPS.

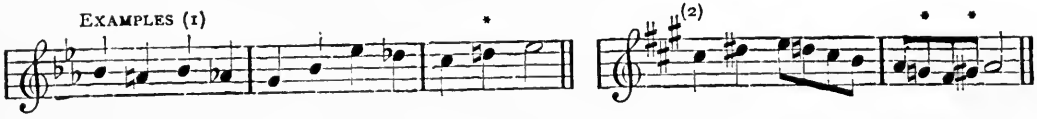


SECOND—KEYS (FROM C) WITH FLATS.



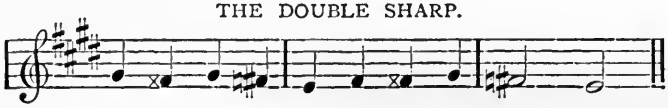
It should be observed that the order or progression of keys with sharps is by fifths *upwards* or fourths downwards, while that by flats is exactly the reverse, viz., by fifths *downwards* or fourths upwards. It may also be noticed that in key-signatures with sharps, the *last sharp*, *i.e.*, that nearest to the observer's right hand, is always on the *leading note*; in those with flats, the *last flat* is always on the *subdominant*: these may be called the deciding tones as to the particular key of the scale or piece. (See Chap. VI.)

44. Let it be clearly understood, and always remembered, that a sharp or flat placed in the key-signature affects *all* the notes of that name which occur in the course of the piece, unless contradicted by a sign called a natural (par. 16). The natural (♮) may be said to stand between the sharp and flat, lowering for the time the sharpened note by a semitone, and raising for a like period and by the same interval that which has been flattened. A sharp, flat, or natural, occurring thus in the course of a composition is said to be "an accidental," although it would be hard to tell how the name originated. Coming at the beginning, or in the course of a bar or measure (see Chap. VII., pars. 72 and 73), it affects all the notes within it that are of the *same name*, and, as some theorists say, influences even the first note of the measure following, if that should happen to be the note that has been inflected. In the latter case, however, it is better to re-write the accidental, or, it may be, to restore to its normal place a note raised or lowered. This precaution may extend to even the *second* note.

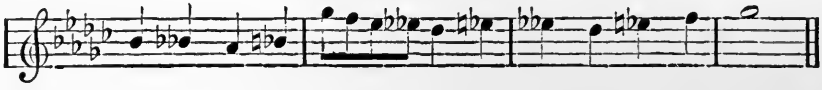


45. Sometimes a note that has been already sharpened, or a note that has been flattened, requires to be raised or lowered yet *another* semitone. In the former of these cases a character called a double sharp (written x) is employed; in the latter the flat sign is simply doubled (♭♭), named a double flat, and placed in the proper position. The necessity for these, the manner in which they are used, and how the note thus doubly inflected is brought back to its normal pitch, are here shown:—

THE DOUBLE SHARP.



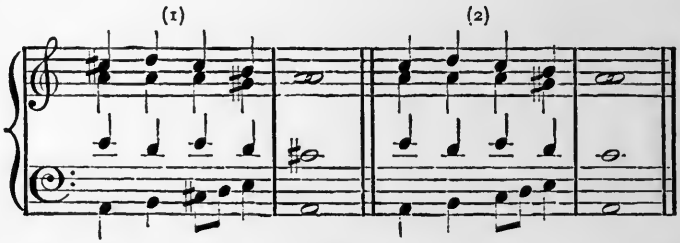
THE DOUBLE FLAT.



CHAPTER IV.

THE MINOR SCALE.

46. PERHAPS in no department of musical research are musicians less agreed than in the origin, development, and proper treatment in educational works of the minor scale, or, as some prefer to consider it, the *minor mode of using* the scale. Judging from the practice of great composers, they seem to have come to the conclusion that any tonic can be employed either as the tonic of a major or a minor key, as best suits the purpose in hand; the same dominant chord, and more particularly what is called the same *chord of the dominant seventh*, being resolved indifferently either on the one or the other. Let the student endeavour to hear and appreciate the different effect in the following examples:—



A is tonic in both cases; but in (1) we have what is called a major third between that tonic and its mediant, the third above; in (2) there is only a minor third. This is the only difference in notation, and yet in musical effect the brightness of the first is in great contrast to the sadness of the second example. The same tonic can undoubtedly be made the chief tone either in a major or a minor scale; but to a beginner the study of the minor from this point of view presents great difficulties, and in a course of solfeggio and sight-singing (which is to follow) cannot be made so serviceable as the possibly less scientific but more practical course which, following the example of the old sol-faists, Mainzer, Curwen, and others, we here adopt.

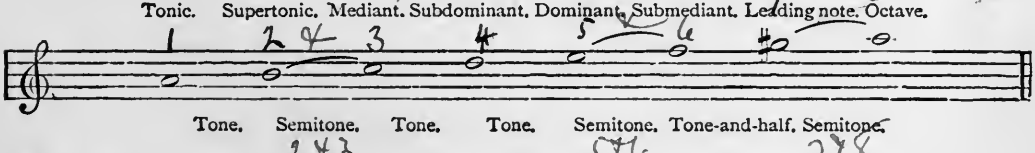
47. Any tone of the scale may by means of accent, chord progression, and cadence or close, be made so prominent in a tune as to be in some measure regarded as the principal tone or tonic. This was the practice—partly adopted, it is supposed, from the Greeks, and partly invented—of the early Church composers. Their system has been handed down to us under the name of the "Ancient Ecclesiastical Modes," to be found exemplified in many of our best and most familiar national melodies. The major scale (Chap. III.) is equivalent to what was by them termed the "Ionian;" and the minor, now under discussion, is partly at least an adaptation of the "Æolian" mode of these old writers. These two forms are all or nearly all of these old ways of using the scale that are found in consonance with modern ideas of melody and harmony.

48. The ancient Æolian mode took, as we may say, the sixth of our major scale (the submediant) as its tonic; consequently what we have hitherto spoken of as the mediant—being a fifth above or fourth below the submediant—became dominant; the name, position, and importance of the other tones being similarly altered. Taking the submediant as tonic, the changes which the other scale tones undergo may be tabulated thus:—

Submediant	becomes	Tonic.	Supertonic	becomes	Subdominant.
Leading note	,,	Supertonic.	Mediant	,,	Dominant.
Tonic	,,	Mediant	Subdominant	,,	Submediant.
		Dominant becomes Leading note.			

49. It will be observed that in this scale the semitones occur between the second and third and fifth and sixth, instead of between the third and fourth and seventh and eighth degrees in the major. It was, however, at the interval (a full tone) between the new tonic and its leading note that modern ideas, more particularly in connection with harmony, and ancient practice, first came into collision. When a chord (par. 30) has *two full tones* between its root and third, and only a tone and a half between its third and fifth, it is said to be a *major chord;* but when this order or arrangement of thirds is inverted, the chord is *minor.* If we take our new dominant, and, proceeding as formerly, place a third and fifth, drawn from the ordinary scale, above it, we shall find that a minor chord is the result; the precise notes in key C being E, G, B. This is in direct opposition to one of the first principles of modern harmony, which is that the dominant of the key *must bear a major chord.* How, therefore, to reconcile this with having at the same time full command of the solemn, sombre, yet pleasingly plaintive effect of the old mode, became a problem to be solved. The solution *looks* very simple. The third of this new dominant was simply *raised a semitone,* so making the chord major (E, G♯, B), and it was felt that this newly raised tone (G♯) had *all* the *leading* effect, or, if we may so speak, the *teaching-the-mind-and-ear-to-expect* effect of its namesake in the major scale. With the seventh of the scale so raised, and in the minor key related to C (hence called its relative minor), with key-relation names and position of semitones, we here give what is known as—

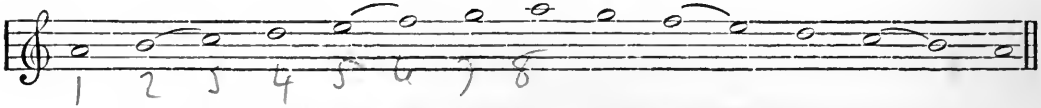
THE HARMONIC SCALE OF A MINOR.



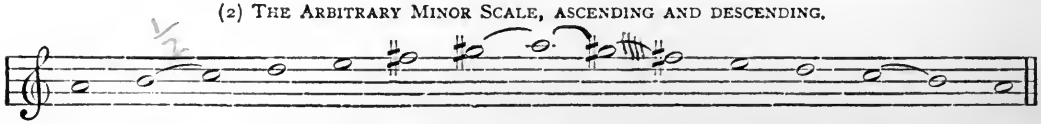
50. It will be seen that in the harmonic minor scale we have a very wide interval, viz., an augmented second (see Chap. VI.) between the sixth and seventh degrees, an interval troublesome to the singer, and in general not so satisfactory to the listener as that of a major second, found between submediant and leading note in the major scale. In other words, while harmony demands a major chord for dominant, melody at least *suggests* that the intervals between successive tones of the scale shall consist entirely of major and minor seconds. To

meet this new requirement or suggestion, musicians were fain, in *ascending passages particularly*, to raise the *sixth* degree of the minor scale, as well as and in addition to the seventh; thereby assimilating the *last four* notes of this scale to those similarly placed in the major (see below). Moreover, when *melody only* had to be taken into consideration, it was found that in *descending* passages the old Æolian mode quite satisfied modern desires, and was often both more pleasing in effect and less difficult in performance. So it came to pass that musicians agreed, somewhat arbitrarily, to form a scale with a raised (major) sixth and seventh ascending, and to make the descent with the *seventh* and *sixth* restored to their original position. The minor scale may therefore be said, as occasion requires, to take unto itself, ascending and descending, the following forms, viz. :—

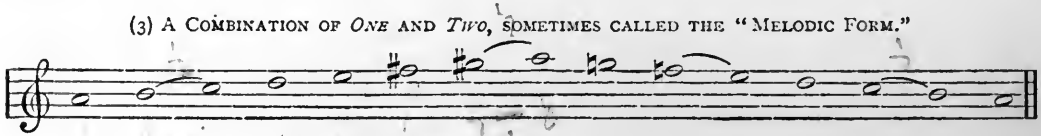
(1) The Ancient Æolian Mode.



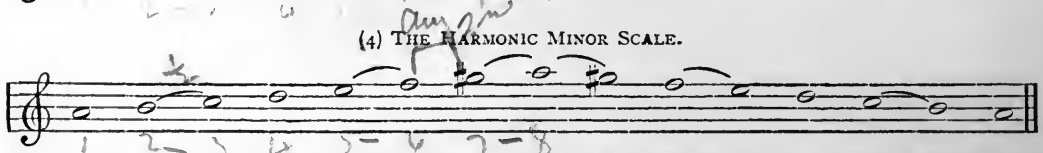
(2) The Arbitrary Minor Scale, ascending and descending.



(3) A Combination of *One* and *Two*, sometimes called the "Melodic Form."



(4) The Harmonic Minor Scale.



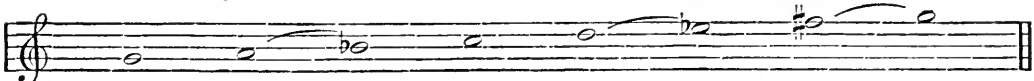
Of these four, the last is by far the most important, for its notes are employed in harmony, hence its name. The major sixth *ascending* and the minor seventh *descending* can seldom be employed for harmonic purposes.

51. Our scale illustrations in this chapter have all hitherto been given in the key of A minor, which, as already stated, is called the relative minor of C major. The converse, as might naturally be expected, also holds good, *i.e.*, C is relative major to A minor, the key-signature for *both* keys being the same. This key-signature is quite sufficient for the unaltered or Æolian minor scale; but the raised (sharpened) seventh or sixth, or, if within the rules (par. 44), the restoring of these altered notes, has in each case to be shown by an accidental. This would seem to imply that, as stated above, the alteration of these notes took place only when harmony or melody seemed to make the demand.

52. In the manner just described, *every* major key has its relative minor, and *vice versâ*, one key-signature sufficing for both; the pairs G major and E minor, D major and B minor, A major and F♯ minor, E major and C♯ minor, B major and G♯ minor, F♯ major and D♯ minor, being thus related. So, in the keys with flats, F major and D minor, B♭ major and G minor, E♭ major and C minor, A♭ major and F minor, D♭ major and B♭ minor, G♭ major and E♭ minor, are relatives, the minor tonic being always found a minor third below the major tonic, and *vice versâ*. As in the major keys, we here work out specimens of the minor scale (1) in a key requiring flats, and (2) in one requiring sharps; and also, as formerly, recommend the student to continue the series. The harmonic form, being most important, is here adopted; but by means of an additional accidental, or by taking away that here employed, the student can make the examples illustrations of any form given above.

(1) HARMONIC SCALE OF G MINOR, BEING RELATIVE MINOR TO B♭ MAJOR.

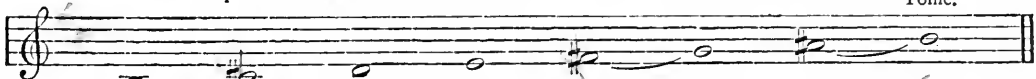
Tonic. Supertonic. Mediant. Subdominant. Dominant. Submediant. Leading note. Octave.



Tone. Semitone. Tone. Tone Semitone. Aug. 2nd. Semitone.

(2) HARMONIC SCALE OF B MINOR, BEING RELATIVE MINOR TO D MAJOR.

Tonic. Supertonic. Mediant. Subdominant. Dominant. Submediant. Leading note. Octave. Tonic.

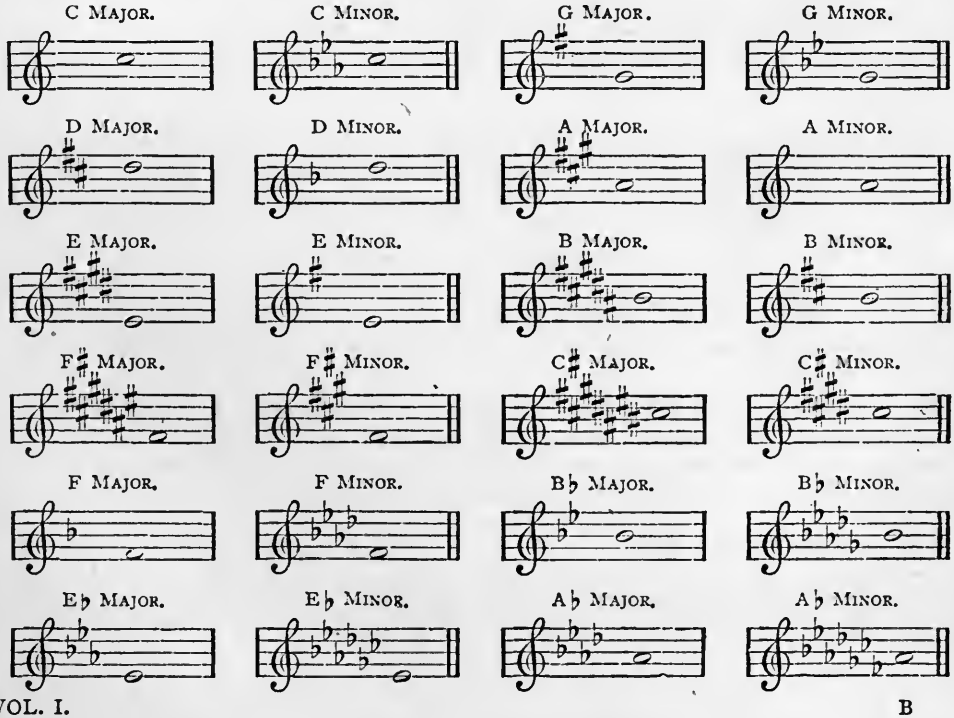


Tone. Semitone. Tone. Tone. Semitone. Aug. 2nd. Semitone.

53. We might now proceed to give all the minor key-signatures, as before we gave those pertaining to the major keys; but this would occupy a good deal of space, and would deprive the student of an excellent opportunity for self-improvement. If a difficulty as to any signature arises, it can be solved by simply turning back to the major keys and writing the minor tonic a minor third below the given major.

54. What is called the *tonic minor* or *tonic major* means that either of these is at *one and the same* pitch. Thus A, relative minor to C, is tonic minor to A major, *i.e.*, is at the same pitch as the last-named major key. So E is relative minor to G major, but tonic minor to E major. D is relative minor to F, but tonic minor to D major. The *same key* minor, it may be observed, has (where there exist so many) *three sharps less* or *three flats more* than that key major. Where there are fewer than three sharps, as in the case of G major (one sharp), G minor loses that sharp, and gains, if we may so say, *two flats*; or in the case of D, loses two sharps, and gains one flat. This, as will easily be understood, is equivalent to the rule first given.

The following gives in the treble clef the minor key-signatures as compared with their *tonic* major. The student would do well to work out the same in the bass and other clefs, giving, as here, a note to show position of tonic.

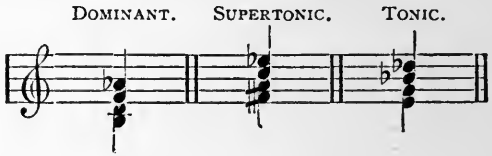


55. It was shown in par. 46 that the same dominant chord or dominant seventh chord stood in these relations to either of these keys; hence, as already hinted, and also for mathematical reasons, many musicians hold that tonic major and minor are more nearly related to each other than what, as explained, are called by the name relative major or minor. Some confusion is at first apt to arise as to the certainty of whether a key is major or minor. The distinguishing features of the minor key are—(1) from tonic to mediant, or from root to third of tonic chord, generally the chord to be heard first, is *always* a *minor third;* (2) the leading note of the minor key is always shown by an accidental, unless what is called a modulation is being made in the course of a piece, and this accidental is not required; (3) from this leading note to the mediant just mentioned the distance or interval is *invariably* a *diminished fourth* (see Chap. VI., par. 66), which interval decides the key.

CHAPTER V.

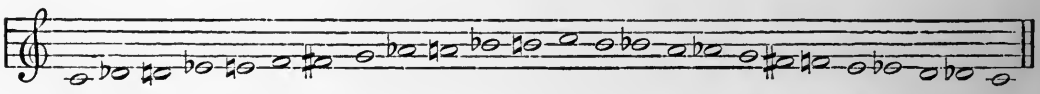
THE CHROMATIC SCALE.

56. WHAT was called the melodic chromatic scale was shown and explained in par. 17. It must now be stated that, although for convenience in writing, and perhaps for facility in performing, the form there given is very frequently employed, it is by no means the most scientific or best suited for harmonic purposes. Only advanced students will be able to comprehend the fact that the true notation of the chromatic scale is taken or obtained from what are called the three fundamental discords of the minor ninth in their first inversion, viz., dominant, supertonic, and tonic. The tonic is put last, because, in this connection, it is less frequently used than the others. In C major these chords, or rather discords, are—



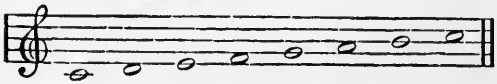
57. The following scale gives all the notes employed in the construction of these, and although, for the reasons given, a sharp is often allowed to do duty for a flat (as G♯ for A♭, and *vice versâ*) the laws for writing it are, or ought to be, as stringent as for either the major or the minor scale forms.

REAL OR CORRECTLY NOTED CHROMATIC SCALE.

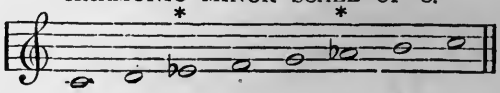


58. It should also be noticed that this harmonic chromatic scale, as it may be termed, includes the major and all the forms of the minor scale given in Chap. IV., with the addition of a minor second and an augmented fourth from the key-note (see below). The notes added by each successive scale in the following are distinguished by an asterisk.

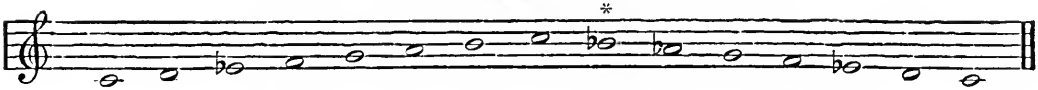
MAJOR SCALE OF C.



HARMONIC MINOR SCALE OF C.



SCALE OF C MINOR—MINOR MELODIC FORM.



The three notes marked with the seven of the major scale, and the two mentioned specially above, make up the number or succession to twelve semitones which go to form the chromatic scale. A most improving exercise for the student would be to rewrite the complete chromatic scale as here given, *in all the keys*, which are in this case reduced to twelve in number, major and minor being alike.

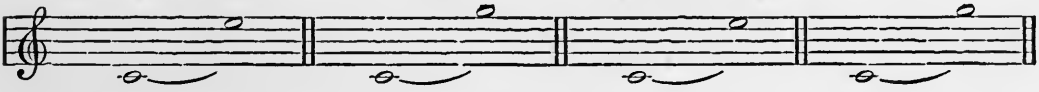
CHAPTER VI.

INTERVAL.

59. A KNOWLEDGE, theoretical and practical, of interval may be said to be one of the most important factors of the musician's power, and a necessity to professional success. The study of this subject ought therefore to be so thorough that, whether an interval be presented to the eye on the written or printed page, or be made audible by voice or instrument, its name and nature should at once be recognised. It would be well for the student to seek opportunities for becoming familiar with the *sound* of every interval, as well as with its name. Mere book-learning in any department of music, although often dignified with the name of "theory," is of no great value, unless accompanied or immediately followed by practical illustrations. It cannot be too frequently inculcated on the mind of the earnest student, that music is something to be *heard*, and to be known *when heard*, before it can be known in reality.

60. As already explained (par. 15), the word interval here means the musical distance from a lower sound to a higher, or the *difference in pitch between any two sounds.* Intervals are usually spoken of as being *within* the octave, so that, unless otherwise distinctly stated, the following would not be counted from middle C, as here shown, and then named a tenth and a twelfth, but would be counted from C in the fourth space, and named and looked upon as a third and fifth :—

REAL INTERVAL—A 10TH. A 12TH. USUAL NAME—A 3RD. A 5TH.



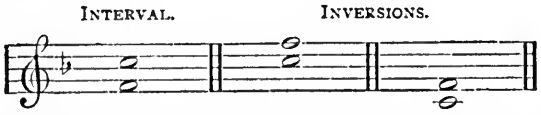
In this connection it should be mentioned that when the interval exceeds an octave and has to be *really* or *fully* named, as in the case of two octaves, the first *octave note*, up or down, is considered the highest (or lowest) note of one series, and the lowest, or, as the case may be, the highest note of the next. Thus if we were to transpose C fourth space, treble clef, two octaves lower, middle C would be the *lowest note* of *the first octave* and the *highest note* of *the second*, thus :—

C—4TH SPACE. TRANSPOSITION—2 OCTAVES LOWER.

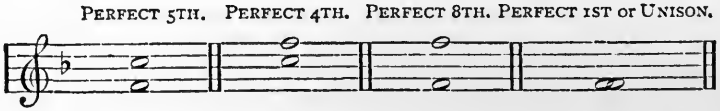
If the transposition, or change of place, were to be two octaves higher, the latter part of last sentence would just be reversed.

In other words, although one octave, as its name implies, gives the number eight, first and last note inclusive, two octaves, counted straight up or down, give only *fifteen.*

61. The inversion of an interval means that the lower note has been raised an octave, or that the higher has been lowered to that extent.

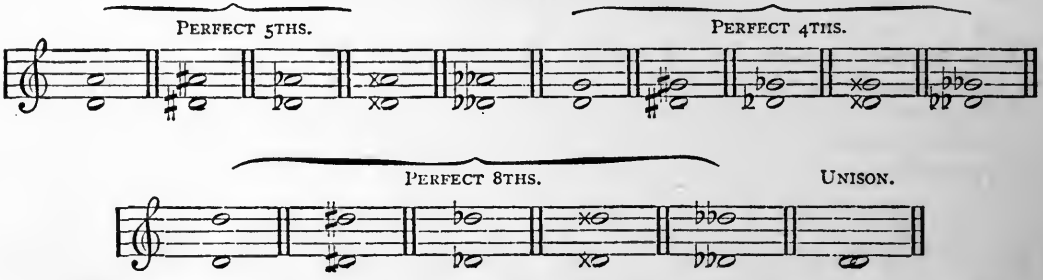


62. Intervals are of five kinds, viz., (1) Perfect, (2) Major, (3) Minor, (4) Augmented, and (5) Diminished. Perfect intervals are so called because (1) the vibrations of the two sounds of which they consist coincide, or come together, more frequently than is the case with the others, and (2) because, unlike (as we shall find) major and minor intervals, they cannot be made more or less without *at once* becoming augmented or diminished. Sweetly concordant in themselves, they are bounded on either side by very unpleasant discords. The perfect intervals are (1) the fifth, (2) its inversion the fourth, (3) the octave, and (4) its inversion the first, or unison. Strictly speaking, the unison is not an interval, but it is a *combination*, and although it cannot be made *less*, may unintentionally and easily be made *more*, and so become discordant.



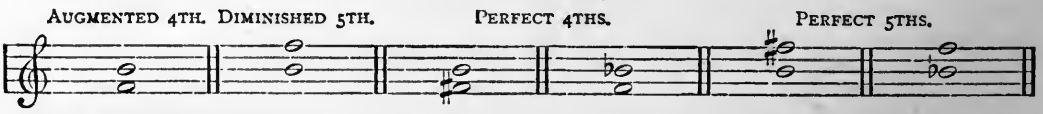
63. With one exception, the notes which make perfect intervals when written or printed have always the same appearance, *i.e.*, they are both *without* sharp or flat, or they both *have* a sharp, a flat, or it may be a double sharp or a double flat.

ILLUSTRATION.



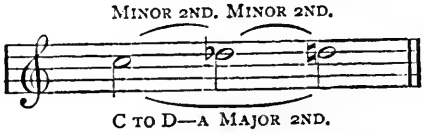
The exception mentioned occurs in the interval, or inversion of the interval, between F and B. Returning to the scale of C major (par. 35), we find that from the lower to the higher of these notes there is a succession of *three full tones* (or major seconds). Collectively these three tones make what is variously termed a pluperfect, tritone (three-tone), or augmented fourth—we prefer to use the name last given—which is one semitone more, or, when inverted, a diminished fifth, which is one semitone less than perfect. Wherever B and F occur, therefore, if a perfect fourth or fifth is required, we must either sharpen F or flatten B.

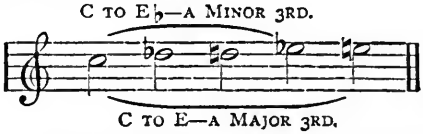
ILLUSTRATION.



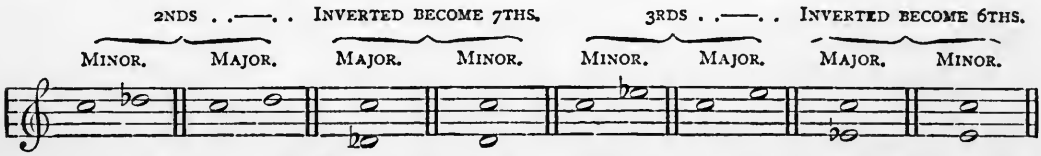
The student should scarcely require to be reminded that between the subdominant and leading note of every major scale this augmented fourth, or, when inverted, diminished (sometimes called imperfect) fifth occurs.

64. Major and minor intervals are so closely connected that we speak of them together. Major intervals are one semitone wider than minor intervals of the same name. Thus in a major second two semitones may be counted, while a minor second has only one. In a minor third there are three semitones, while in a major third there are four.



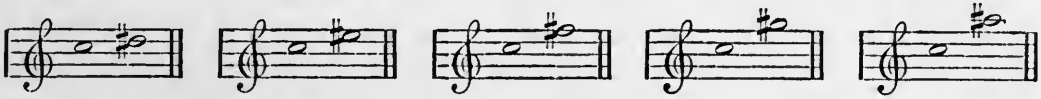


As stated in par. 62, fourths and fifths are perfect intervals, and are therefore *never* preceded by the terms "major" or "minor"; the former is made up of or contains a major third (two major seconds) and a minor second; the latter, as was seen when the constitution of a chord was under consideration (pars. 30 and 50), consists of two thirds, a major and a minor, or *vice versâ*. Sixths and sevenths are simply the inversion of thirds and seconds, and the number of semitones to be found respectively in each or either can always and without hesitation be known by subtracting the number contained in the *lesser* interval from the complete chromatic scale, which contains twelve. Thus in a major third there are four semitones, consequently in its inversion, a minor sixth, there *must* be eight. Two semitones are found in a major second, therefore ten make up the number of which its inversion, a minor seventh, consists. So with minor seconds and thirds, which in inversion become major sevenths and sixths.



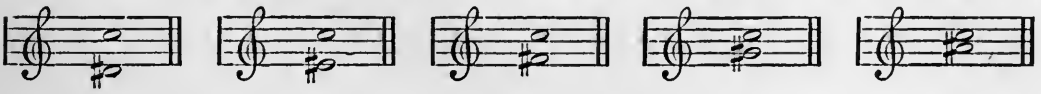
A moment's thought will bring home to the understanding the fact that just as sevenths are the inversion of seconds, and sixths of thirds, so thirds are the inversion of sixths, and seconds of sevenths. As we now know, fourths are the inversion of fifths, and *vice versâ*, so that the list of ordinary scale intervals is now complete. Note that the number of any interval and the number of its inversion when added together always make *nine;* as seconds and sevenths, thirds and sixths, fourths and fifths, and the inversions of these. Let it also be carefully noted that a *major* interval inverted becomes a *minor*, and that a *minor* becomes a *major*.

65. In an augmented interval there may always be found one semitone more than in a major, or a perfect, and, as a corollary, two semitones more than in a minor interval of the same name.



Thus an augmented second contains three semitones; an augmented third (seldom employed), five semitones; an augmented fourth consists of three consecutive major seconds, or six semitones; an augmented fifth is made up of two major thirds (as C to E, and E to G♯), or eight semitones; and an augmented sixth may be said to consist of a major third and an augmented fourth put together, and contains ten semitones. An augmented seventh, being practically equivalent to the octave, is seldom or never written.

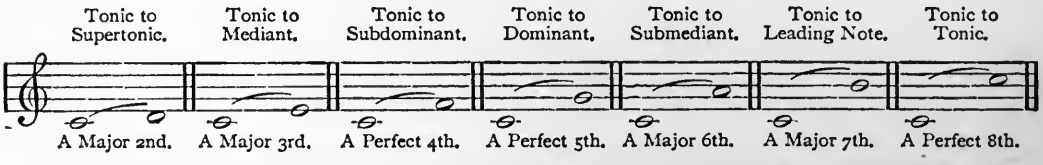
66. Diminished will perhaps be best understood if considered as the inversion and *reversion* of augmented intervals. Thus an augmented second inverted becomes a diminished seventh, and contains only nine semitones, being one *less* than a minor seventh; an augmented third becomes a



diminished sixth, containing only seven semitones, or one less than its minor namesake; and an augmented fourth becomes a diminished fifth, which is made up of *two* minor thirds, and is one semitone less than perfect. With similar results as to semitones, an augmented fifth becomes when inverted a diminished fourth, and an augmented sixth when thus treated becomes a diminished third.

Although it is almost a necessity for every musical student to be able to tell the number of semitones contained in any given interval, yet it should never be forgotten that the number of these does not always decide what the interval is. Thus an augmented second contains three semitones, but so does a minor third. A diminished third is made up of two minor seconds, but so, as we have found, is a major second. Even so with an augmented third and a perfect fourth, and so with a perfect fifth and a diminished sixth, and so upwards in the interval numbers; but no interval can, or at least *should* ever be written instead of another. Melody and harmony alike demand that a second, of *whatever kind*, should be written as a second, a third as a third, and so with all the other intervals.

67. In recognising and sounding intervals, nothing is so helpful to the student as thorough familiarity with the scale, particularly in its major form and in all the major keys. Analysis proves that from any major tonic to any of its relative or scale-tones the interval is either *major* or *perfect*. For example, in C major:—



With a sharp placed before each note in the foregoing example, the same relations would be maintained, and the key would be C♯ major; with a flat before each the theory would be found correct in the major key of C♭. The student would do well to work this exercise out in all the major keys.

68. From the above we deduct the following:—

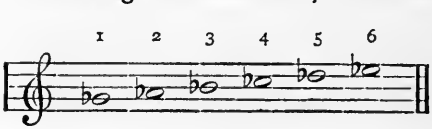
Rules for finding and naming intervals—

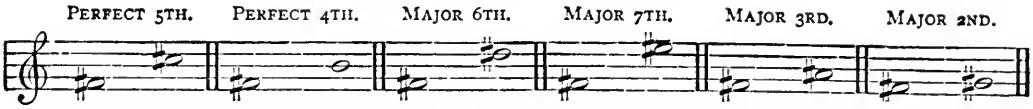
(1.) Remembering that every line and every space counts a degree, find the *number* of the interval by counting from the lower to the higher note.

(2.) Consider the lower of the two notes a tonic or key-tone, and mentally ask the question, "Does the upper note occur as supertonic, mediant, &c., in the scale of this supposed major tonic?" If it does, then the rule in par. 67 applies—the interval is either major or perfect. If it does not, then—

(3.) In a similar way ask this second question, "Does the inflection, or want of inflection, or, it may be, the double inflection, make the interval *wider* or *narrower?*" If narrower, then, it must be so much *less* than major, or perfect; if wider, it must be so much *more.*

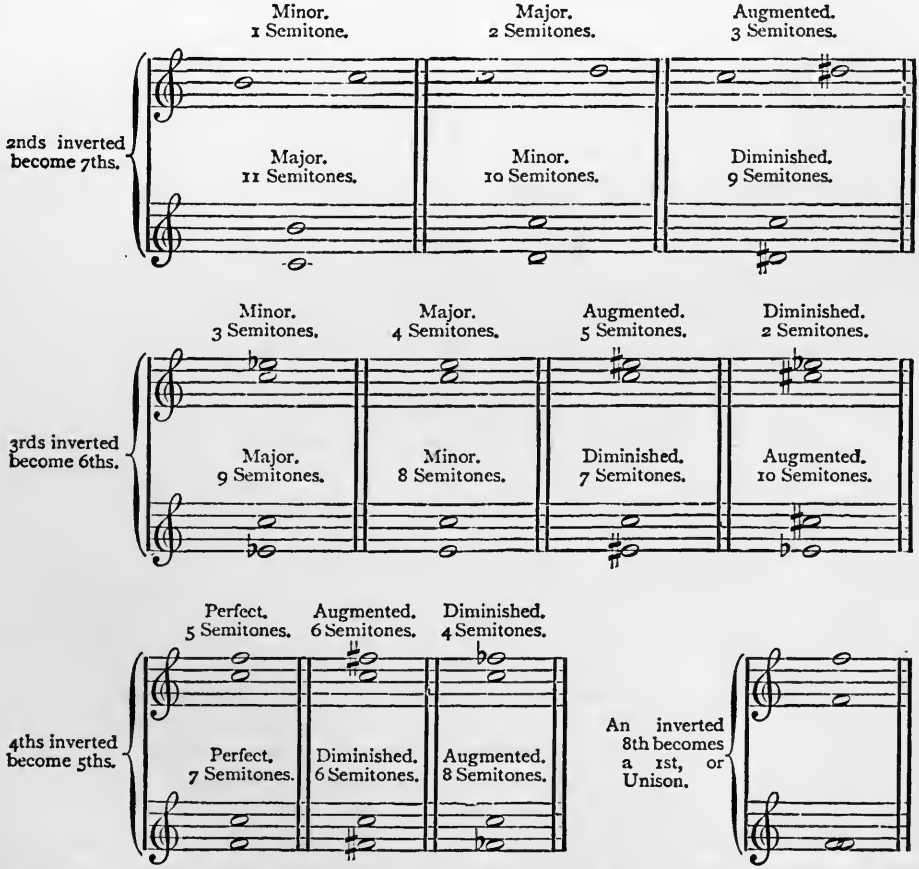
Working out these rules, let us find the interval from G♭ to E♭. From Rule 1 we find that G♭ to E♭ is a sixth, and answering the question of Rule 2, it must be a major sixth, for E♭ belongs, as submediant, to the scale of which G♭ is tonic. By taking away the flat from E the interval would be *widened*, and so from G♭ to E♮ must be an augmented sixth, which can easily be proved by its inversion, E♮ to G♭, being found a *diminished third.* On the other hand, if, replacing the flat on E, we took away the flat from *G*, the interval would be *contracted* (*i.e.*, G is a semitone *higher*, and consequently nearer to E than G♭ was) and the interval from G♮ to E♭ could be proved a *minor* sixth by its inversion, E♭ to G♮, being found a *major* third. Again, taking F♯ as a tonic, let us apply the rules.





From F♯ to C♯ is a fifth, and it must be a perfect fifth, for (1) C♯ occurs in this scale, and (2) both the notes are *sharpened* (par. 63). From F♯ to B is a fourth, a perfect fourth, for (1) B occurs in the scale of F♯, and (2) we know that with any perfect interval between an F and a B there must either be a sharp on the one or a flat on the other (par. 63). From F♯ to D♯ is a sixth, a major sixth, for D♯ is submediant when F♯ is tonic. From F♯ to E♯ is a seventh, a major seventh, for E♯ is leading note when F♯ is tonic. From F♯ to A♯ is a major third, for A♯ is mediant to F♯ tonic. In the same way G♯ is supertonic to F♯, and the interval between the two notes must therefore be a major second. Working in this manner, the student may, it is hoped, easily and with much personal benefit, make the above or any similar series of intervals minor, augmented, or diminished, and so get thoroughly familiar with their *appearance*, while a strenuous endeavour is made to hear the *sound* of each. Sometimes augmented and diminished intervals are spoken of as chromatic; but all, or nearly all, are to be found either in the major or in one or other of the minor scale forms, and in *this sense* are *diatonic*, that is, they are to be found in the scale.

69. Table of intervals and their inversions, giving the number of semitones in each :—



The student will now understand that by taking the *lower* staves of the above *first*, the inversion of the intervals found therein will be seen in the *higher* staves, so that we have here a *complete list* or table of intervals, which could be transposed into all the keys.

CHAPTER VII.

ACCENT AND RHYTHM.

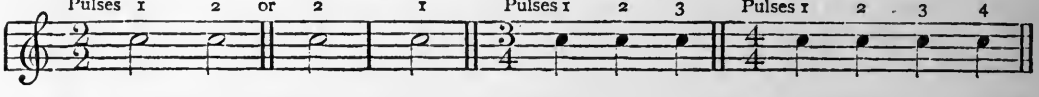
70. Accent and rhythm, generally known as "time" in music, are the channels through which the orator gives life and meaning to his sentences, and thus stirs the hearts of his audience; the means by which the poet divides his lines into what are called "feet," or constructs these again into verses; and they form the medium through which the musician is enabled to bring into prominence what have been happily termed "the feature notes" of his melody. Accent in music has relation to the greater force or stress with which certain tones are to be struck, *i.e.*, sounded with voice or instrument, and the comparative weakness with which others are to be performed. Rhythm has relation more particularly to the division of music into equal portions, sometimes called *sections*, with the more minute divisions and subdivisions of duration therein contained. It occupies much the same position in regard to music as metre does in connection with poetry. In ordinary speech, accent and rhythm come, or may come, at irregular intervals; but in music and in poetry there must be regularity in the order of accent, and at least a certain degree of uniformity in the rhythm.

71. The simplest form, or order, of accent in music is the twofold, or alternate—in prosody called long and short (Trochaic), or short and long (Iambic)—which perhaps will be more easily understood by the musical student as *strong* and *weak*, or *weak* and *strong*. Let an upright line placed before a syllable indicate that on that word or part of a word the strong accent is to fall, and the former of these may be illustrated by the line—

| Si - lent- | ly the | shades of | eve - ning || And the latter by:—They | grew in | beau-ty | side by | side ||

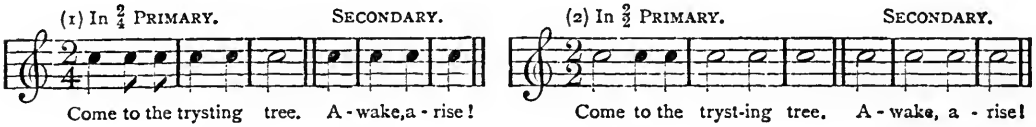
72. The time from one accent to the next, as from a strong to a weak, or *vice versâ*, is variously termed a "count," a "beat," and a "pulse" (from the word pulsation); and the number of pulses from one strong pulse to the next, form collectively what is frequently spoken of as a "bar," though sometimes called a "measure." We shall in each case adopt the name last given, viz., "pulse" and "measure."

ILLUSTRATION.



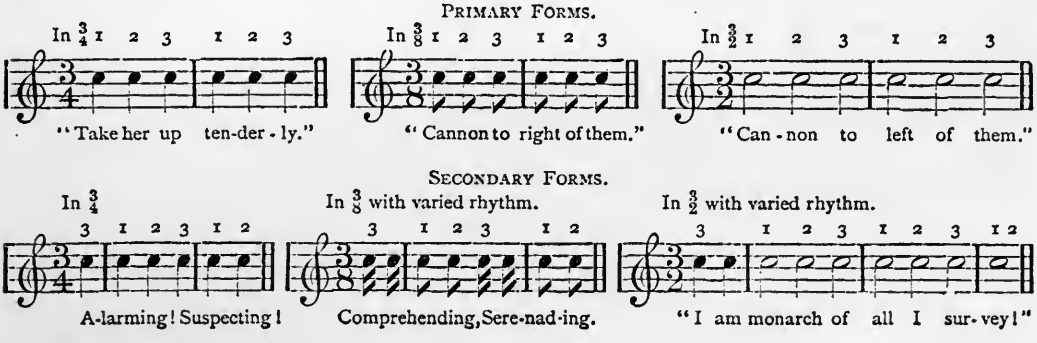
73. Either of the lines of poetry above would be said to be in *Simple Duple* Time; *i.e.*, there are two pulses in the measure—the former, beginning on the strong accent, being sometimes distinguished as the "primary," and the latter, beginning with the weak accent, as the "secondary" form. The terms "primary" and "secondary" apply, as here explained, to *all* measures. An upright line drawn through the staff always shows, as above, where the strong accent is to fall. It is sometimes called a "bar line." In cases where the strong accent comes *first*, no such line is given; but it is *understood* from the measures which follow. A double bar, two thick lines (||), shows the finish, of a strain or a piece. There are no signs for the words or notes which bear the weak accent, *i.e.*, which are unaccented; but it has just been pointed out that accents in music must come *regularly*; we therefore *know* that the weak accent must follow the strong, and *vice versâ*, according to the commencement made. To make this fact the more plain there is generally and immediately after clef and key signs placed what is called the "time signature." This sometimes consists of a C, but it usually is made up of two

figures or numerals, given somewhat in the form of a fraction in arithmetic, when the *upper* figure always tells the *number* of *accents* or *pulses* in the measure, and the *under* figure shows the relation as half, fourth part, eighth, &c., that each pulse bears to the semibreve (see par. 20.) Thus with the numerals $\frac{2}{4}$ so placed we should be told (1) by the upper figure that there were two pulses in the measure, and (2) by the under figure that each pulse was to be the fourth part of a semibreve, viz., a crotchet, or the value thereof in shorter notes. The figures $\frac{2}{2}$ (given in par. 72) denote (1) that there are two pulses in the measure, and (2) that each pulse is to be a minim or the *value* of a minim. The order of accents would be exactly the same as in $\frac{2}{4}$, but the pulse or beat would be *represented* by a *different note.* So far as sound and rhythm are concerned, the following in every respect are the same :—



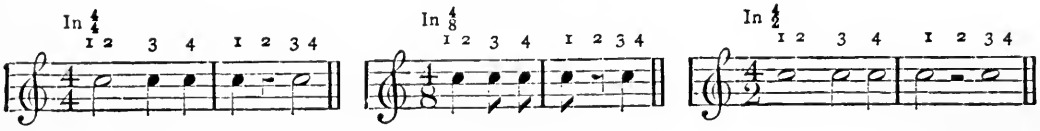
In music, written or printed, each measure must be complete. Thus, as in above, when we begin with a strong pulse we end with a weak, and *vice versâ.* The odd pulse at the commencement, in the secondary forms above, and that at the finish, make a complete measure.

74. When the order of accents comes as in the line, | "Bird of the | wilderness"||, where the "foot" is called in prosody a "Dactyl," we have, musically speaking, a strong followed by two weak accents. This has received the name "Simple Triple Time," and is known wherever in time signatures the figure three (3) is the upper of the two numerals. Thus $\frac{3}{4}$ would mean three crotchets, $\frac{3}{8}$ would imply three quavers, $\frac{3}{2}$, three minims in a measure, or the value of the same in each case.

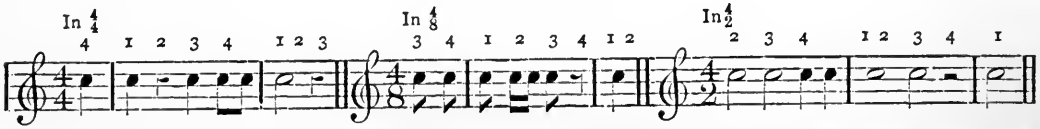


75. Not unfrequently every second strong pulse of duple time is alternated with one of more moderate force, which is therefore called the *medium* accent. This extends the measure to *four* accents or pulses, viz., *strong, weak, medium, weak,* which, in turn, is called "Simple Quadruple Time," and is invariably indicated when the figure four (4) fills the place of the upper numeral in time signatures. This kind of time is so often used, especially with a crotchet to a pulse, that it is often spoken of as "Common Time," which is held to be indicated when, instead of figures, a big C occupies the place of time signature. Figures have, however, the advantage of being distinct, and the name "Quadruple" calls attention to the number of pulses to be found or expected in the measure ; whereas the name "Common" applies, or should apply, to all the forms of duple as well as quadruple measures. The figures $\frac{4}{4}$ indicate four crotchets, $\frac{4}{8}$, four quavers, $\frac{4}{2}$, four minims, and $\frac{4}{1}$ (seldom seen), four semibreves, or, in each case, value for these, in a measure. Such words as "February," "momentary," &c., may serve to convey some idea of the *primary* form of this measure. To begin on any but the strong accent would give a secondary form. Examples :—

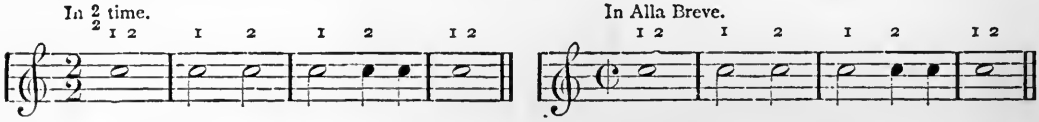
PRIMARY FORMS.



SECONDARY FORMS.

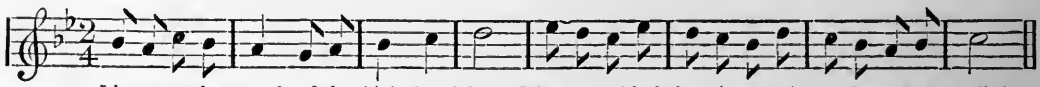


76. A large C with a line drawn through it, thus 𝄵, is also occasionally employed as a time signature, and is held to indicate what is called *Alla Breve* (*i.e.*, after the manner of the breve) time. Practically it is equivalent to simple duple time with a minim for a pulse, otherwise $\frac{2}{2}$.

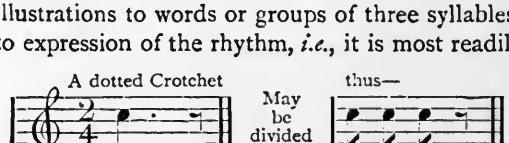


It should be clearly understood that there is no absolute time as so many seconds or minutes associated with any of these under figures. Whatever that figure may be, it simply shows that the note indicated is to be considered as the pulse or beat; and these pulses may be taken at a slow or rapid *rate of movement* as desired, or as suggested by the style of the music to be performed. Custom, however, seems to say that minims, as in $\frac{2}{2}$, $\frac{3}{2}$, or $\frac{4}{2}$ times, are considered more appropriate for church music than crotchets and shorter notes, but there is no rule on the subject. The rate of movement can be, and frequently is, precisely indicated by an instrument called a "metronome," from which, by raising or lowering a weight attached to a pendulum, any rate, from forty-eight to one hundred and forty-four pulses in the minute, may be obtained. M. ♩= 78 would show, when placed at the beginning of a piece of music, that this musical time-marker was to be set a-swinging at the rate of seventy-eight in the *minute*, and that a crotchet or its value was to be performed for every pulsation.

77. We come now to what are known as the compound times. These and the necessity for them can be best explained and illustrated by the accent and rhythm employed in ordinary speech. Although not generally observed, it may easily be demonstrated that all language is delivered in pulsations, *one* word or syllable often demanding as much time for itself as three or four put together. The following lines distinctly enunciated will be felt to call for something at least akin to the rhythm given:—

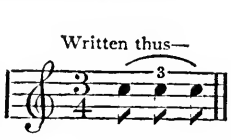


Here the words "sound," "high," "church," and "bells" must each receive at least a whole pulse, while the others run in half-pulses; the syllables come in couples. Extending our illustrations to words or groups of three syllables, we find that the dotted note best lends itself to expression of the rhythm, *i.e.*, it is most readily and easily divisible into *three equal parts* as—

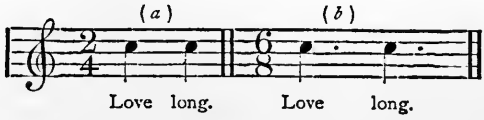


and that if we write music for such words as "rapidly," "knowingly," "beautiful," &c., or for such lines as "Oh | where-are-you | going, sweet | Robin?" where, with the exception of the first and last words, the syllables seem to arrange themselves in groups of three, we must

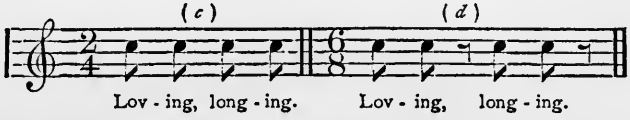
either have abundant recourse to the triplet-form to bring out our meaning. This time-form is found in what is called compound duple time (or six-pulse measure), which, when performed slowly, stands in much the same relation to three-pulse measure, or simple triple time, that quadruple does with regard to two, that is to say, it changes every *second* strong pulse into one of medium force. For beautiful examples of this measure and of music requiring to be so performed, see, "Oh Lovely Peace"—("Judas Maccabæus,"—Handel), "Oh thou that tellest"—("Messiah,"—Handel), "How lovely are the Messengers"—("St. Paul,"—Mendelssohn), and many others. Such words as "Med-i-ter-ra-ne-an," "spir-it-u-al-i-ty," "pu-sil-lan-im-i-ty," where the accents seem to come in the order STRONG, weak, weak, MEDIUM, weak, weak, may assist in conveying some idea of what is required.



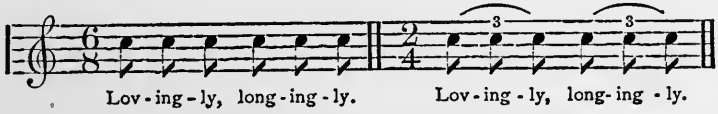
78. In most cases, however, six-pulse measure moves so quickly that we feel as if a kind of *two*-pulse measure were being performed, hence its name, *compound duple time.* Let us endeavour to show the relation between two and six pulse measures (duple and compound duple) with the assistance of one or two homely and familiar words.



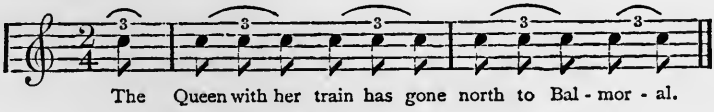
In (*a*) the pulse or beat is represented by a crotchet, easily divisible by such multiples as two, four, or eight; in (*b*) the pulse is represented by a *dotted* crotchet, divisible by three or multiples of three. In both cases a pulse, *one distinct whole*, is represented, which we now proceed to break up.



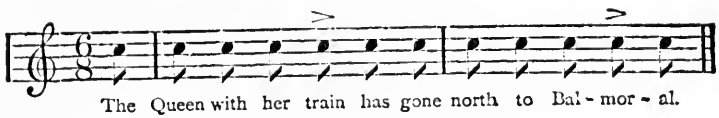
In (*c*) the given words fall naturally and without break into their places; in (*b*), if we are to preserve the proper accent of six-eight time, we require the last third of each pulse (*i.e.*, the dotted crotchet) to be silent, as the words properly belong to the simple, not the compound time-form. Extending the words to three syllables, we find that the *dotted* note best lends itself to expression of the rhythm, and that if we continue to write in *two-four* time we must have recourse to triplets to bring out our meaning.



Further to illustrate this somewhat difficult subject—difficult, because the *real* accent is never shown by the time signature—let us take the following line—



This would in simple duple time require to be written as above with triplets, but in compound duple, in which the triplets give the *natural* order of the accents, thus—

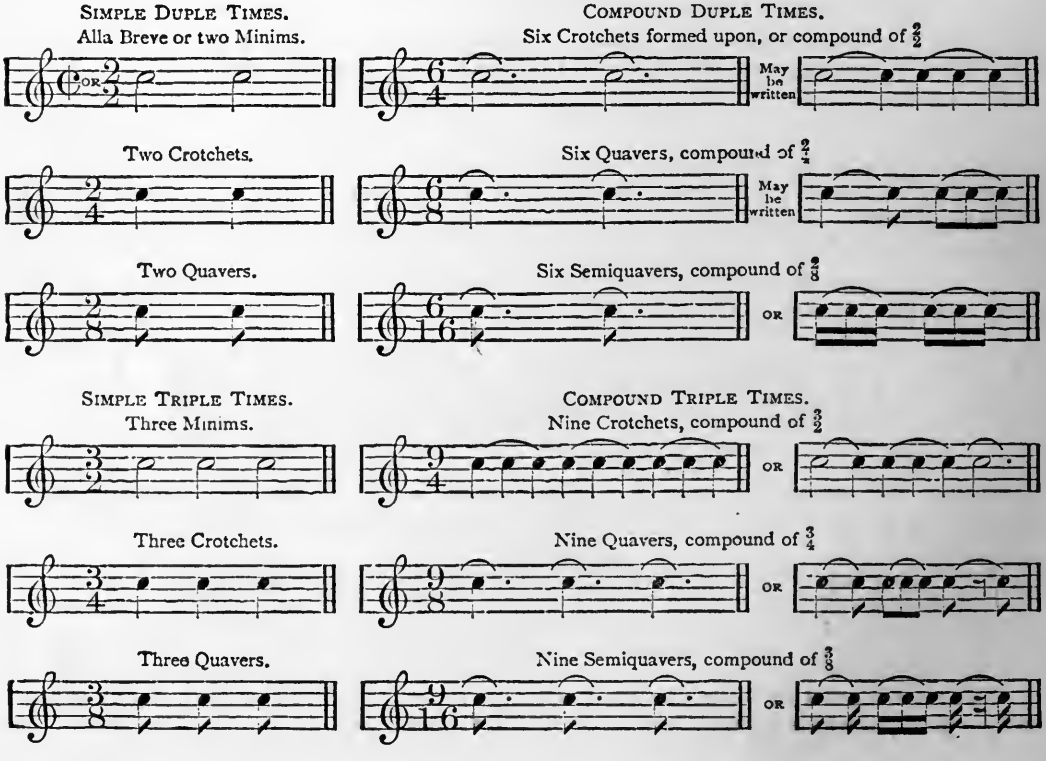


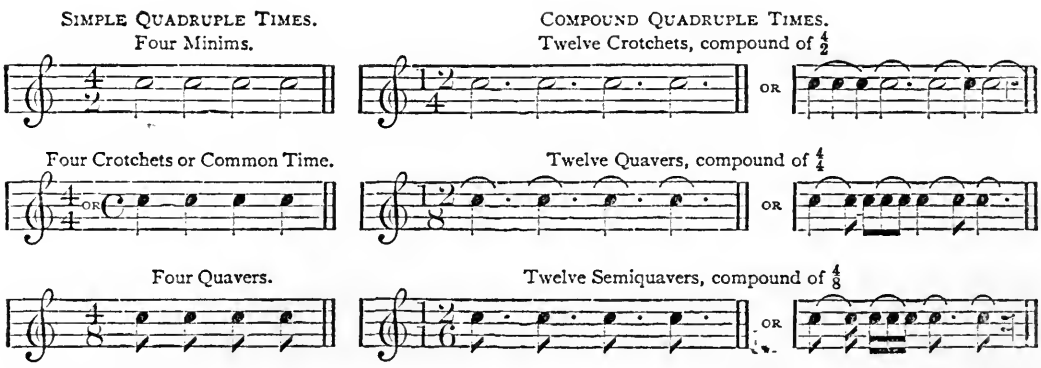
These examples sung on one tone will be felt to be the same in accentuation and musical effect. Musicians have thus two ways of writing for this order of accents—either in the simple time-form with the use of a great many triplets, or in compound without these aids.

79. Rule.—The compound of *any* simple time is found by *adding a dot* to the pulse note. Examples will follow.

80. What has just been said applies with equal force to the compounds of simple triple and simple quadruple time-forms, *i.e.*, a dot after each pulse of the simple gives the compound; and the *lowest note multiple* of this dotted note when divided by three is taken as the *under* figure to be placed in the time signature. Thus in three-four time we have three crotchets (♩ ♩ ♩) in a measure; in the compound of three-four we have three *dotted* crotchets (♩. ♩. ♩.), which gives, when each is broken up into three parts, a quaver as the lowest note, so that instead of the dotted notes we may have *three times three quavers* or $\frac{9}{8}$ in the measure. In all the compound times it will be seen and felt that the representation of the triplet form of rhythm is chiefly what is aimed at; in other words, while the effect of a whole pulse is always the same whether represented by a simple *whole* or a *dotted* note, these pulses when broken up into two and the multiples of two belong to the simple time-forms; while three and the multiples of three distinguish the compound.

TABLE OF TIME SIGNATURES.





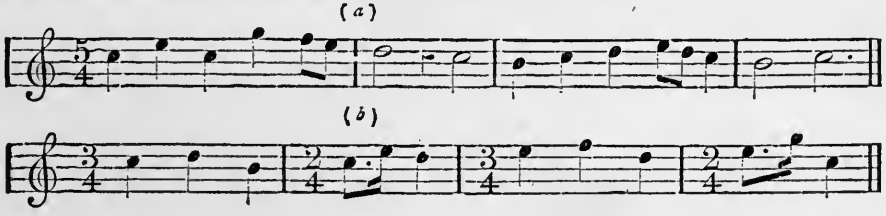
For the sake of completeness, a few additional signatures of times that are seldom employed may here be given :—

Simple duple, $\frac{2}{32}$, and $\frac{2}{1}$.	Compound duple, $\frac{6}{32}$ and $\frac{6}{2}$.
„ triple, $\frac{3}{16}$.	„ triple, $\frac{9}{32}$.
„ quadruple, $\frac{4}{16}$ and $\frac{4}{32}$.	„ quadruple, $\frac{12}{32}$.

When compound triple and compound quadruple times are sung or played slowly, and nine or twelve pulses are counted, although there is only one strong accent, the first of every three pulses that succeed is turned, as in the case of compound duple time, into an accent of medium force. Nine-pulse measure or compound triple time would thus consist of strong, weak, weak, medium, weak, weak, medium, weak, weak, and so relatively with twelve in the measure.

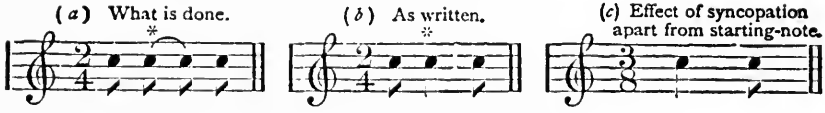
81. Exceptional rhythms and methods of writing.

In many instances $\frac{4}{4}$ or common time might have $\frac{8}{8}$ for time signature, requiring, as it does, to be performed with a quaver for a pulse. Two measures of quadruple time, in all such cases, are simply written as one. Handel's, "He was despised" ("Messiah"), and Mendelssohn's, "Oh rest in the Lord" ("Elijah") are familiar examples. Not unfrequently waltz tunes, written in simple triple time, require to be performed so quickly that the hearer can discern only one pulse in the measure. In all such cases some form of compound duple would much more correctly represent the actual time of the music. Very exceptional cases of what may be called quintuple or five-pulse measure, and also, for special and possibly comic effects, alternate measures of duple and triple time are to be found.



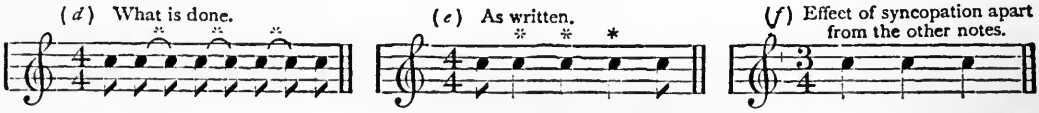
Mendelssohn employs the first of these devices in his pianoforte piece, "The Rivulet," and Sir Arthur Sullivan has recourse to both in his well-known operas.

82. Syncopation in music means that, for a particular effect, a strong accent is brought in where a weak accent or weak *part* of an accent is expected. The strong accent is thus anticipated, and the order of accents is changed from duple or quadruple to the triple time arrangement, or *vice versâ*. Thus if we write in quavers a measure of $\frac{2}{4}$ time, by joining the last quaver of the *first*, and the first quaver of the *second* pulse together, a syncopation is produced, and what is really a measure of $\frac{3}{8}$ time is introduced in the course of a $\frac{2}{4}$ time movement.

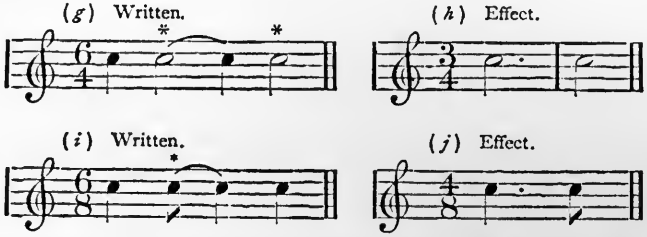


The mark * shows the syncopated note.

So in $\frac{4}{4}$ time, if we take six of the eight quavers into which the four crotchets may be changed, and bind them together as above, a measure of $\frac{3}{4}$ time is produced in the course of a quadruple time movement.



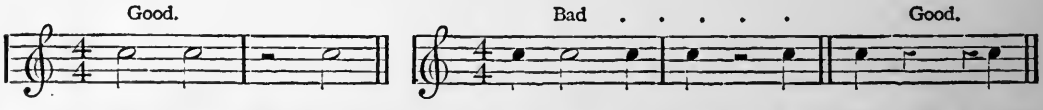
By syncopation in compound duple time, and *according to its position*, simple triple or quadruple accent is produced.



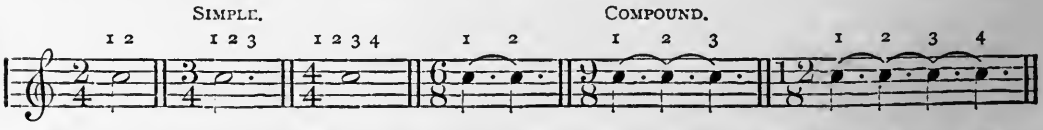
These effects, it should be said, are only approximate. To get a true idea of syncopation it must be *heard*.

When performing syncopated notes, it is found convenient to think of them as made up of two parts (which they really are), in the manner shown in (*a*) and (*d*) above. It is then felt as if there were a kind of double accentuation, and the difficulties of the executant are greatly lessened.

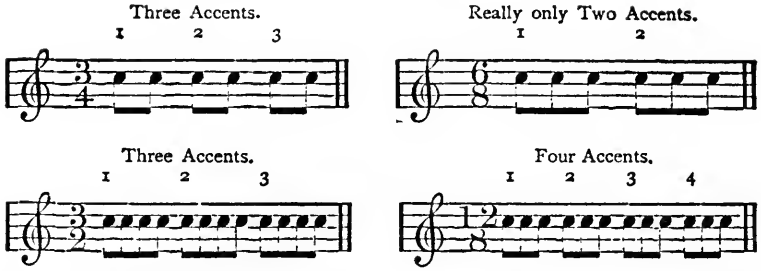
83. Music should be so written or printed as clearly to indicate the time apart altogether from the time signature. In writing, a good general rule is, *keep in notes and rests as near to the pulse note as possible*, although it is quite common to group a run of quavers in fours, either in instrumental music or when, in vocal music, these notes are sung to the same syllable. In $\frac{4}{4}$ time, however, such grouping must not cross the medium accent, *i.e.*, must not occur between pulses 2 and 3. (See Examples to paragraphs 26, 44, and 45). Unless syncopation is intended, notes or rests longer than a pulse should only appear at the *beginning*, or, where there are more than three pulses, in the *middle* of a measure.



In simple duple, triple, and quadruple times, one note may be employed to fill up the measure; but if this is done in the compounds, the number of pulses should be written and then tied or bound together, thus showing the accent.

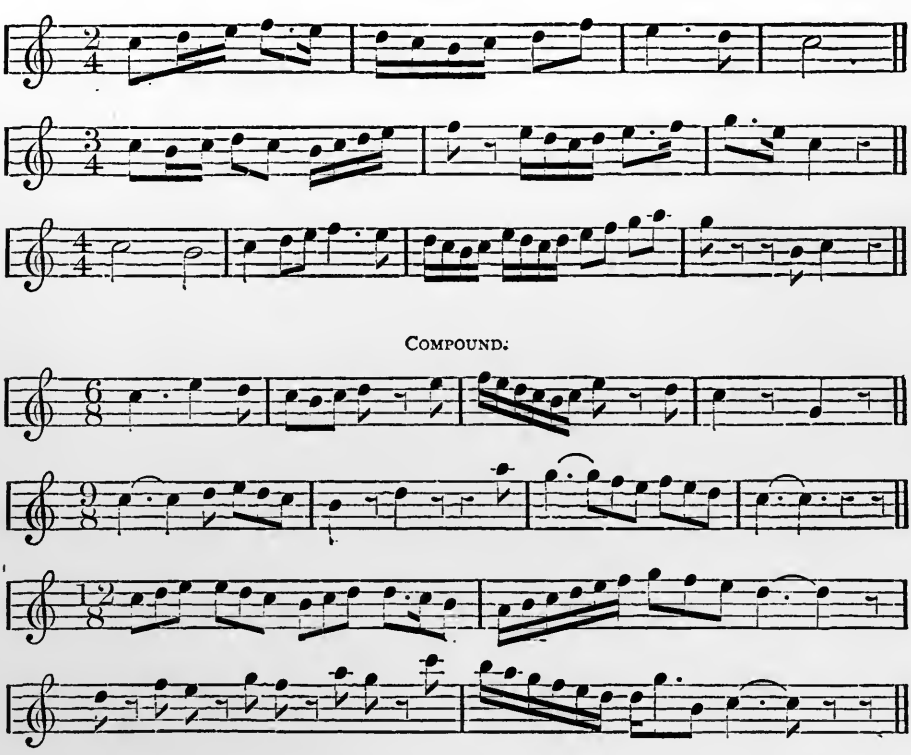


84. Except when words are to be provided for, notes shorter than crotchets should be so grouped as to show the *pulses*. Short study of the following examples will make the necessity for this apparent.



It will thus be seen that in music, three twos are *not* the same as two threes, nor are three fours equivalent to four threes. Accent is paramount. (See also par. 24.)

Here follow a few examples in writing and grouping:—

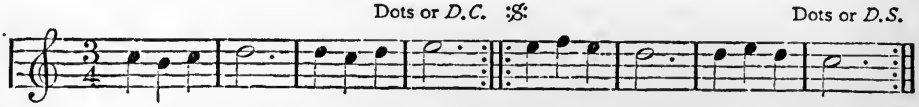


Rule for writing rests. The semibreve rest is always employed to indicate a silence of *one complete measure*, whatever the time of that measure may be; except in *Alla Breve* time, when the breve rest is used. The figure 2 placed over a measure of rest or silence would indicate *two* measure's rest, the figure 3 *three* measures, and so on to any number.

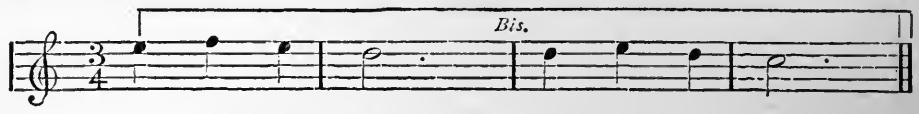
CHAPTER VIII.

ABBREVIATIONS, ORNAMENTATION, AND EXPRESSION.

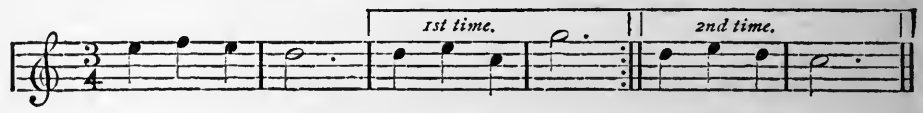
85. Necessity for the repetition of a passage is shown in two ways: First, by dots, either two or four, placed in the spaces immediately in front of the double bar, which indicate that the strain or passage is to be repeated, either from the beginning or from a *previous* double bar. If from the latter, then similar dots are placed *behind it*, drawing attention to the point to which the return has to be made: Second, by the initial letters of words drawn from the Italian language, as D.C. for *Da Capo* (the beginning), and D.S. for *Dal Segno* (the sign). A big S with dots and a line drawn through it, 𝄋, stands for the sign. In the following cases either dots or letters (not both) may be used:—



In cases like the above, it should here be said, that dots are most frequently employed. The letters are in general reserved for the repetition of long movements as the minuet and trio, in instrumental works. The word *Bis* (twice) written under a bracket also shows that a passage is to be repeated, as—

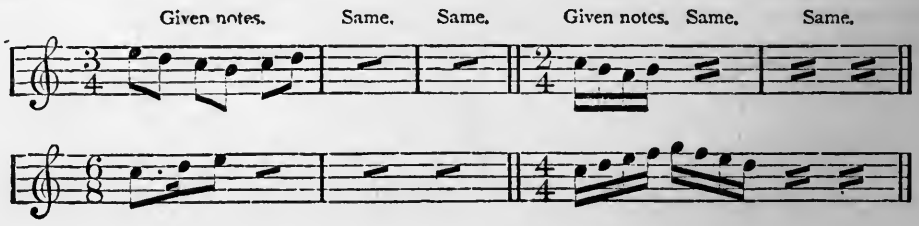


Not unfrequently when a passage is repeated, a slight alteration of the music is made towards the close, for the sake of variety; in this case, the words "first time" and "second time" are written under a bracket showing where the change takes place.

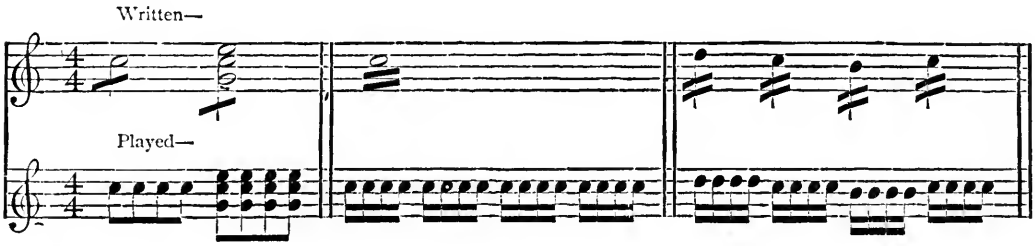


It should be clearly understood that the measures marked "first time" are *left out* in the repetition.

86. When the music of one measure, or, if broken up into short notes, any pulse in a measure, is to be repeated in the next, a line or lines, according as the notes indicated are quavers or notes of less value, is or are written instead of the notes themselves. In this way much labour and space are saved, and the passages so treated are actually made clearer.

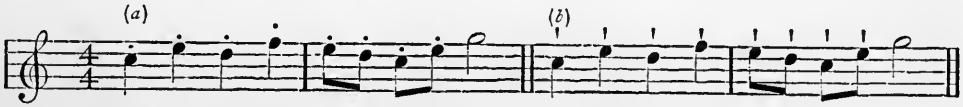


Simple reiteration of a note or a chord—a device much used in instrumental music—is frequently shown by a long note, as semibreve or minim, being written with a line or lines underneath or above, to indicate the nature of the reiteration, as quaver or note of less value.



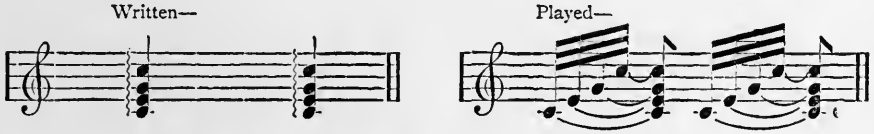
When *tremolo* or *tremolandо* or *trem.* is written over any such passages as those just given, it implies that the notes are to be repeated as rapidly as possible without attending to the exact number of notes played, having always regard to the pulsations or beats.

87. When a note or rest is to be prolonged for any indefinite period, this sign 𝄐 called a "Hold" or "Pause," is written over or under it. The word "*Fine*" (finish) is generally used after a repeat or Da Capo, to show that at that point the piece is to close. A "*Slur*" ⁀ shows that two or any number of notes so bound together are to be *sung* to one syllable, or played in as connected (*legato*) a style as possible. When only two notes are so bound together, the first should be somewhat accentuated, the second passed over very lightly. The "Tie," or "*bind*," of the same form as the slur, but placed over two or more notes at the *same pitch*, was explained in par. 25. The word "*Staccato*" implies that the notes in a passage so marked are to be performed in a short, detached manner; but dots or little pointed dashes written over the notes show that the same effect is desired.

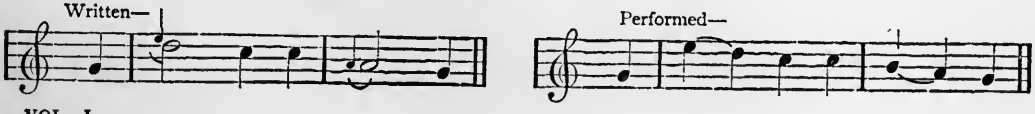


The latter of these (*b*) indicates that the sounds are to be much shorter and sharper than with the former (*a*); in both cases there should be a complete, though short, silence between the notes.

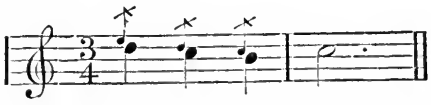
88. When the notes of a chord, instead of being struck together, are to be struck in succession, after the manner of a harp, the word *arpeggio*, or *arpeggiando*, is written over, or this mark ⦚ is placed in front of the notes of which the chord consists.



The "*appoggiatura*" (leaning note) implies that the element of discord is being introduced into the harmony. Originally the appoggiatura was written small, as if composers were ashamed of its appearance on their pages; but in modern times it is nearly always seen as a note of full size. The latter manner of writing has the advantage of showing the note as it always was, and ought to be performed.

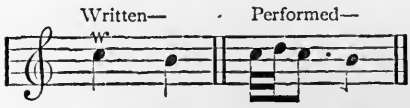


The name "*acciacatura*" (to crush, to pound) accurately describes the effect of a small note, with a very light line drawn through its stem and hook, written, like the old form of the appoggiatura, when that appeared as a quaver. It should be played as brightly and quickly as possible.



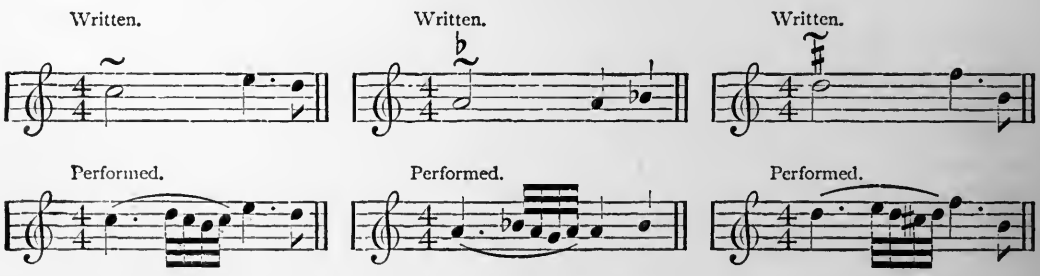
What, for want of a better name, may be called *anticipatory notes*, are often seen before a strong or medium accent. They are usually printed in small characters, and should be played *before* the principal note or chord is sounded.

The "*mordent*" is frequently written out in full; but occasionally it is shown by the sign ⁓ being placed over the note in connection with which it is to be introduced. It produces a kind of wavering effect by the note immediately above the principal note being *very briefly* touched.

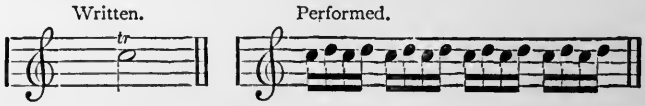


The inverted mordent ⏚ takes the note below instead of the one above.

The "*turn*" (Ital. *gruppetto*) (∾) goes both *above* and *below* its principal, for auxiliary notes, before it returns to that from which it started, thus making in all a group of five. When a flat or sharp is written above or below, the notes of the turn over or under the principal note are to be inflected accordingly.



The inverted turn begins with the *note below*, instead of the note above, sharp or flat inflecting in the manner just described. The turn is a simple, effective, and much used—we had almost said much abused—ornament. The "*shake*," or trill (*tr*), is the regular and rapid alternation of two notes either a tone or a semitone apart.



A flat or sharp over the "*tr*" would show that the *upper* or *lower* of the two notes was to be inflected, as respectively these would direct. A turn is frequently introduced at the close of the shake as if to impart a kind of finish thereto.

89. Full command of the various degrees of force or intensity with which tones may be struck is a great source of power in a performer. The words describing these degrees are all

taken from the Italian language. The following table gives (1) the names, (2) the abbreviations, and (3) their definitions:—

NAME.	PRONOUNCED.	MARKED.	MEANING.
Pianissimo	Pe-ah-nissimo	*pp*	Very soft.
Piano	Pe-ah-no	*p*	Soft.
Mezzo-piano	Met-zo-pe-ah-no	*mp*	Moderately soft.
Mezzo	Met-zo	*m*	Medium.
Mezzo-forte	Met-zo-four-tay	*mf*	Moderately loud.
Forte	Four-tay	*f*	Loud.
Fortissimo	Four-tiss-imo	*ff*	Very loud.
Crescendo	Cre-shen-do	*cres.* or	Increase the sound.
Diminuendo	Dimin-oo-en-do	*dim.* or	Diminish.
Swell			Increase and diminish.
Sforzando	Sfort-zan-do	*sf* or *fz* or >	Explosive.
Legato	Lay-gah-to		Smooth, connected.
Rallentando	Ral-lan-tan-do	*rall.*	Gradually slower.

90. Of the words describing the manner in which music is to be performed, it may be truly said that their name is legion. Some of the more prominent are here given. A dictionary of musical terms will be given later on.

THE PIANOFORTE.

By WILLIAM TOWNSEND, A.R.A.M.

CHAPTER I.

INTRODUCTION.

1. In writing this treatise, my chief aim will be to help the student of the piano to arrive at a clear perception of how to acquire that which is the great requisite in piano-playing, namely, a good tone-production. It will be necessary for him to observe, fully and precisely, as much of the mechanism of the instrument as every player ought to be acquainted with. It is only when observation is followed by careful experiment and accurate reasoning that a scientific knowledge of piano-touch can be attained; and no piano-student, however musically gifted he may be, can, in these days of "higher development," afford to depend solely on the aesthetic side of his nature for the cultivation of his technique. If this technical department of my subject be approached in a spirit of calm inquiry, there is no reason why a study of the piano should not brace the mental system of the student, and do him as much good as would a careful study of grammar or geometry. And although this technical study is not sufficient of itself to make him an artist, still the benefit derived from it will be always at hand to help him to unravel many difficulties which otherwise would cause him much disappointment, and would retard his progress.

2. Of all musical instruments, the Piano is perhaps the one which a player can, without incurring much censure, most safely misuse. The pianist possesses an almost unlimited freedom of motion for body, arms, and hands; and his instrument imposes upon him few conditions as to attitude and demeanour, if the peculiarities of its mechanism be disregarded. Therefore it is necessary for the student to have a knowledge (1.) of the correct use of his limbs, (2.) of how to use correctly the mechanism peculiar to the piano, and (3.) of how to adapt the one exactly to the other, before he can acquire an unexaggerated style of playing.

3. It is unfortunately a commonly accepted idea that the piano, like the organ, is dependent for its quality of tone on the manufacturer alone, and that "Broadwood" or "Bechstein," as the case may be, is wholly responsible for the kind of sound which the player produces. And parallel with this opinion runs the generally accepted one that touch, or, in other words, method of producing correct tone, cannot be taught, and is entirely a "gift." When a great pianist plays, there is perceptible a beauty, delicacy, and richness of tone in what he produces, which is usually attributed to his touch being "born" with the player, or to the fact that his fingers have been for so many years never off the keys, or to his large hands, or long fingers, or to some other qualification possessed only by pianists of similar rank, and quite out of the reach of less gifted players. His hearers do not venture to believe that if they were to use the same method of touching the keys, *comparatively* similar tone

would be the result; or granted that they believe this, they would still be unwilling to admit that the production of fine tone is anything less than a special gift, or that it can to a great extent be taught. They would probably reject as inartistic, the idea that there is for every beautiful sound drawn from the piano a mechanical as well as a musical reason.

4. In examining the question of how one may learn to produce good tone, the following fact should offer a foundation for observation and reasoning, viz., that both the great artist and the poor player have one common field of action in the externally treated mechanism of the piano, that is, its Key-board. The great artist and the poor player may both be seen at work, and notes may therefore be taken of their different methods of using the means given them for the production of tone. The hands of both obey the same primary laws of muscular movement, and the piano, being an obedient utterer of every emotion confided to it, and no respecter of persons, is simply the *Acted-upon*, and not the Agent. When therefore the great artist is seen to use his hands differently from the poor player, the reason of the different character of the tone must *partly* be that the method of touching the instrument is different. Part of the reason lies, of course, in the fact, that the great player starts with a greater degree of musical talent than the poor player does. But as this article discusses not so much musical feeling itself, but rather the expressing of musical feeling, and as it is a very evident fact that the great artist does use the hand differently from the poor player, it will be right to examine, as far as possible, all outward and visible signs exhibited by the hand in action.

5. But before any accurate observations can be made of what the hand is doing, it is necessary that the eye should know what to look for, as it can see only that which it brings the power of seeing. "No man can learn what he has not the preparation for learning." The Why and Wherefore of every pianist's tone is, to a great extent, explained by his management of the hands, if the eye be watchful and sympathetic enough to note the various signs of muscular movement which they exhibit. And in order to know how and what to observe, and how to reason from observation, it is necessary to remember that the work done by the hands while playing on the piano, is an application of one mechanism to another, and that a just estimate of what any total ought to be, presupposes a just estimate of its component parts. Therefore the hand itself, and what is known as the "Action" of the piano, must both be separately studied before any conclusions can be arrived at, as to what may be expected of them when acting together.

6. It will perhaps be asked, Can the uniform employment of one method be kept from developing mannerism? Will it not hamper or check the outcome of the player's own conception of a composer's work? May each player adopt it, and at the same time freely express what he himself feels about the music? As an answering counter-question, let it be asked, Ought one to expect to play as well on an incorrect system of using the hands and piano as on a correct one? Is there not a law of liberty in art? Is the painter fettered in the use of his sense of colour by being obliged to learn to draw? Ought an author to feel himself cramped from having to preserve grammatical sequence in his sentences? Does correctly expressed language hinder the flow of original ideas, or prevent them from being understood? Can an orator who has little freedom in the language in which he is speaking, make himself as forcibly delineative as if he had a perfect command of it? In a word, can one work well with tools of the use of which he is partially ignorant?

7. It will from this be seen that the power to express anything lies in having under complete control the vehicle of expression, or in other words, the tools to be used.

This control, however perfect it may become, will at the same time never furnish a pianist with the musical feeling to be expressed. Musical feeling, and its correct expression, will ever remain two distinctly separate possessions of the artist, the cultivation of both of which must always be continued if he would avoid becoming one-sided. An intellectual understanding of mechanical principles will avail him little if he be not a musician in soul, and alive to perceive sympathetically the innumerable shades of tone and varieties of *tempo* which go to make up a

fine performance of any work. The power of being able to charm by means of truth of style and artistic fitness of tones must lie within the player, and can to only a small extent be taught; and if his own feelings do not to some degree suggest what ought to be done, no teaching will be able to supply the deficiency.

8. But while this innate musical feeling must be the capital to be constantly drawn upon by the pianist, the means of drawing on this capital must be carefully provided if it is to be of any positive value to him. Of what good is a store of provisions if the access to them be cut off? Of what use to any one desirous of becoming a pianist is a musical nature, if the power of intelligibly expressing that nature be wanting? The student may perhaps be highly gifted with both musical feeling, and also with a perfectly accurate way of expressing the same. But on the other hand—and much more probably—he may be one whose mechanical intuition is weak, who hears beautiful tone gladly, but is unable to discover for himself how to make his fingers produce a like tone, who has little faculty for noticing small though decisive outward signs in the playing of great artists, who is troubled with a nervous temperament which seems to do little else than cramp his playing-powers, and who is perhaps trying to persuade himself that the method on which he was taught must surely be the best one.

9. As this work discusses the question of How to express, and not What to express, it must be kept in mind that the mechanical side of piano-playing will claim most of our attention. But as it will throughout be argued that a true style can arise only out of a true use of the indwelling conditions of the mechanism employed, it will therefore be considered not outside of the question if constant reference be made to the end of all piano-playing, namely, beauty of tone, to which end it must be carried before it can express emotion and become worthy of any place as art.

10. The subject falling naturally into three parts—first, the hand; second, the piano; and third, the application of the hand to the piano—I propose to treat them separately; examining the conditions natural to each of the first two, and letting the adaptation of the first to the second evolve the method of touch.

CHAPTER II.

THE HAND, AND ITS PRINCIPLES OF ACTION.

11. In examining the nature of the hand, it will be necessary at this stage to exclude any consideration of it other than as something to be acted upon. It will afterwards—in its relation to the key-board—be considered as an agent.

12. The framework of the arm and hand consists of 30 bones: 1 for the upper arm, 2 for the fore-arm, 8 for the wrist, 5 for the palm of the hand, and 14 for the fingers and thumb. The hand and wrist are, strictly speaking, attached to only one of the two bones of the fore-arm. This may easily be proved. Let the right arm be loosely extended, and the hand made to turn half round and back again without bending at the wrist, the fingers of the left hand during this motion touching lightly the "under" bone of the right arm close to the elbow. As the hand turns, the upper bone alone turns with it, attached to, and "rolling" on the lower one at both elbow and wrist. The terms "under" and "upper" are applied only relatively to the two bones of the fore-arm, as by means of motion at the shoulder-joint their respective positions may be reversed. In the present instance the position in which they are regarded as "upper" and "under" is that in which, when the arm is outstretched, the thumb is uppermost.

13. This bone-framework of arm and hand is dependent for its motion upon the action of the muscles, which are attached in the case of the hand and arm nearly always to bone, for

the purpose of moving it. A bone cannot be altered in position unless the muscle or muscles moving it be altered in shape. When uncontracted, every muscle assumes the greatest length and the softest consistency natural to it. When forcibly contracted it is shortest and hardest.

14. The muscles principally used in moving the hand are divided into two sets, namely, flexors and extensors. The former are situated chiefly on the front of the fore-arm, and draw the finger tips towards the palm of the hand; the latter, situated on the back of the arm, are instrumental in opening the hand and straightening the fingers. The contraction of either set of muscles draws the bones into which they are inserted towards the bone from which they originate.

15. If the hand and arm be allowed to fall loosely by the side, and if the attitude assumed by the fingers be noticed, it will be seen that they do not hang straight, but are kept partially bent or flexed. If they are then straightened or extended, it will be felt, that to maintain this position a certain amount of will-power is needed, and that when this effort is relaxed, the fingers return to their previous rounded shape. The muscles when lying at rest, or in other words, without contraction of either flexors or extensors, cause this attitude of the fingers. It is to be noticed that this natural attitude is the same as that used in playing on the piano.

16. It may be as well to employ in future the words "stiff" and "loose" to denote the two states of the muscles: the former to the forcibly contracted, the latter to the perfectly natural state.

17. Of more practical use to the piano-student than a knowledge of this contractile property of muscles is a knowledge of what it is that causes any muscle to contract; since, from a clear comprehension of how to arouse and control the muscular action necessary for piano-playing will spring all that is included in the expression, Technique.

18. It will be sufficient to indicate here, very briefly, what the non-medical student may learn fully and clearly from such works as, say, Professor Huxley's "Lessons in Elementary Physiology." The brain is the organ from which originate the impulses which cause the body to act upon external objects. These impulses are communicated to the muscles through certain channels called nerves. Commands from the will are sent out through one set of nerves, and impressions which the brain receives from outside are brought in through another set. It is not necessary at this stage to say more about this duty of the nerves—this carrying outwards and inwards of wishes and sensations, which they are constantly performing. It will be further touched upon when the action of the hand on the piano is discussed.

CHAPTER III.

THE PIANO.

19. The piano, while similar in some of its features to many other kinds of musical instruments, differs materially in several important points from all other kinds. It resembles the Violin, Harp, Guitar, Zither, Dulcimer, &c., in its being Stringed. It resembles the Drum, Triangle, Cymbals, Tambourine, Dulcimer, &c., in its being dependent on percussion for the production of its tone; and it resembles the Organ, Clarinet, Concertina, &c., in its being Keyed.

20. But it differs from all of these instruments in the following important points: firstly, in its being dependent on the player's method of finger-push on the key for its quality of tone; secondly, in its being dependent on rapidity of finger-push for its quantity of tone; and thirdly, in its being dependent on keys for the means of producing percussion,—the

actual agents of percussion, namely, the hammers, being reachable only through the medium of the keys.

21. It is probably from a want of appreciation of this last fact, that the piano has come to be considered rather as a keyed instrument than as a stringed one.

22. The distinctive feature of the piano is, then, the system of its key-mechanism.

23. Key.—As the seat of tone—the wire—is got at only by a species of communication, namely, the key, it is therefore necessary to understand the method by which this communication is conducted and kept open.

24. The key of the piano is, properly speaking, a lever intended to lift the hammer, and cause it to strike the string. It is a lever of the first class—its fulcrum, or prop, lying between the power and the weight. In the case of the piano, this fulcrum, or centre on which the lever works, is placed about half-way between its two ends, the hammer (with some small intermediate mechanism) being the weight, and the finger the power acting on it. The very limited area should be noticed within which the action of the key is confined.

25. Hammer.—The immediate factor of tone is the hammer. The hammer, by means of intermediate mechanism, being in direct and close contact with the far end of the key, is raised when the near end is depressed by the finger or any weight; and the force with which the hammer is made to strike the wire is in proportion to the rapidity brought to bear on the ivory by the finger at the moment of the push. Quantity of tone is thus the result of the amount of rapidity used in putting down the key. When the string has been struck by the hammer, the latter falls back instantaneously, to allow the string to vibrate freely. This fall-back of the hammer is, however, not a return to the position occupied by it previous to the stroke; it does not fall completely back until the key is allowed to rise. When the key rises, the hammer then falls back into its original position, and thus is ready to make a fresh stroke. It is of great importance for the student to remember that the hammer is always at some distance from the wire, except during the very short period of time spent in striking; that after having struck the wire it leaves it instantaneously to assume the "half-position" described above; and that it is powerless to do any more work until after the key has been allowed to rise. As the "momentariness" of the hammer-stroke is one of the witnesses for the particular method of touch to be afterwards advocated, its evidence must here be carefully listened to.

26. Damper.—If a key be pushed down, and then kept down, it will be noticed that the tone continues sounding for a considerable time after the push has taken place, and ceases whenever the key is allowed to rise. This stoppage of the tone is the result of the action of a second piece of mechanism, called the damper. The dampers are small pieces of wood with felt attached to them. This mechanism is so connected with the key that the latter cannot be moved without occasioning a movement of its own damper. Each key is thus the means by which both a hammer and a damper are moved—the former for producing tone, the latter for stopping it. (In the case of a few of the top keys of the piano the damper mechanism is wanting.) The damper lies constantly touching the string, except during the holding down of the key, when it is removed from its place and kept off the string as long as the key is held down. After a push-down of the key, and as long as it is kept down, there are to be noticed (1) the hammer resting at its half-position, and (2) the damper removed from the string. When the key is allowed to rise, the hammer falls completely back, and the damper returns to the string, and, by touching it, stops the tone. If there were no provision for the stoppage of tone, the effect of any performance would be the same as that produced when the right foot pedal is held down during playing—the putting down of the pedal causing the removal of all the dampers from the strings, and creating in consequence the effect as of each separate sound floating about among all the others.

27. In the case of the hammer, it was pointed out that its complete work is finished in the shortest possible time—that it is finished instantaneously, and that although the key

be kept down (and therefore may be understood to be fulfilling some function), still nothing more must be expected from the hammer. It will be remembered that the key has *two* mechanisms depending upon it, namely, that for producing the tone, and that for stopping it. As long as the key is held down it is doing a part of its work, seeing that as soon as it is allowed to rise a change takes place, or in other words, the tone stops. It has been already shown that the work of the hammer is completed at the moment of the stroke. It must therefore be the work of the damper which the keeping down of the key is instrumental in furthering. As opposed to the hammer's work being finished as soon as the key is *put down*, the work of the damper is not completed until the key *rises*. The work of the damper is to stop the tone; and as that stoppage cannot take place until the string is re-touched by the damper, which touch cannot take place until the key comes up, the work of the damper is therefore not finished until the key is allowed to rise.

28. The positive action of the hammer takes place when the key is pushed down—the positive action of the damper takes place when the key rises. The negative action of both hammer and damper, namely, their leaving the string, gives the latter freedom to vibrate after the stroke. While therefore both hammer and damper begin their work at the same moment, they complete it at distinctly different times—the hammer instantaneously, and the damper not until the key rises. All work done between the completion of the hammer's work and the completion of the damper's work is done by the sounding-board of the piano; but as this intermediate work is altogether beyond control of the finger, it cannot come under any consideration concerning the manner of touching the keys.

29. The function of the damper as a witness for the particular method here advocated, must be thoroughly understood before a consideration of the following chapter is entered upon.

CHAPTER IV.

MECHANISM OF THE HAND APPLIED TO THAT OF THE PIANO.

30. THE peculiarities of the mechanism of any instrument constitute in all cases a law for the application of the energy to be expended upon that mechanism. In so far as energy is correctly applied, will the machine, if in good order, give back an equivalent of work done; but in so far as the power applied is either insufficient or superfluous, will the amount of work fall, both in quality and quantity, below the standard otherwise obtainable.

31. As every musical instrument has that part of it which is to be played upon constructed with reference to the shape and motions of the hand, and as that particular part of each kind of musical instrument presents differences of size and shape from the corresponding part in all other kinds, the various positions which the hand can assume during a performance would have to be enumerated before its extraordinary capabilities of motion and attitude could be exhausted. Compare the keyboard of the piano with the different finger-boards of violin, cello, double-bass, or with the key-area of the several kinds of wind instruments.

32. Of all musical instruments the piano is probably the one which calls for, in the performer, least departure from a position already natural to him. The attitude of sitting is allied with one of the hands and arms more natural and easy than that used in playing on any other instrument. The violin demands a more constrained position of arm and wrist than is ever needed for the piano. The organ, in consequence of its requiring a great amount of work from the feet as well as from the hands, allows the performer a much less steady position and balance than does the piano. The harp, from its peculiar form, necessitates a position of some con-

straint both of arms and body. And all wind instruments, from their necessarily interfering with any free movements of the head and arms, are also less adapted to afford perfect ease of posture. The piano, on the contrary, is unusually well suited to the natural movements of the body. Its key-board is so placed that it allows the arms and hands the most complete freedom of motion in every direction; and the attitude of the hand most suited for acting mechanically correctly on the keys considered as levers, is the same attitude into which it falls when the arm is allowed to hang naturally by the side. The angle of the elbow, when the hands are on the keys, is also that best suited to facilitate the natural movements of the muscles of the hands and arms.

33. In applying any two mechanisms to one another, that which has the less power of adapting itself to the other will necessarily be first examined with regard to its inherent conditions of motion. In the present instance, the hand—the living mechanism—must accommodate itself to the keyboard of the piano. In order to do so, fully and constantly, it must take note of the limit of the capabilities of the instrument. These capabilities must be taken full advantage of, but must never be overtaxed; as no overtaxing of the piano's mechanism can take place without involving a corresponding overtaxing of the muscles of the hand and arm.

34. With regard to the key itself, it will be seen that its motion is of the simplest nature. When acted upon by any sufficient weight, the key moves downwards, and when freed from this weight it moves upwards to its previous position. This simple downward and upward motion is its only method of acting upon the hammer and damper with which it is connected. Regarded as a lever, this simplicity of action will be considered all that is necessary for the key. The duty of the hand, in using this lever correctly, is therefore *to push it downwards.*

35. Considered from the side of the necessities of the hand, a push, to preserve intact the looseness or elasticity of the muscles, must be made as momentarily as possible; and as the key descends less than half an inch, which descent can be accomplished in a very short period of time, the push ought therefore to be delivered so as to occupy no more than (or in other words, be finished in) this same period of time.

36. In moving downwards, the key performs two distinct duties: namely, that of setting a hammer and also that of setting a damper in motion. It will be necessary to look at each of these actions separately. The hammer at the moment of the key's descent is pushed up against the string and falls back instantaneously—*its work being then finished.* The period of time during which it is in contact with the wire is of the shortest duration—the act of percussion being momentary, and accomplished instantaneously.

37. Considered from the side of the necessities of the hand, a push, to preserve intact the looseness or elasticity of the muscles, must be made as momentarily as possible; and as the hammer accomplishes all that it has to do in an instant of time, the push should therefore be delivered so as to occupy no longer than this same instant of time.

38. The second duty of the key is its action on the damper. It has already been stated that, in fulfilling this duty, the key is being kept "at work" until the very moment that it rises, the "work" being that of preventing the damper from touching the string, thus allowing the tone to continue sounding. The damper of the piano is the only means of stopping the string's vibrations, which would otherwise continue, in many cases, longer than would be necessary or agreeable. In violin-playing, the same stoppage of tone takes place when the player ceases drawing the bow across the strings. The continuance of the tone, in the case of the piano, depends only negatively on the action of the damper. Positively, it depends on the vibrations of the strings, assisted and reinforced by the large surface of the sounding-board, over which they are stretched.

39. The key, as long as it is kept down by the finger, exercises a restraining influence on the damper, and the finger may therefore be considered to have some slight extra resistance offered to it by the *weight of the damper.* If this resistance were great enough to be perceived by the finger while keeping the key down, some extra force would be needed to counteract it; but as

the weight of the hand and arm are far more than sufficient to resist the weight of the damper, added to that of the key, no extra pressure on the ivory is necessary to keep the damper away from the string.

40. Considered from the side of the necessities of the hand, the hold which the hand keeps on the key after the push, must be accompanied by no continuous clinging pressure, as this after-pressure destroys the looseness or elasticity of the muscles, and makes no greater impression on the damper-mechanism, than does a hold of the lightest and loosest description.

41. The finger-work consists of two elements, namely, *the push*, necessary to make the hammer strike the string, and *the hold*, necessary to prevent the damper from stopping the tone. The impulse used in delivering the push should always be of the most momentary duration, as the work done by it—namely, the hammer-stroke—is instantaneously accomplished. The rapidity used in delivering this push varies, according as the tone is wanted to be either soft or loud. The push ought never to be accompanied by any feeling of strain in the hand or arm, however loud the tone, or long continued the passage to be played, may be. If a strained feeling accompany it, the push has then been made faultily; as a real impulse is, strictly speaking, too short-lived an action to leave behind it muscular exhaustion. Every effort of the will that is miscalculated for the "bearing-power" of the muscles, is accompanied by something more than what a pure *impulse* could have brought with it, and therefore cannot have been accomplished in so short a period of time as a wisely calculated effort would have been. Superfluous energy produces insufficiency of work, and any feeling of fatigue is a sign that the impulse given has been a miscalculated one.

42. The second element in the finger-work is the hold. This, for want of a better word, must be taken to signify the keeping down of the key by the finger after the push. It consists of no impulse, nor pressure, nor grasp, nor anything else which could mean forcible expenditure of strength. It must consist only of the most studied inactivity of arm and hand, and is thus the opposite of the push. Clinging tightly to the key after the finger is down does the greatest harm to the hand, and is an instance on the piano of that superfluous energy which accomplishes nothing artistic. The hold must be dissociated entirely from every idea entailing rigidity of hand or arm. If the student will devote a little time to acquiring a practical mastery of this most important point in the technique of the piano, he will have made himself the possessor of what will, more than anything else, give his playing an appearance of ease.

CHAPTER V.

METHOD OF TOUCH.

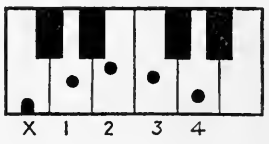
43. After examining the principles regulating the action of the hand and the mechanism of the piano, and knowing that if any of these are ignored or overlooked, no true application of the one mechanism to the other can be effected, it is necessary to begin on the key-board work of such a nature as will develop, first of all, Independent Movement in each finger. This must be done before any thought is given to the acquirement of strength of finger. Previous to their being trained on the key-board, the fingers have been accustomed to action of the most unindependent nature. They have hitherto been moved generally in a body; they must now be taught to move one at a time. Their action when applied to the key-board is, in the matter of direction, no new or unfamiliar one. The novelty consists in their action's being, (1), independent, and (2), extended. The finger whose sphere of action has most to be extended is the thumb. This finger—so peculiarly useful in balancing all the others—needs, for piano-playing, very special training. Its chief duty hitherto has been to oppose the other four fingers

during the action of grasping or holding; and its position with regard to the others has generally been either point to point individually, or outside of them when the hand was closed. But when applied to the key-board, the thumb has to make very different movements. It has now no connection with the points of the fingers, and its motion, sidewards in the direction of the fourth finger, is brought into use much more frequently than before. The muscles regulating the flexion and extension of the second or nail phalanx, are made comparatively little use of, while those situated in the palm of the hand, constituting what is known as the ball of the thumb, and causing its sideward motions, are brought constantly into play. The finger-motions which are new to the hand when applied to the piano are then, (1), independent vertical action, and (2), extended lateral action; and it is the duty of any method which may be adopted, to teach this dissociation of muscular movement, or in other words, independence of finger-action, by means of an equal combination of strictness and gentleness.

44. For the purpose of cultivating this independence, the exercises best suited to begin with are those with the "still" hand, and with the fingers placed on five contiguous white keys. If carefully studied, they will develop that certainty and ease necessary for the execution of all that is included under the name of passage-work. The position of the player and the pose of the fingers on the keys must first be attended to, since, without a good position, nothing can be done—bad position being only another name for stiff muscles.

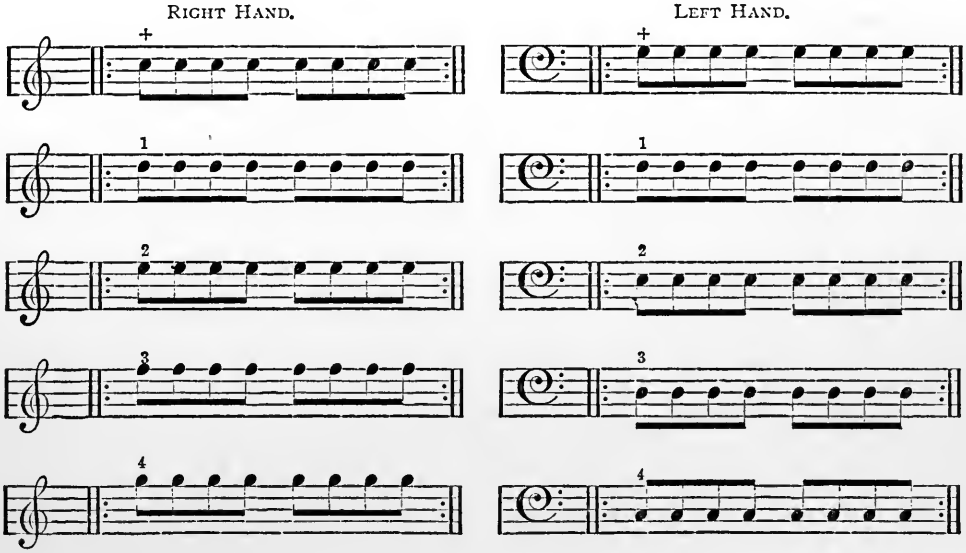
45. The position of the seat, with regard to that of the piano, is in front of the middle of the key-board, and the line of the edge of the seat must be parallel with that of the edge of the keys. The seat should be of such a height as will, when the fingers are on the keys, allow the line from the middle joint of the second finger to the inner angle of the elbow to be horizontal. It should be placed at such a distance from the piano as will allow the line of the player's upper arm, from the elbow upwards, to slope backwards. The pupil will find it beneficial to sit forward rather than far back on the seat, and his feet must rest on the ground near the pedals, or on a stool if necessary. If these conditions are complied with, he will find himself seated in the position which will best enable him to reach any part of the key-board with either hand. The student should endeavour to cultivate an unconstrained attitude while sitting at the piano, and must try to avoid both stiffness on the one hand, and carelessness of posture on the other.

46. After the position and height of the seat and the position of the player have been determined, the Pose of the fingers must be attended to. They are to be placed, according to their various lengths, *on the keys*, that is, *touching the surface of the keys*—the second or longest finger lying as far on as will allow it to nearly touch the ends of the black keys, and the thumb as far on as will allow the root of the nail to lie directly over the edge of the key. The position of the second finger and thumb will regulate that of the three other fingers The accompanying diagram will show the position of the finger-tips. The thumb is to be held quite straight, while the other fingers have a gently rounded fall from the second joint to the keys. The five keys touched by the fingers are *not to be pressed down*, but are to remain at their usual level. The tips of the fingers must be placed equidistant from the sides of the keys. The back of the hand is to be kept as flat as is consistent with perfect ease. There must be no groove or sinking downwards of the back of the hand at the knuckles, as this cannot be assumed without stiffness. Neither must the knuckles be allowed to rise, as this also involves stiffness. The hand may at first have some difficulty in acquiring this flat position, as previous neglect or bad training may have done much to stiffen the muscles. In this case, the left hand will at first be found the more tractable, as, having been less used than the right hand, it will have done less work of a stiffening character, and will therefore be more in a state of "nature." The back of the right hand need not at first be



forced into this flat shape. It should be held as loosely as possible, the fingers being then gently exercised in the attitude naturally assumed by the hand. In a little time the muscles will become looser, and the back of the hand will then lie flat without compulsion. It is often found beneficial for the student to have a profile view of both right and left hand. For this purpose a mirror may be used, by means of which he may certify that the line from the middle joint of the second finger to the inner angle of the elbow is horizontal. The whole arm and hand must be perfectly unconstrained.

47. Descent of Finger.—For the cultivation of the fingers' Independence at this first stage, some set of exercises is necessary. These should be arranged so as to present a graduated difficulty, and should therefore begin with what are termed "one-finger" exercises. Of these, there can be of course only five for each hand, the repetition of the single note constituting the exercise.



In each of these, the acting finger must at first do no more than sink softly down "into" its key, the four unemployed fingers remaining *motionless* on the surface of the keys without pressing them down. In order that the four unemployed fingers may remain quite motionless during the action of the employed finger, the latter must be at first very gently used. The tone thus produced has nothing of power or strength in it, as quantity of tone is entirely an after-consideration, and must not be desired at this stage. All thought must be directed towards the maintaining of perfect stillness of the four unemployed fingers, and perfect looseness of hand and arm. The looseness, here and elsewhere so much insisted on, may be certified to the student if he will touch the hand that is on the key-board with his other hand, and make sure that the muscles of the former have assumed the softest consistency of which they are at present capable. The least hardness of hand will make it more difficult for him to acquire that independence of finger which is so important. When each finger has learned to act independently, that is, to fall "into" its key without having moved any of the other fingers, and without having any feeling of desire to move any of the others, it may then try to play with a louder tone than was at first possible. But if, in attempting this, it be found that any of the other fingers have moved in the least degree, then independence has been so far lost, and no full benefit can have been derived from the action.

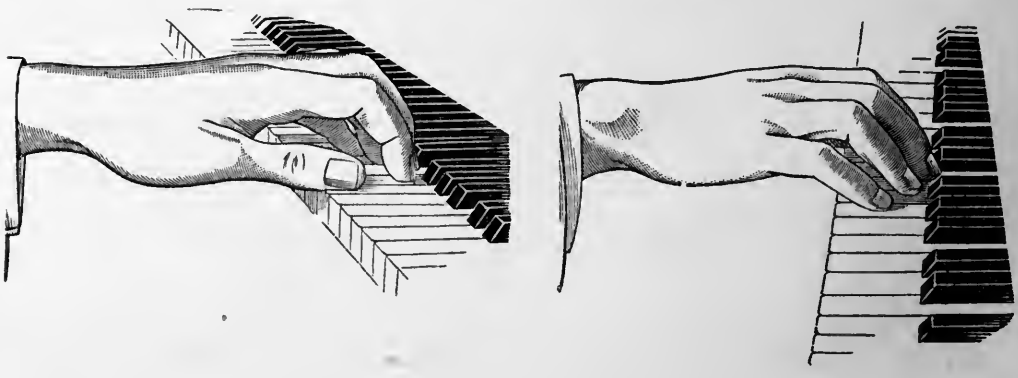
48. Hold of Finger.—The finger while keeping the key down after the push must never

be allowed to *press* on the key, for the hand cannot be kept loose if the finger is allowed to maintain a continuous clinging pressure on the ivory. This after-pressure is commonly supposed to add to the tone of the piano, or in some way to be instrumental in furthering the production of a "singing" quality of tone. If Chapter III. be carefully studied, and experiments be made on the key-board, this idea will soon be abandoned. Nothing is so destructive of tone, of ease, of a good shape of hand, and of the instrument itself, as this common habit. Pressure is indeed the only means by which the keys can be made to go down. It is the varying degrees of pressure given by the fingers which produce the varying degrees (or quantity) of tone—loud tone being produced by a greater rapidity of pressure than soft tone. But the pressure here spoken of is pressure instantaneously left off, although the key be still held down. This pressure, or push, if properly practised, can never stiffen the hand. It is never continued on in the hand, and communicated from finger to finger. It is entirely momentary in its nature or duration: being *finished as soon as the hammer has finished its stroke on the wire,* or in other words as soon as the key is down. If this rapid, electrical, instantaneous finishing of the pressure is not practised into the hand, and made a habit of always, there must remain some degree of that after-pressure or clinging tightly to the key which is so tempting, but at the same time so injurious and useless. Piano-playing which either is ignorant of, or rejects this all-important fact, is necessarily faulty, since it is based on unreasoned grounds. It is particularly to be noticed that in these independence-exercises each finger must begin its downward action from no higher than the surface of the key itself, that its action is a push and not a stroke, and that therefore no previous lifting of the finger into the air must be permitted.

49. Ascent of Finger.—The upward action or rise of the finger must take place in constant contact with the key. As the finger rises so must the key—that is, the finger-tip must not part company with the key during the rise. The rise of the finger has more of the passive than the active in its nature, more of a relaxing of, than a putting forth of will-power. But in order to prevent any laziness or indecision from influencing the rise, care must be taken to execute it with neatness. Both the finger and the key must, if possible, rise as quickly as does the latter when freed suddenly from any superincumbent weight. It will be found helpful to count *slowly*, "One, and, Two, and," while exercising any finger: the descent taking place at "one," and the rise at "two." Let the student, while attending to the above directions, never lose sight of the fact, that the basis on which he must always work is, ease of hand and arm, combined with a good position of body.

50. Here follow illustrations of the correct position, as well as of faulty positions, of the hand.

Pose of Hand, as described above.



In the above let the student notice—

The level attitude of the back of the hand.

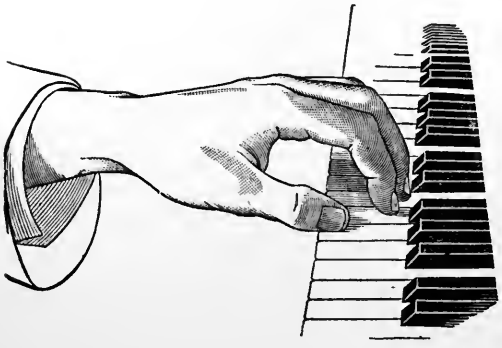
The points of the fingers *touching the keys*, without pressing them below their usual level.

The rounded attitude of the fingers.

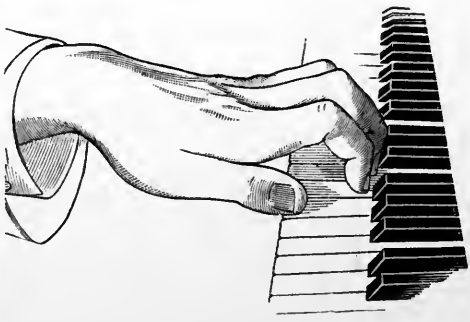
The straight thumb, and its position with regard to the edge of the key.

The graduated position of the finger-tips.

Incorrect poses.



Knuckles too high, thumb crooked, curved outwards, and not properly on the key.



Knuckles pressed down, thumb curved inwards.

Unemployed fingers at different levels. Acting finger raised previous to the descent.

Tone-connection, or Legato-playing.

51. After each finger has learned to fall and rise with regularity and ease, and the hand and arm have become accustomed to maintain a nice balance combined with perfect stillness, the student must proceed to the cultivation of Tone-connection, commonly called Legato-playing. In the preceding exercises, which taught the simplest motions by a reiteration of the same note by the same finger, the fall and rise of the finger were separated from each other by an interval of repose; in the following ones, a fall and a rise take place at the same instant of time, two notes being necessary to render this possible. In paragraph 49 it was pointed out that the rise of the finger is more a "passive" action than an "active" one. In Legato-playing the two simple actions of fall and rise combine to form one action of a compound nature, the one finger falling at the same instant at which the other rises.

Every finger must begin its action downwards *from no higher level than the surface of the key*, and must rise when the next finger goes down.

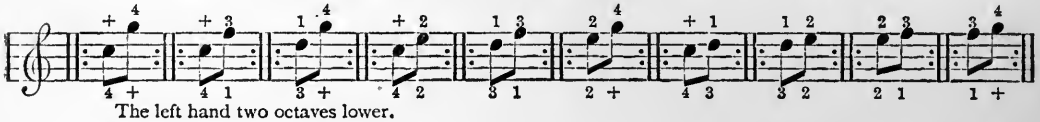
Every finger, in rising when the next one goes down, must do so *without leaving the key.*

Every finger, after the rise, while waiting till its turn comes again, must do so *lying motionless on the key.* At the same time it must not be forced into stillness, but must rather be let alone, which is easily done if the acting finger move gently enough, and if the hand and arm be kept loose and balanced. Perfection of muscular movement must be the student's chief aim at this stage, and quantity of tone must as yet be made a matter of secondary importance; quantity of tone being the result of the rate (greater or less), at which the key is made to descend. Independence of finger cannot *at this stage* go along with anything else than a comparatively slow descent of the key, which accordingly causes a comparatively slow hammer-stroke, and therefore a comparatively small degree of sound or tone. The student must take care to let each tone that he produces be of *equal volume.* His ear and eye will thus both receive training, the former in listening to the tone he is creating, and the latter in looking at the attitude of the hand and fingers while playing.

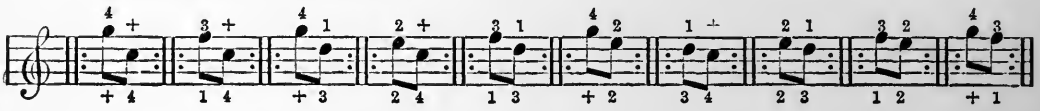
52. Here follow exercises in Legato-playing for two, three, four, and five fingers.

TWO-FINGER EXERCISES.

Combinations of two fingers in varying order. All the exercises are to be played at a very slow *tempo*, and must be frequently repeated. They are to be practised with each hand separately.

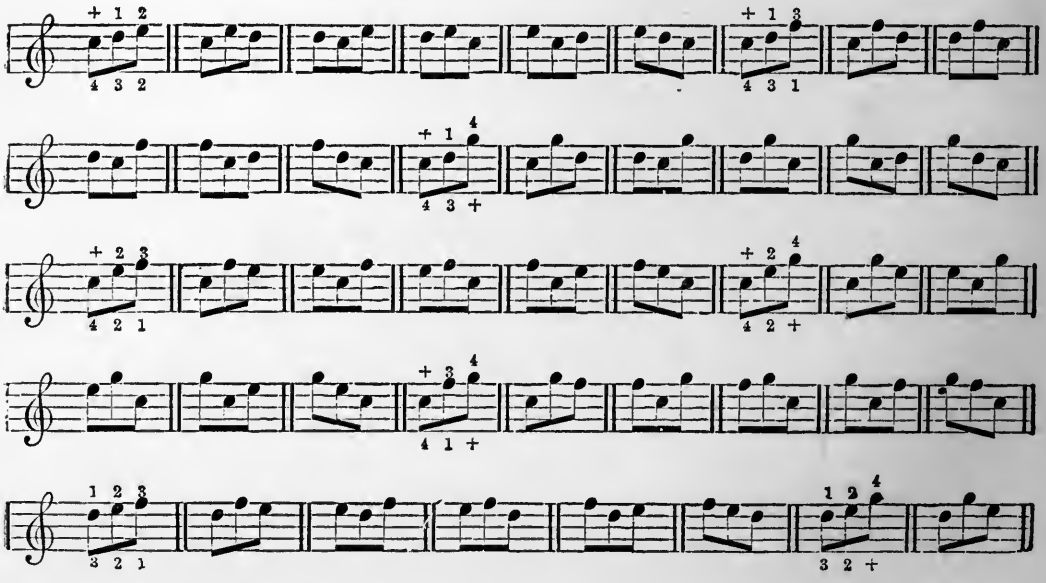


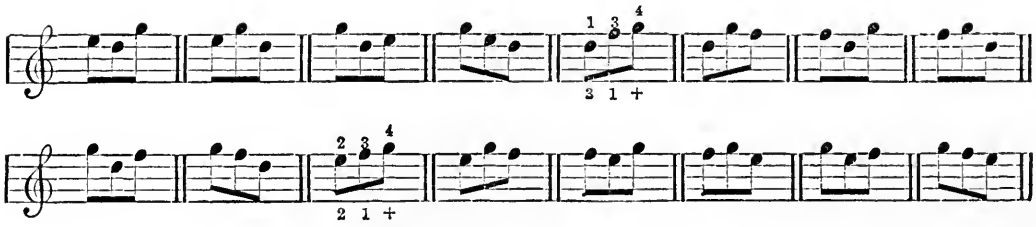
The left hand two octaves lower.



THREE-FINGER EXERCISES.

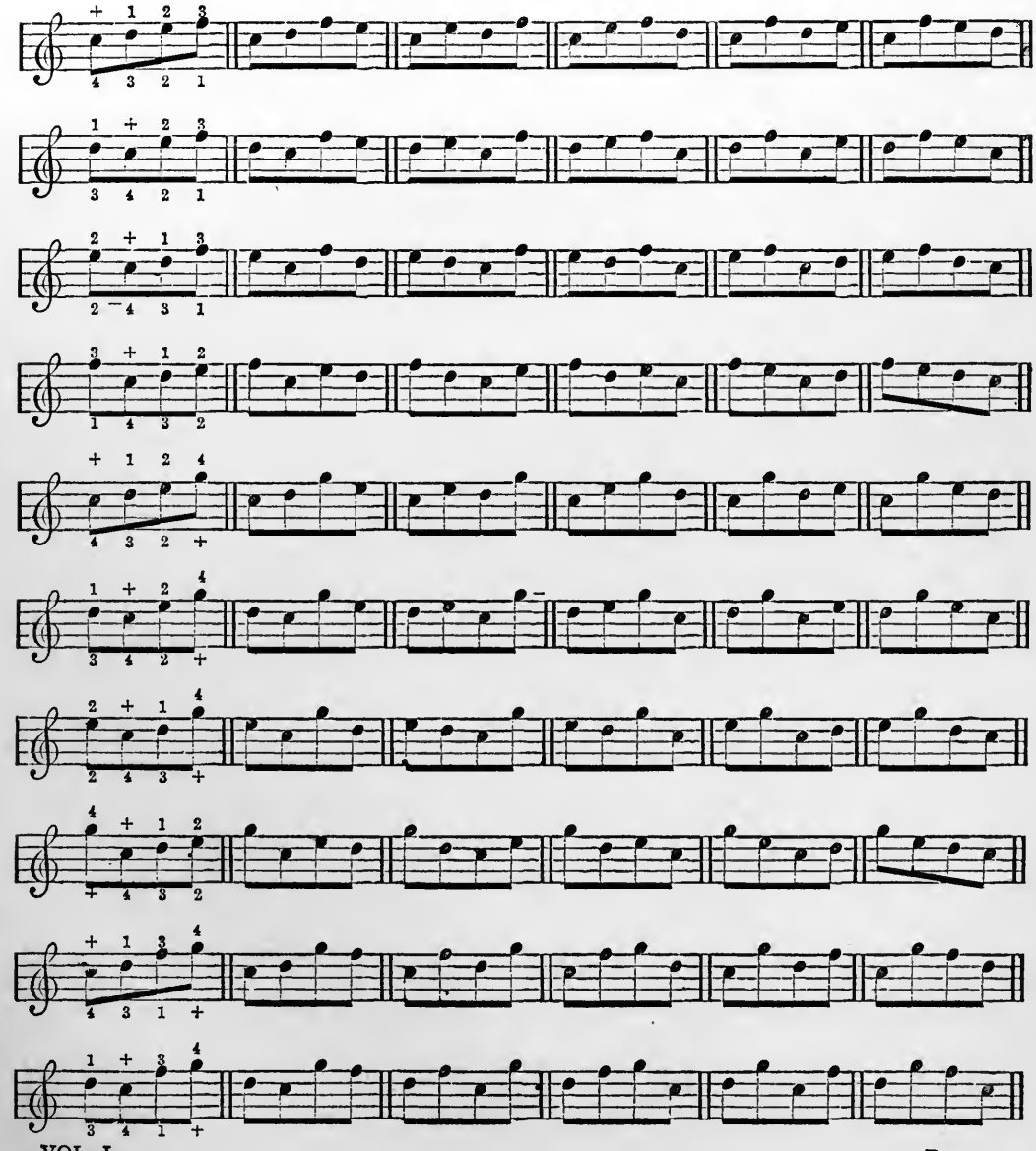
Combinations of three fingers in varying order.

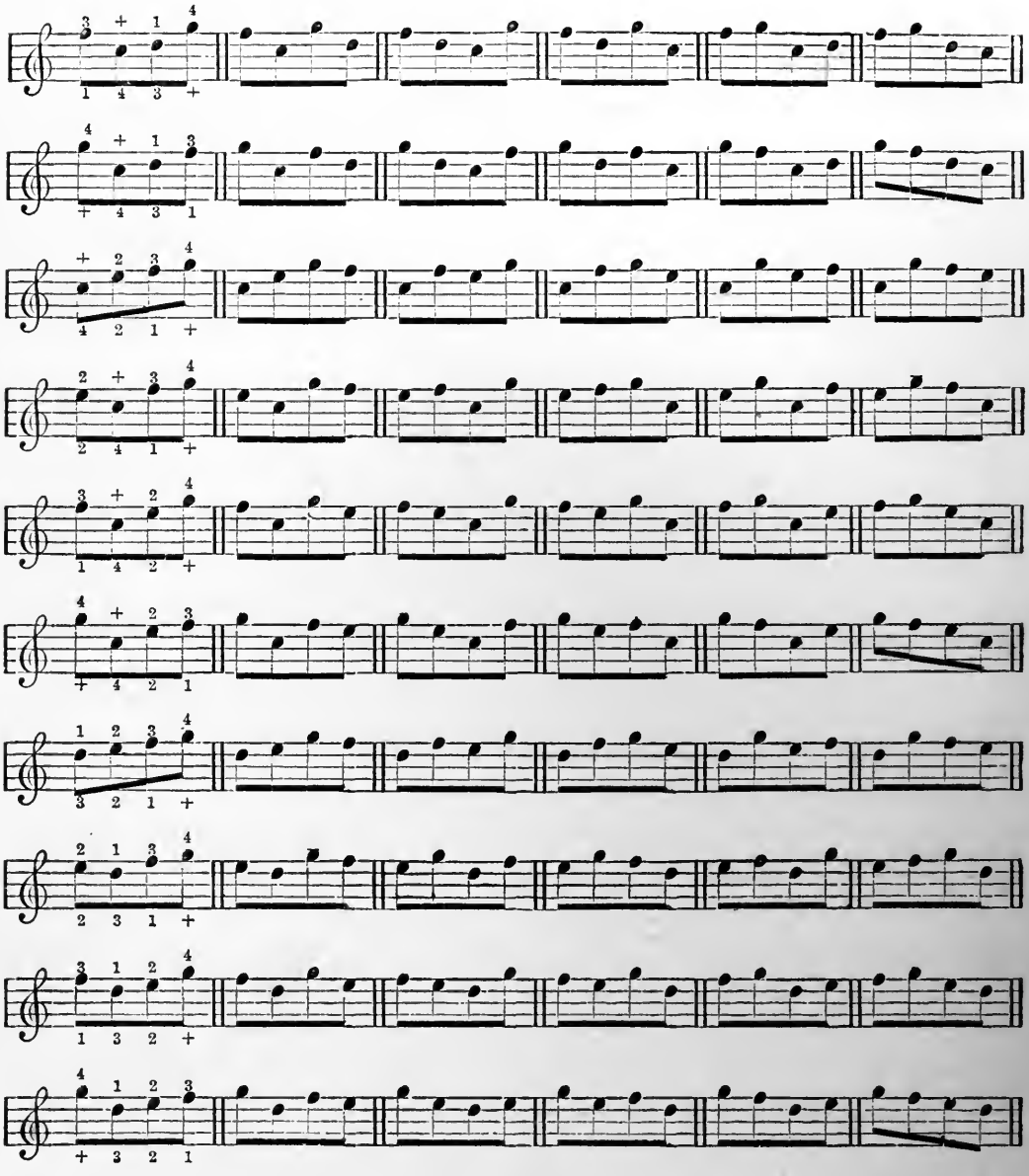




FOUR-FINGER EXERCISES.

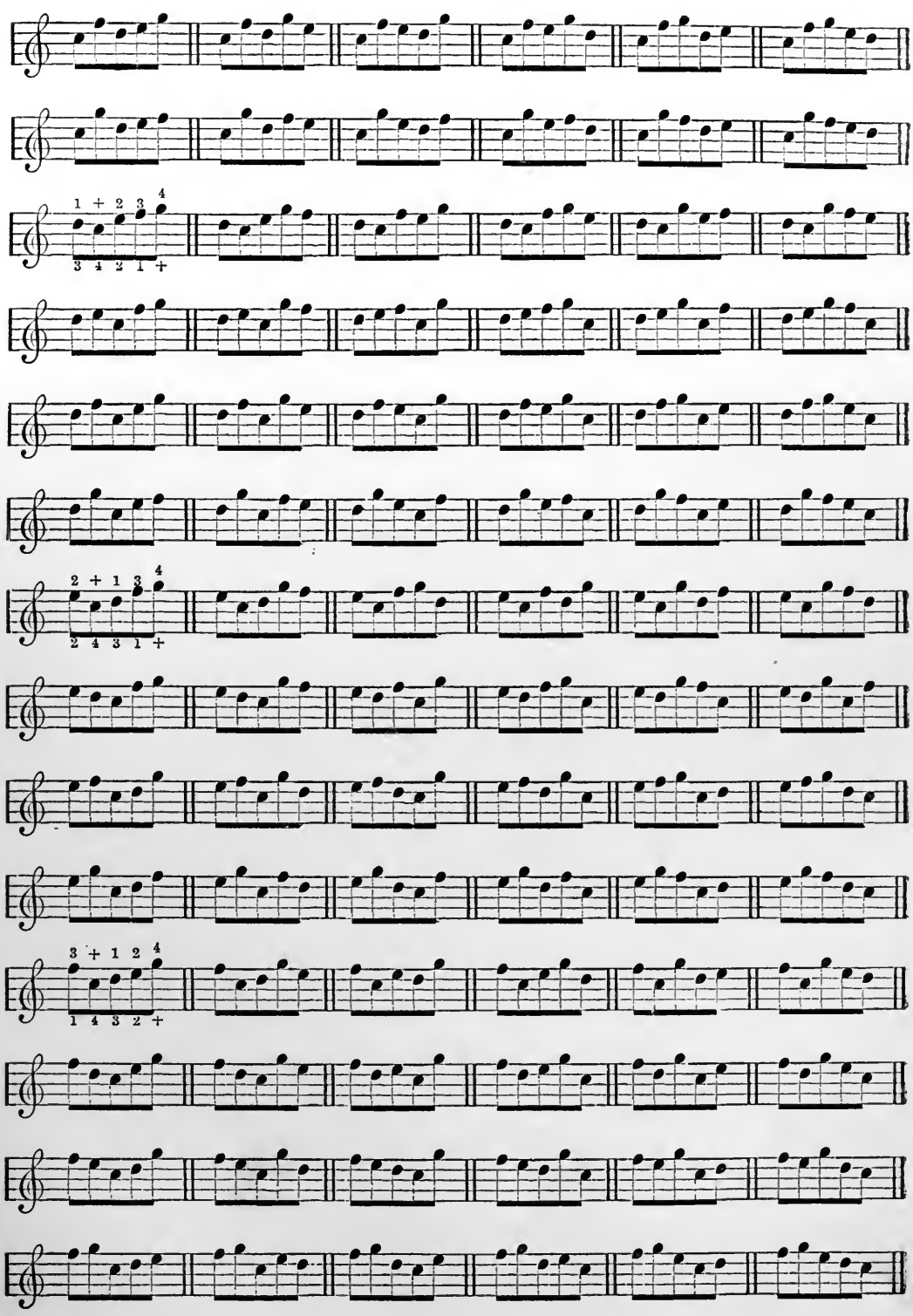
Combinations of four fingers in varying order.

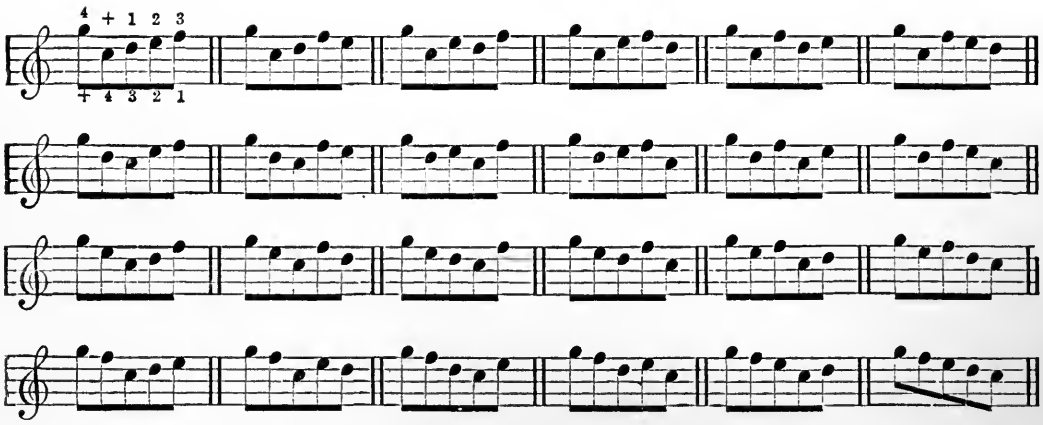




FIVE-FINGER EXERCISES.

Combinations of five fingers in varying order.


1 + 2 3 4
3 4 2 1 +
2 + 1 3 4
2 4 3 1 +
3 + 1 2 4
1 4 3 2 +



53. When independence has been attained by means of the comparatively *slow* descent of the finger productive of a quiet tone, a quicker fall may then be attempted for the production of a larger tone. The student will at once notice whether his efforts to get this larger tone result in any disturbance of the repose of the hand and fingers. All commands from the will sent along the nerves to the muscles, which the latter are unable to obey independently, do harm to the hand: as, when a certain finger-motion is desired, and when, while this is being executed, motions in other fingers take place. These superfluous motions are injurious, as they hinder the work going on in the acting finger. They come unbidden, and are uncontrolled. In working out the greatest independence of which each pair of hands is capable, to permit unnecessary finger motion is thus to retard progress. The superfluous motion is always an incorrect one, whether it be a flourish of the little finger, a crooking of the thumb, a spreading out of the other fingers, or a raising of the knuckles. None of these superfluous actions are tone producing; they are tone-hindering, being obstructive of the will's desires as communicated to the *acting* finger or fingers. An ideal independence of finger is one resembling the independence of the keys of the piano. When C is put down alone, the B and D on either side are expected to remain uninfluenced by the motion; and if they do not, the piano is then known to be badly out of order. Time spent in perfecting this independence is also spent in acquiring that essential quality in piano playing, viz., beauty of tone-production.

54. The above five-finger exercises must be practised in other keys, for the sake of the experience which the introduction of black keys gives. The order in which they are to be studied is the following:—

With one *black key.*

1. D major. 2. C minor.
3. F major. 4. E minor.

With two *black keys.*

5. E major. 6. F minor.
7. B♭ major. 8. B minor.

With three *black keys.*

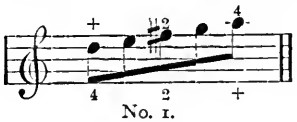
9. B major. 10. B♭ minor.
11. E♭ major. 12. F♯ minor.

With four *black keys.*

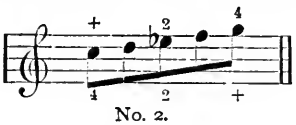
13. D♭ major. 14. C♯ minor.
15. G♭ major. 16. E♭ minor.

The keys of G major, D minor, and A minor are omitted from the above list, because they are practically the same as C major. The case is the same with A major, G minor, A♭ major, and G♯ minor, which are practically similar to D major, C minor, E♭ major, and C♯ minor respectively.

55. On account of the introduction of one or more black keys, slight changes in the pose of the hand become necessary. For Nos. 1 and 2 the whole hand must be pushed forward

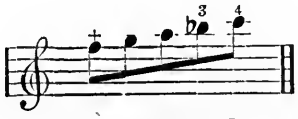


No. 1.

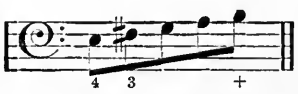


No. 2.

on the key-board, so that the tips of the first and third fingers may nearly reach the ends of the black keys. For No. 3 in the right hand, and No. 4 in the left, a very slight turn of the wrist

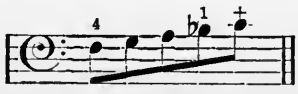


No. 3.—Right Hand.

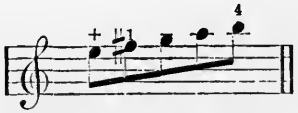


No. 4.—Left Hand.

sideways and outwards may be allowed. The third finger, in both cases on the black key, now occupies a more prominently forward position than does its longer neighbour the second. The latter is more manageable if it is kept from going in between the black keys on either side of it, and the slight turn of wrist recommended will enable this to be easily accomplished. For No. 3 in the left hand, and No. 4 in the right, a slight turn of the wrist sideways and



No. 3.—Left Hand.



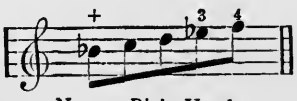
No. 4.—Right Hand.

inwards may be allowed. The first finger—in both cases on the black key—now occupies a more prominently forward position than does its longer neighbour the second. The amount of turn of the wrist sideways and outwards (or inwards, as the case may be) cannot be exactly stated, as no two hands are alike in the matter of proportion of length of fingers to breadth of palm. The student must select the pose most advantageous for preserving that ease of hand and balance of arm which are indispensable. Nos. 5 and 6 call for no special remark. Nos. 7 and 8 introduce new features. In No. 7 in the left hand, and No. 8 in the right,

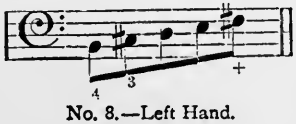
No. 7.—Left Hand.

No. 8.—Right Hand.

the fourth finger is on a black key. This will bring the back of the hand up to a higher level than it has had formerly, and consequently the thumb will be held pointing slightly downwards (in the direction of the nail), in order to prevent too much, of its under edge from touching the key. In No. 7 in the right hand, and No. 8 in the left, the thumb is placed for the first

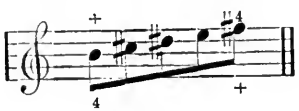


No. 7.—Right Hand.

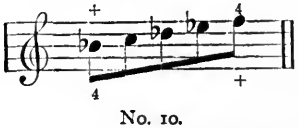


No. 8.—Left Hand.

time on a black key. This necessitates a farther forward position of the whole hand. The weight of the keys will now be felt to be greater than before—the hand being considerably nearer the fulcrum of the lever (key). In Nos. 7 and 8, as well as in No. 9 and No. 10,



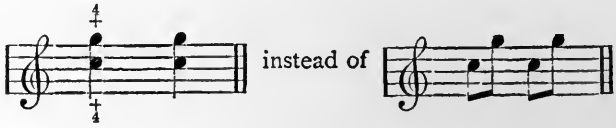
No. 9.



No. 10.

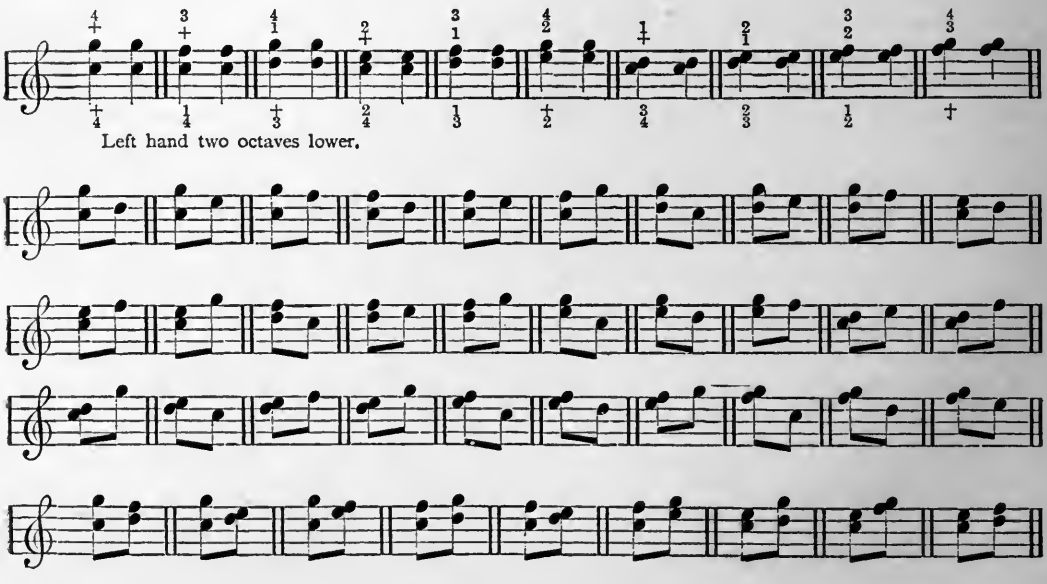
it will be noticed that the thumb and fourth finger of the same hand are at different levels, the one being on a white, while the other is on a black key. The difficulties in these last keys arising from the restricted positions of the hand will be overcome only if the exercises are practised at a very slow *tempo*. A minute inspection of every motion made by the fingers, and a constant and close attention given to every tone produced, are the means by which alone these exercises can be rendered valuable, and are at the same time the means by which alone they can be robbed of their natural tiresomeness, and made interesting to the student.

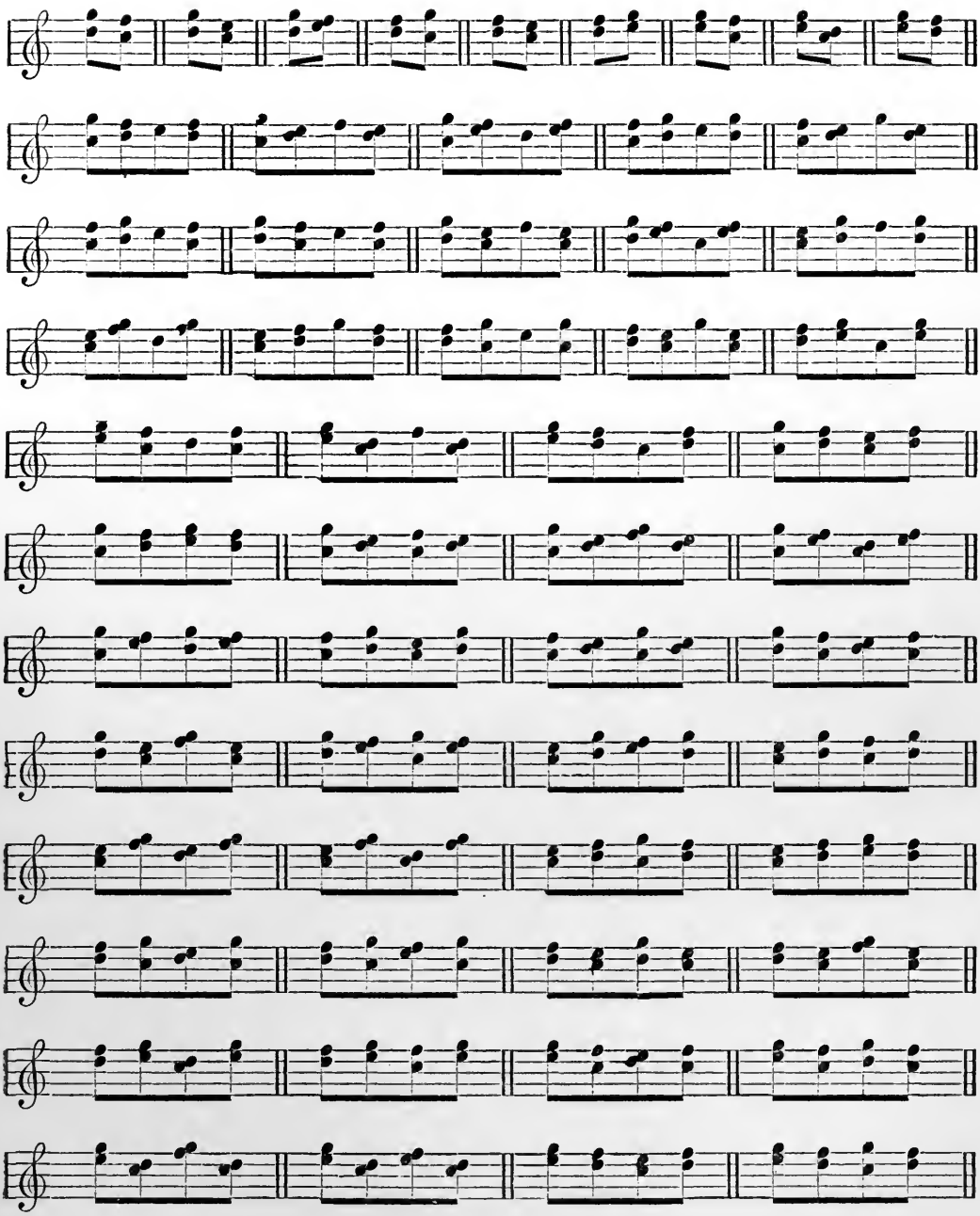
56. A further development of independence of finger may be attained by taking the two-finger exercises (paragraph 52), and playing the two notes of each exercise simultaneously, instead of one after the other: viz.,



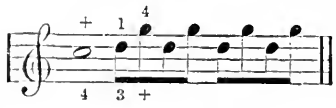
All the conditions incident both to the acting fingers and to the unemployed ones, must be strictly maintained. The two acting fingers must fall exactly at the same moment, and, what is still more difficult, must rise at the same moment; while the three unemployed fingers must remain motionless, resting on the surface of the keys at their high level.

57. Here follow exercises for the practice of this "double action." They are to be transposed into the sixteen keys given in paragraph 54.

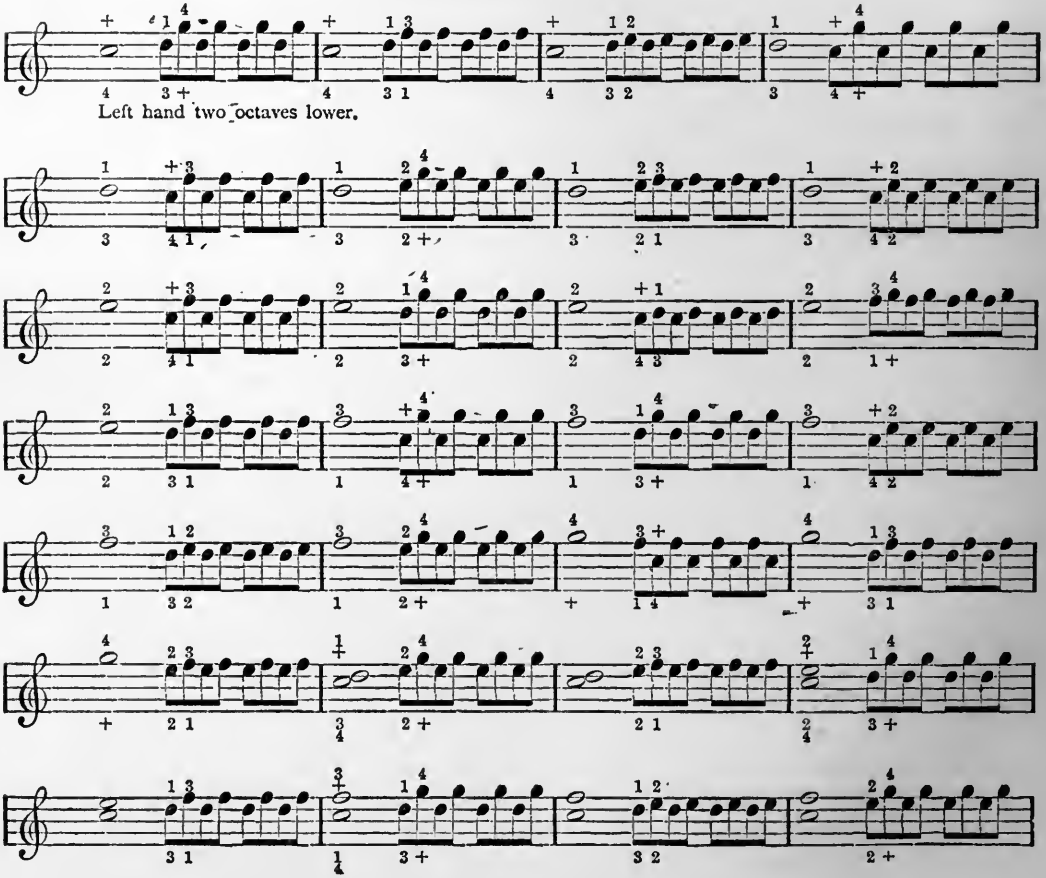


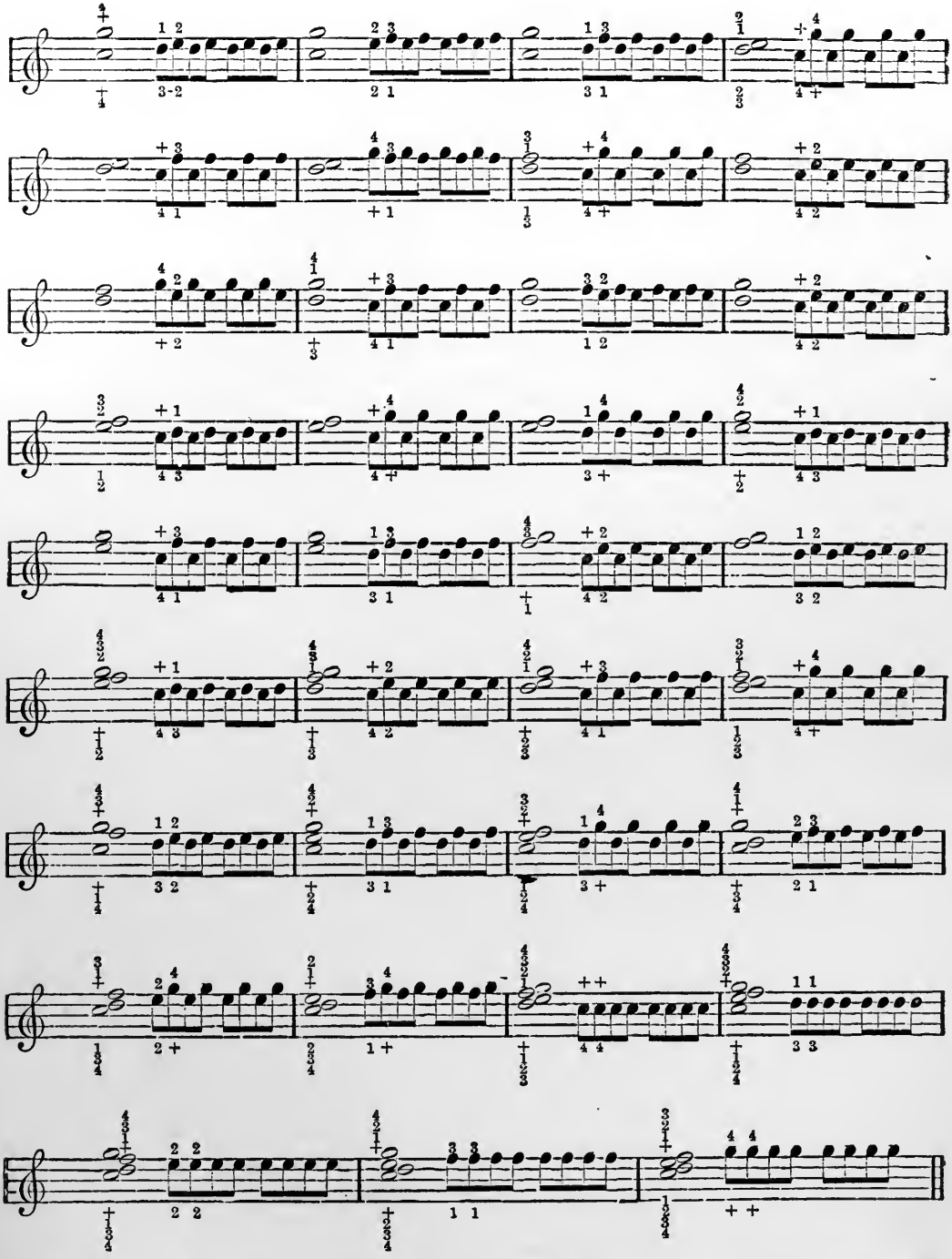


58. As a still further development of independence of finger, and one specially necessary as a preparation for the study of the polyphonic works of J. S. Bach, the following exercises may be practised. In them there will be noticed first one, then two, then three, and lastly four notes of semibreve duration. These semibreves are to be played simultaneously with the first quaver, held down during the rest of the bar, and replayed with the first quaver of the follow-

ing repeat. In the first exercise,  the C represents a second "voice." There is nothing new to be said as to the manner in which it must be held down, though the experience is new of having (1) to hold down a semibreve, (2) to play quavers during this holding down of the semibreve, and (3) to keep the two unemployed fingers, viz., the 2nd and 3rd—resting on the keys at their ordinary high level. This threefold duty is the further development spoken of above, and the complex action involved in exercises of this kind deserves careful study from any student who is desirous of being able to play a Bach fugue with perfect freedom of hand. Special attention must be given to the finger engaged in holding down the semibreve. No more pressure is to be put upon the key than is sufficient to prevent it from rising. Two faults usually noticed in the finger executing this hold are: a tendency to rise in sympathy with the rise of the acting finger, and a tendency to press more tightly on the key than is necessary. Unless both of these faults are eradicated, the student will not be in a position to successfully grapple with the difficulties presented by the different "voice" parts of a fugue. The unemployed fingers in each exercise must be kept loose and motionless, touching the surface of the keys, the latter being at their high level. The whole hand and arm must be in a condition of complete repose.

EXERCISES TO BE TRANSPOSED INTO THE SIXTEEN KEYS MENTIONED IN PARAGRAPH FIFTY-FOUR.



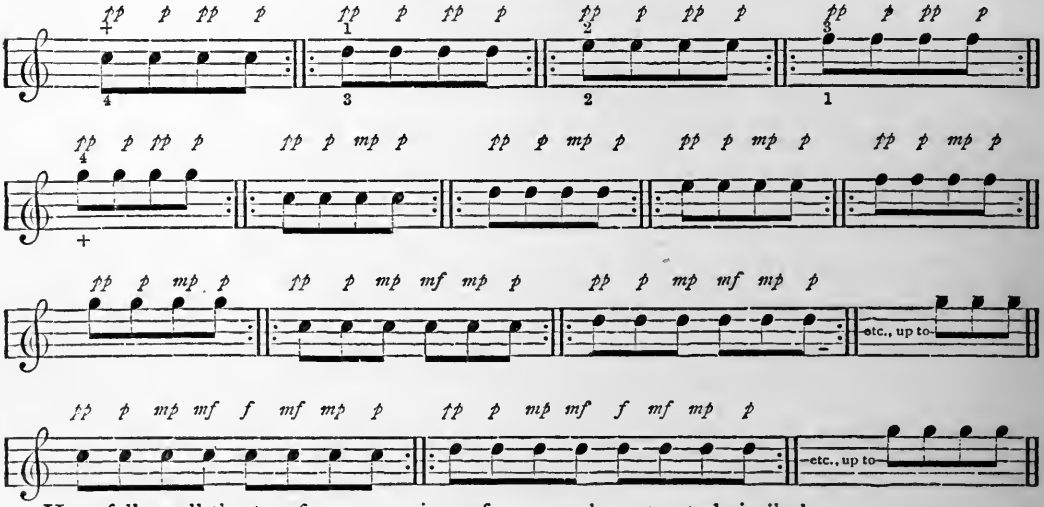


59. After the exercises in paragraphs 52, 57, and 58 have been studied with equal tone throughout, they must then be practised with different gradations of tone. The student must keep in mind that volume or size of tone depends upon rapidity of finger-push—that the

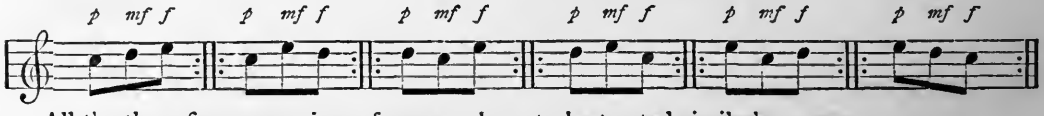
hammer of the piano strikes the wire with greater rapidity for the production of greater amount of tone. To prove this fact let him play any simple passage, as for example—  at a quick *tempo*, and *pianissimo*. Then let him play the same passage at the same *tempo*, but *fortissimo*. He will notice that although the stroke of the hammers is rapid when the passage is played *pianissimo*, it is a great deal more rapid when the passage is played *fortissimo*. Gradations of tone from one extreme to the other are the result of a graduated rate of hammer-stroke. It will be better that the student at this stage should think of the different dynamic effects which he produces—commonly called light and shade—as the consequence of the different *rates* at which he pushes the key down, rather than that he should refer them back to different degrees of force, power, energy, or whatever he may call the quality which originates these different rates. He will thus get directly at the cause of his success, or non-success, in producing the amount of tone required. While studying *crescendos* he must take care that the increasingly rapid pushes given by the finger do not disturb the repose of hand. Any jerking of the back of the hand, or shaking of the unemployed fingers, is a sign that the push delivered by the acting finger has been too great for the hand's present bearing-power. All uncalled-for motions evince some loss of independent action. As a training for the ear, studies in tone-gradation are of great value. They develop in the student the habit of listening to the tone produced, and also that of PRACTISING SLOWLY, without which his most earnest endeavours to improve must always remain more or less futile.

EXERCISES FOR TONE-GRADATION.

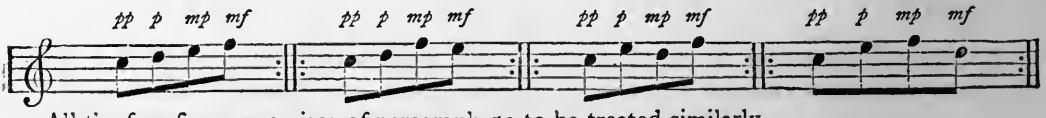
(To be played very slowly.)



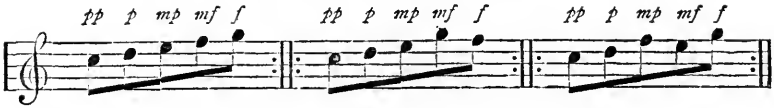
Here follow all the two-finger exercises of paragraph 52 treated similarly.



All the three-finger exercises of paragraph 52 to be treated similarly.

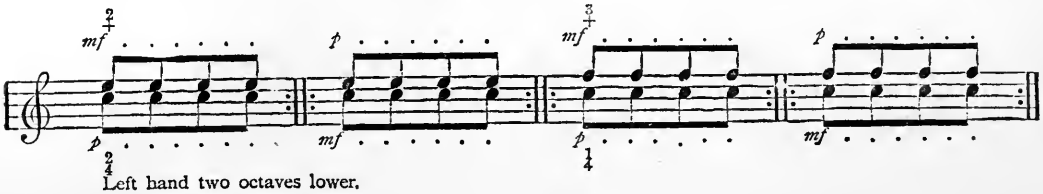


All the four-finger exercises of paragraph 52 to be treated similarly.

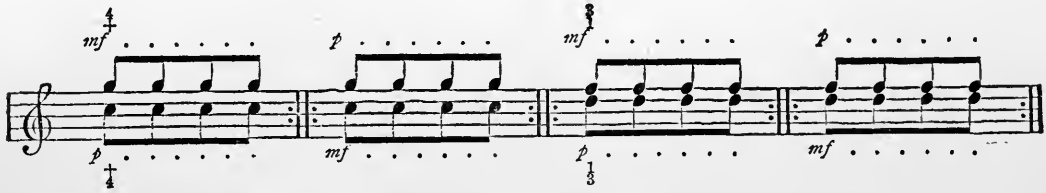


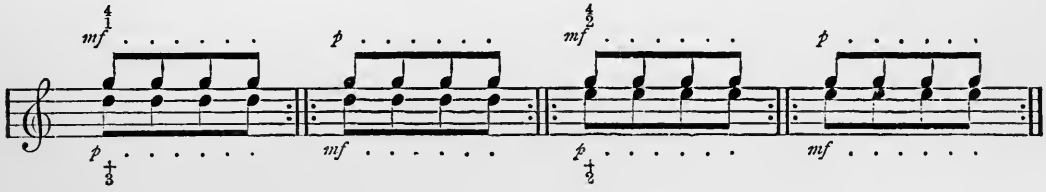
All the five-finger exercises of paragraph 52 to be treated similarly.

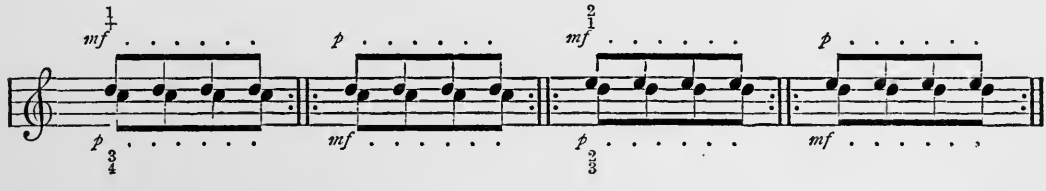
60. Of all the exercises with the "still" hand, the following ones in tone-gradation, with two fingers acting simultaneously, are perhaps the most difficult. They presuppose a thorough mastery of the preceding single-note exercises. If they should prove too advanced for the student's present stage, he may leave them till his hand has acquired more self-command, taking them up again before studying the fugues of Bach.

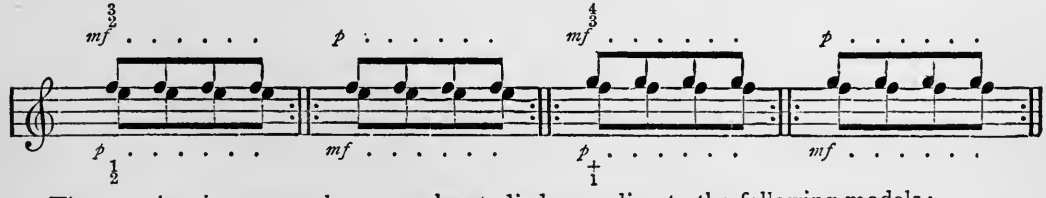


Left hand two octaves lower.

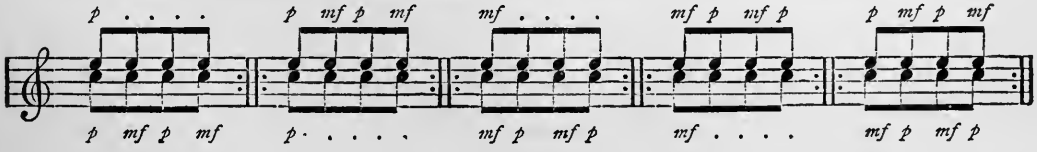


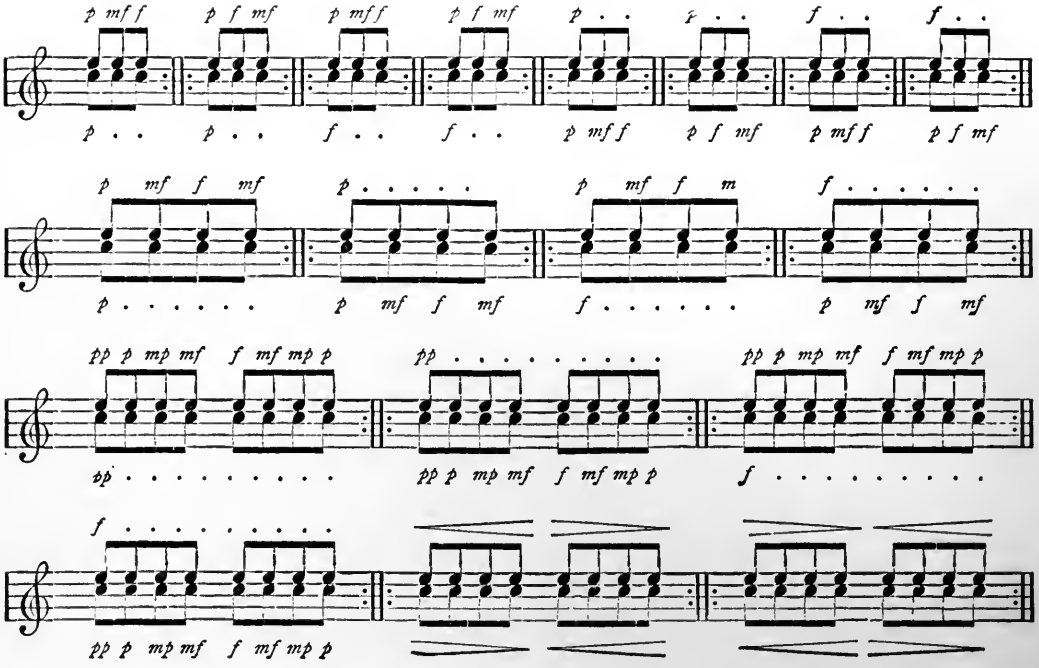






The exercises in paragraph 57 may be studied according to the following models :—





[To be continued.]

SINGING, SIGHT-SINGING, AND VOICE PRODUCTION.

By JAMES SNEDDON, Mus. Bac. Cantab.

INTRODUCTORY.

It has often been laid to our charge as a nation that we, more particularly those of us who are native to the northern part of Great Britain, have produced few great singers, and still fewer great composers. The indictment, it must be admitted, comes very near the truth. We have no Beethoven, Mozart, or Mendelssohn, nor have we in Scotland, even a Purcell or a Blow, a Macfarren or a Bennet. This cannot, however, have been for want of the musical faculty; for during the many years—we might almost say centuries—that there has been such a dearth of musicians, we have had poets, and painters, and sculptors, for whose work very much the same qualities are required, springing up and flourishing all around. That music, moreover, is an inherent part of our national character, was constantly, during these musically dark ages, being evidenced by the many notable and enduring additions that were made to the long and brilliant array of folk-songs for which our country has so long been celebrated. These "wood notes wild" seem ever to have sprung, and to keep springing up among us, as naturally and in as great luxuriance as the sweet-brier bush or the roadside rose. Burns might have been speaking for his countrymen as a whole when he said—

> "But still the elements o' sang
> In formless jumble richt and wrang
> Wild floated through my brain."

And, like him, we only wanted something to "rouse the forming strain" to enable us as a nation to take that place in music which has always been ours in literature, and in other branches of science and art.

This much-needed educational influence would seem at last to be at work in our midst. Increased wealth, facilities for travelling, even our improved postal arrangements, have greatly enlarged our opportunities for study and interchange of thought; and the methods of imparting instruction are now so simplified, and, if we may so say, so beautifully arranged, that even "he who runs may read." Singing is more or less taught in nearly all our public schools. Organs and choirs have in most of our churches succeeded the ancient, and for the greater part, musically illiterate precentor. Stringed instruments have, with both sexes, become fashionable, and orchestral concerts of the highest class are so largely supported as almost to have become part of our existing institutions. Choral societies flourish in most of our towns and not a few of our villages. Influences for musical progress such as these should produce, and indeed already have produced good fruit. During the last fifty years sight-singing power has advanced by leaps and bounds; so that hundreds of music-readers are now to be found where formerly

they were an unknown quantity. A school of native composers has arisen or is rising, so that the great Germans and Italians, though still well to the front, do not now altogether monopolise our attention.

In these circumstances it seemed right to the publishers of this book to help forward the good work by including a course of sight-singing and solfeggio in the present musical curriculum, and, in doing so, to make use of the simplest and most popular methods of instruction that have yet been discovered. The theory of musical notation, so far as regards that in ordinary use, has already been pretty fully discussed. All, or nearly all, the information therein given will be required here, so that study of the so-called rudiments should either precede or accompany the following exercises. Besides this, Mr. Curwen's notation and manner of treating the scale, and his well-known and thoroughly educational system of developing collateral subjects, will here, by express permission of his son, John Spencer Curwen, Esq., be largely employed, with, it is hoped and believed, great advantage to the student. Placed side by side, Tonic Sol-fa and the ordinary notation become mutually helpful and explanatory, each shedding light on the other. In the following pages every effort will be made to utilise this doubly illuminating power. One thing at a time, and the simple before the complex, will be the rules for guidance; to which, it may be added, that the constant aim will be to make all truly progressive and really interesting both from a musical and a literary point of view.

The Voice and Vocal Art. The Tonic Chord.

1. Singing exercises, properly conducted, will give pleasure both to singer and listener. To secure a pure and beautiful tone, should, from the first, be the aim of the singer, and to attain this, "sing softly, sing easily," might very well be taken as a motto. All the faculties should be on the alert, but there ought to be no apparent effort.

2. Position of the body has more to do with good tone production than is generally supposed. The lungs, so important to the vocalist, must have freedom to work, therefore the body should be held in an upright position. Sitting with the feet crossed one over the other, or lounging as if taking rest on a sofa, are quite out of place. Head upright, shoulders back and rather lower than their normal state. Mouth and throat should be freely open, the tongue must be trained to lie flat, and there should be no gasping or heaving of the chest when breath is required—breath should be taken deeply, fully, noiselessly. When otherwise convenient it would, meantime, be well for the student, when actually engaged in vocal exercises, to stand upright much in the same style as soldiers do when called to attention. All stiffness and rigidity should, however, be avoided. Voice and heart and head and physical power are, if we may so speak, *the raw material* from which singers are made; but this *making* requires skilful, careful teaching, and honest, earnest learning. For real slow-but-sure progress the whole body must be considered as responsible, and voice-forming studies should be practised diligently and daily.

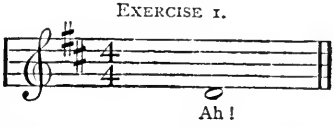
3. Experience proves that whenever a sound from the human voice is prolonged into a call or cry, a musical tone is the result; consequently, a sound of the voice in singing may be defined as a sound sustained, distinct and complete in itself; whereas with every sound of the speaking voice a change is introduced, which is called an inflection.

4. The foundation of all music, whether vocal or instrumental, is found in a scale consisting of seven sounds, which, in a more or less fully developed form, seems to have been in use among mankind in all ages and in every clime. The different sounds, of which this scale consists, are as distinct from, and yet are as necessary to each other as are the colours of the rainbow in the construction of that marvellous piece of work; and *both* are still as fresh as when they came from the divine hand which made them.

5. These seven sounds might also be likened to a family in which authority, love, respect, and obedience are all mingled and co-mingled in proper place and due measure. The key-

note or tonic (Rudiments of Music, par. 28) may be said to be at the head of this musical household. Any sound, high or low in pitch, may be taken as tonic; but it will suit our present purpose to take a tone rather low and easily sounded. Remembering that singing is largely an imitative art, and that therefore the first duty of the would-be vocalist is to imitate, let D below the lowest line of the treble staff be sung softly to the syllable *ah*. It may be sustained in sound for four pulses, thus—

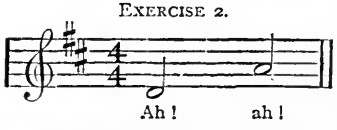
Exercise 1.



This exercise should be repeated on notes varying in pitch from middle C (Rudiments of Music, par. 6) to A or B above. The best model for these exercises is a voice somewhat akin to that of the learner; but a *trained* voice of any kind, soprano, alto, tenor, or bass, will be able to give a good *pattern* and to arouse a striving after good tone production.

6. Returning to the note D for tonic, let the sound known as its dominant (Rudiments of Music, par. 29) be struck with the voice immediately thereafter.

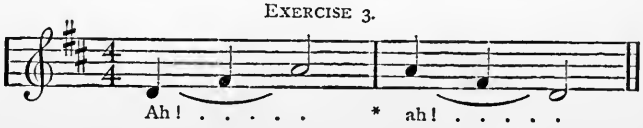
Exercise 2.



This exercise should be repeated in various easy keys, as from C up to F or G, and it will be felt that while the *pitch* is varied, the *relation* and the musical effect of the two sounds remain the same.

7. Returning again to D, let the tone known as mediant to D, tonic (Rudiments of Music, par. 30) be sounded, as it were, on the way up from tonic to dominant, and then the three sounds, varied as to key as in Ex. 2, should be sung to *ah* as before.

Exercise 3.



See the curved line, or slur, explained (Rudiments of Music, par. 87). The star (*) in the centre of the exercise shows where breath ought to be taken.

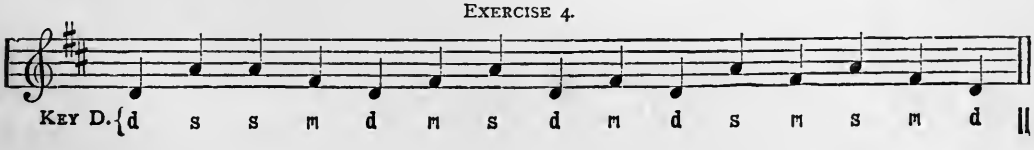
8. In Tonic Sol-fa the singing name for the dominant is Soh.

„ „ „ „ „ mediant „ Me.

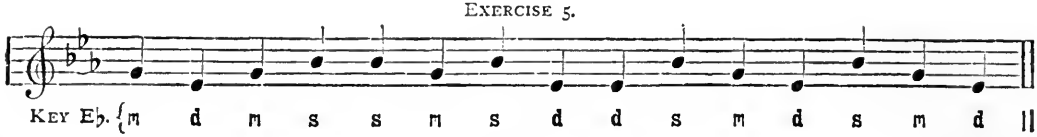
„ „ „ „ „ tonic „ Doh.

These singing names as given, form collectively the beginning of Mr. Curwen's modulator. The spaces between *doh* and *me*, and again, between *me* and *soh*, suggest, at least, the actual musical intervals. The large dots between the same notes show where notes of the scale are yet to be inserted. The following exercises given in the ordinary notation without time signs, and, in the same way, with the *initial letters* of the Sol-fa notes below, should be sung (1) from the skeleton modulator, to the given names, which is called Sol-faing; and (2) from the ordinary notes to *ah* or *lah*. Observe that if, in the ordinary notation, *doh* is *in a space*, *me* and *soh* are in the spaces immediately above, and that if *doh* is *on a line*, *me* and *soh* are on the next lines, ascending; hence for singing purposes remember what may be called Mr. Curwen's first rule, viz., "*Doh, me, and soh are similarly placed.*"

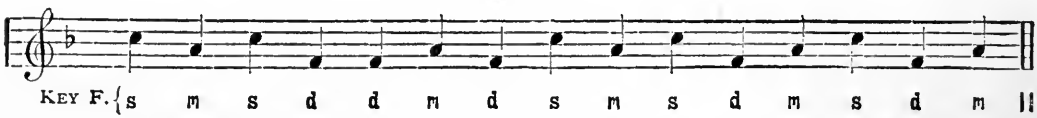
Exercise 4.



EXERCISE 5.



EXERCISE 6.

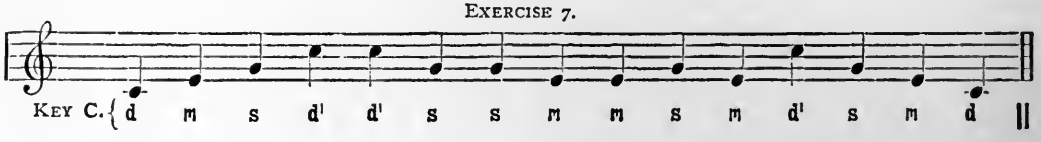


Exercises 4 to 6, and below, 7 to 12, should be sung backwards as well as forwards.

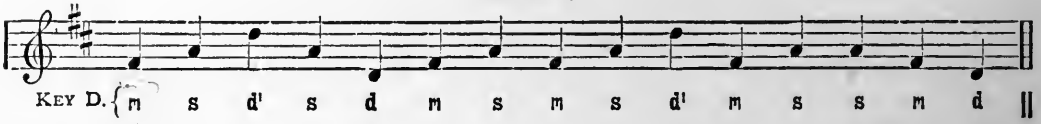
9. The octave, or eighth (Rudiments of Music, par. 27), or, as we name it, the *replicate* of any note, simply means that after going up or down through the notes of the scale, we begin to repeat the same over again, only higher or lower. With the octaves of the three tones given above, introduced on suitable keys, our present musical resources are largely increased.

Rule 2 for sight-singing—a note and its octave are always *dis*-similarly placed; *i.e.*, if *doh* is on a line its octave will be in a space, and *vice versâ*. In Sol-fa the higher or lower octaves are distinguished respectively by the mark or figure one (1) or two (2) placed near the side, above or below.

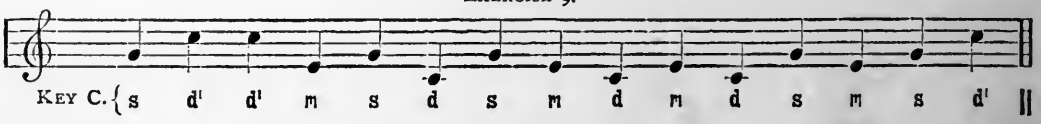
EXERCISE 7.



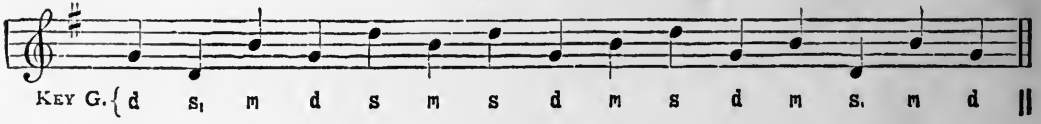
EXERCISE 8.



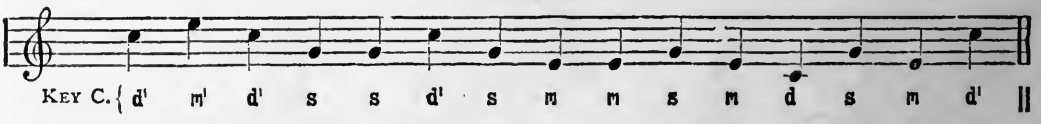
EXERCISE 9.



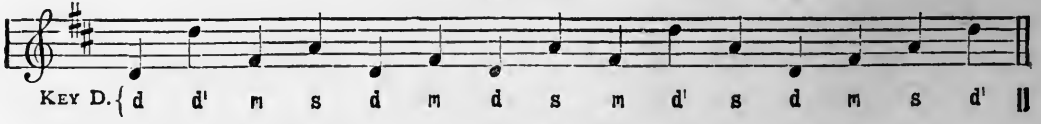
EXERCISE 10.



EXERCISE 11.



EXERCISE 12.



10. The attention of the student may now with advantage be directed to the fact that each of the three sounds, and their octaves, with which acquaintance has been made, leaves a certain individual, or, as we might say, *personal* impression on the mind. These "mental effects," as they have been called, arise not from any inherent quality in the individual tones, but are qualities with which the mind invests them from their *tone-relation* one to another. Thus a certain point in a picture, or a rose in a lady's bonnet, may take varied aspects from varied surroundings, while they themselves remain unchanged. In the same way we feel that *doh*, when sung in connection with the other two, and the particular key has thus been established, conveys an idea of strength and power which mentally we cannot associate with either *soh* or *me*. *Soh* suggests boldness, brightness, gladness, and other kindred emotions; *me*, on the other hand, being, as we imagine, quite peaceful, restful, and yet sure and steady. Taking hold of these aids to the learner, Mr. Curwen and his helpers have called in colour to assist the imagination, and in their "First Step Modulator" have printed *doh* in strong enduring black, *soh* in appropriately brilliant red, and *me* in sober yellow. *Ear exercises*, played on an instrument, or sung by the teacher to *la*, may at present be such as key D—{d m s m ‖ m d s m ‖ s m d' s ‖ {d' m s d ‖ or key G—{d s, m d ‖ {m s d m ‖ &c., the sounds being repeated by the student to the *Sol-fa names*.

S' (*red*)
M' (*yellow*)
D'oh (*black*)
Soh (*red*)
Me (*yellow*)
Doh (*black*)
S, (*red*)

11. In Chapter VII. of Rudiments, accent and rhythm will be found somewhat fully explained; and this should now be very carefully studied or revised. The importance of these time elements, in giving life and meaning to music and poetry, cannot well be overestimated. It remains here to give the signs employed in sol-fa, to supplement, or take the place of, those used in the ordinary notation. The bar line (|) (Rudiments of Music, par. 73) has simply been transferred or borrowed from the one, and employed by the other; in both, the strong pulse comes immediately thereafter. Unlike the "Staff Notation"—as in contradistinction to this, its younger brother, the ordinary notation is sometimes called—Tonic Sol-fa has a separate sign for every kind of pulse. These signs have for the most part the advantage of familiarity, being drawn from the ordinary printed page. Thus a colon (:), or double dot, as it is sometimes called, always precedes the weak accent; and a short upright line (ı), or half-bar line, as it *might* be called, shows in the same way the medium accent. Each individual pulse should occupy as much space (and no more) on the page as another. Thus a pulse of rest or silence, which is simply left vacant, should take up as much as one into which four, six, or even eight notes are to be compressed. The dash (—) shows that the previous note is to be continued: as, {|d ‖ gets, or is sounded during one pulse; but {|d :— ‖ is sounded during *two* pulses;—(1) a strong pulse and (2) a weak pulse. Two-two ($\frac{2}{2}$), two-four ($\frac{2}{4}$) time, in short, *all* the possible time signatures for simple duple time, are known in sol-fa as *two-pulse measure;* all the triple times are in the same way known as *three-pulse measure;* all the quadruple times as *four-pulse measure;* and the different compounds become respectively *six-pulse*, *nine-pulse*, and *twelve-pulse measure*. For future reference, a complete table of all the kinds of time, with the order of, and signs for, their accents is here given:—

Two-pulse Measure—
{|strong : weak ‖

Three-pulse Measure—
{|strong : weak : weak ‖

Four-pulse Measure—
{|strong : weak | medium : weak ‖

Six-pulse Measure

{|strong : weak : weak | medium : weak : weak ||

Nine-pulse Measure—

{|strong : weak : weak | medium : weak : weak | medium : weak : weak ||

Twelve-pulse Measure—

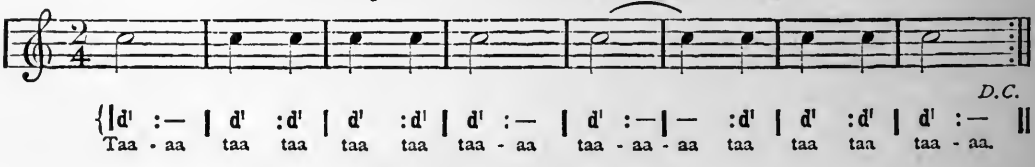
{|strong : weak : weak | medium : weak : weak | medium : weak : weak | medium : weak : weak ||

The explanations regarding the primary and secondary forms of the various measures all apply to sol-fa as to the ordinary notation. The same remark applies to double bars and brackets (See Rudiments of Music, pars. 73–75, and Definitions, page 1).

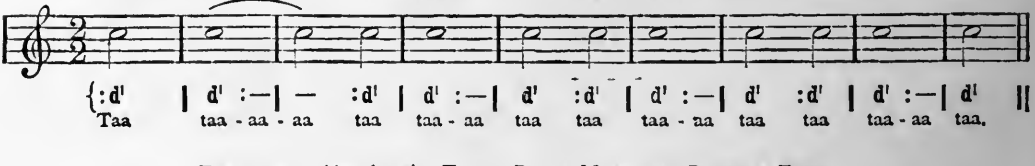
12. On the principle that a subject is best understood if our *whole* attention is given to it alone, *Time* and the difficulties connected with it should, *at first*, be studied apart from *tune*. In doing this, the voice keeps to *one tone* throughout the exercise; and the teacher or the student, or both, may show the pulse or time rate—that is, the rate at which the pulses are to follow one another—by motions of the hand. In duple time (two-pulse measure), these motions are down for the strong pulse, and up for the weak; in triple time, down, right (or left), and up; in four-pulse, or quadruple time, down, left, right, up. See "Choir Training."

13. Bearing out what was said in Rudiments of Music, par. 77, that words run in pulses, Mr. Curwen, towards the close of his career, partly adapted from the French, and partly invented, a system of Time-names, which, in the study of this important subject, have by many been found useful. The time-name for a strong pulse is "*Tra*" (or sometimes *tra-ai*); for a weak pulse, "*Taa*;" and for a medium pulse, "*Tlaa*." The *r* in the first, and the *l* in the last of these, offering occasionally some impediment to the singer in *taa-tai-ing*, as it is called (that is, singing one tone to the time-names), are, if the different accents are thoroughly understood, and can be marked by the voice, omitted in the actual work; but they are useful in individualising the accents, and also in the work of dictation. For continuations the consonant at the beginning of the time-name is simply left out; thus *taa* would indicate a one-pulse note, but *taa-aa* a note getting two pulses. Let the following be sung on one tone—(1) to the time-names, and (2) to the syllable *la*. The tone selected may be at any convenient pitch.

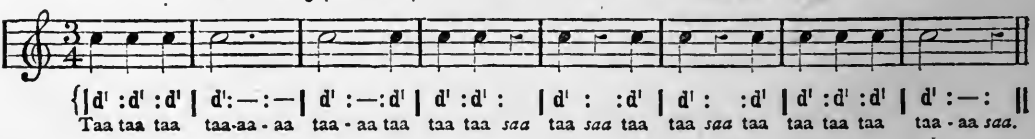
EXERCISE 13. TWO PULSE MEASURE—PRIMARY FORM.



EXERCISE 14 (To be sung as above). TWO PULSE MEASURE—SECONDARY FORM.

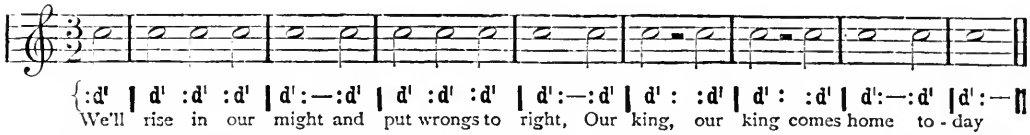


EXERCISE 15 (As above). THREE PULSE MEASURE—PRIMARY FORM.



Saa, used as shown in Ex. 15, is the Tonic Sol-fa name for a pulse of silence. It may, if we may so say, be *sung mentally*, or whispered. As explained (Rudiments of Music, par. 77), words from our ordinary speech may often be employed to suggest a rhythm required. The following may serve as a further illustration of this truth.

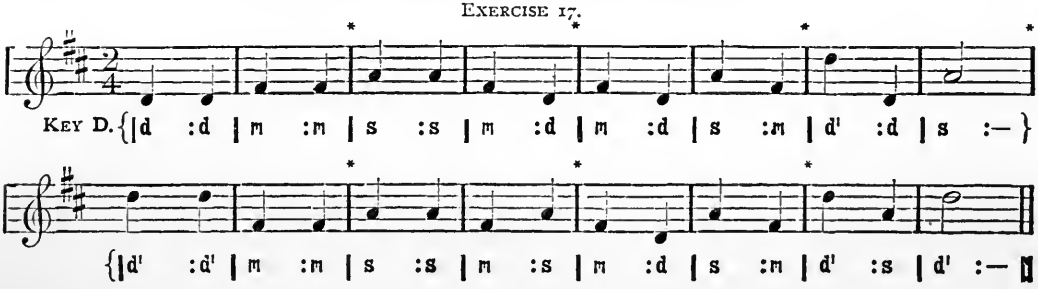
EXERCISE 16.



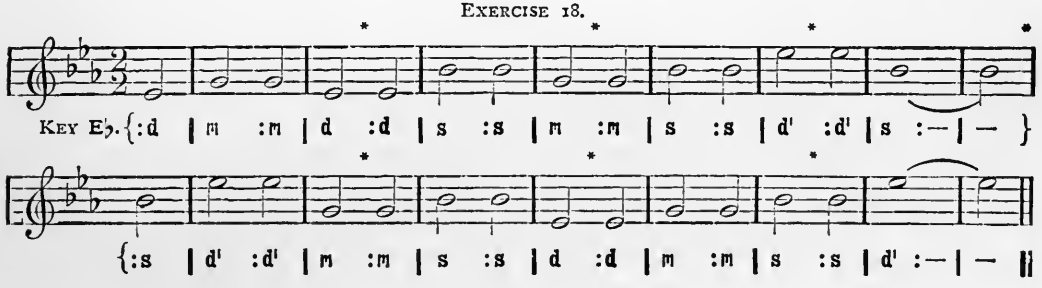
In the exercises which are to follow, this rhythm-suggesting principle will frequently be tested.

14 Let the following be (1) *taa-taied* or *laa-ed*, or both, (2) sung in time and tune to sol-fa syllables and to *laa*. The mark shows where breath should be taken.

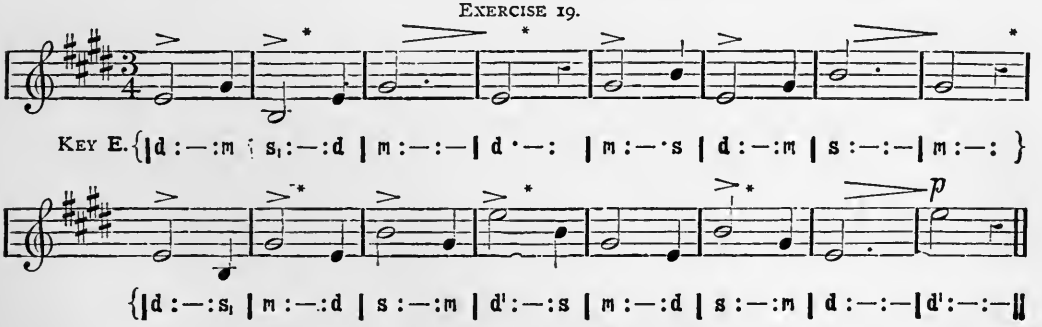
EXERCISE 17.



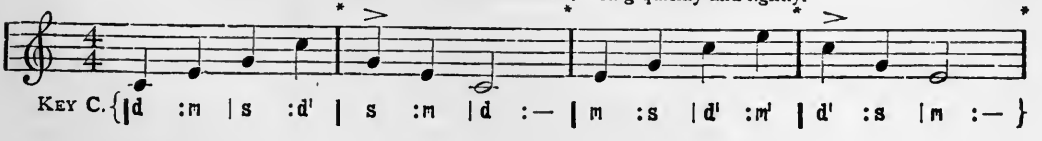
EXERCISE 18.



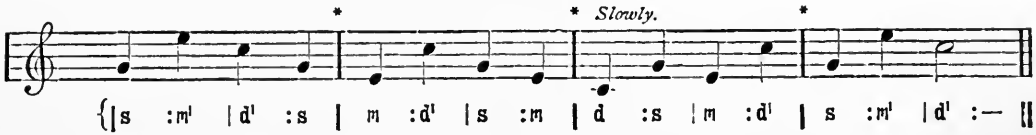
EXERCISE 19.



EXERCISE 20.—FOUR PULSE MEASURE. Sing quickly and lightly.



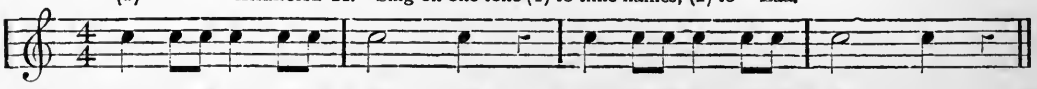
EXERCISE 20—*continued.*



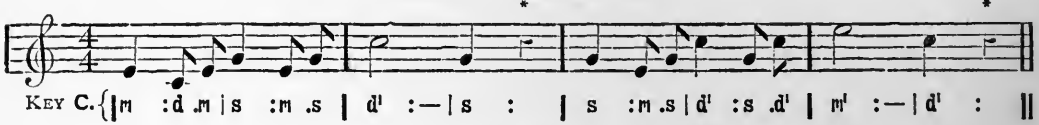
When breath is taken *before* a *strong pulse*, the time required for taking it should be deducted from the *last note* of the *previous measure;* when before a *weak* pulse, the necessary time should, *as a rule*, be taken *from* that pulse.

15. *Half-pulses* are shown in sol-fa by a dot, or period (.), being placed exactly in the centre of the pulse-space. What may be called the compound time-name for *two* half-pulses is "*Taa-tai.*" Test by experiment the lesson intended, viz., it *should* take as long to say or sing *taa* as to say or sing *taa-tai.* For similar time division in the ordinary notation, see Rudiments of Music, par. 77.

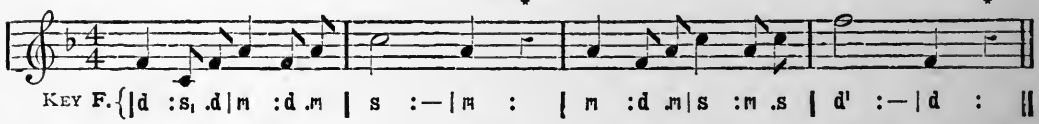
(*a*) EXERCISE 21.—Sing on one tone (1) to time names, (2) to "Laa."



(*b*) The same rhythm with tune added.

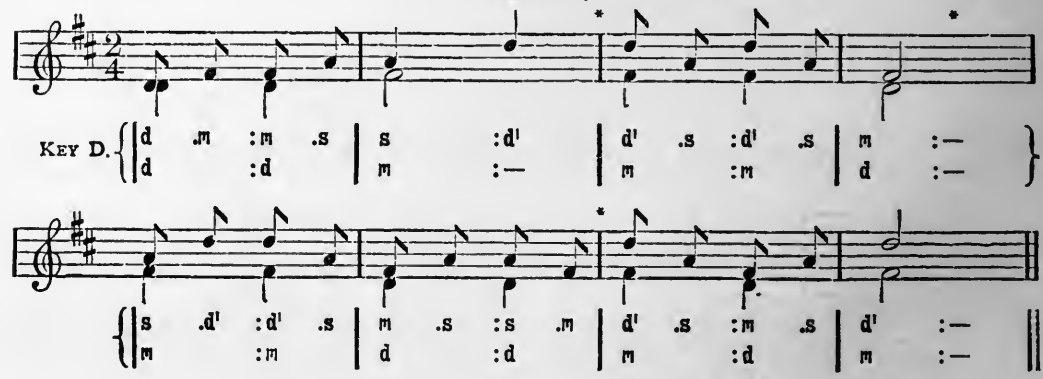


(*c*) As above.

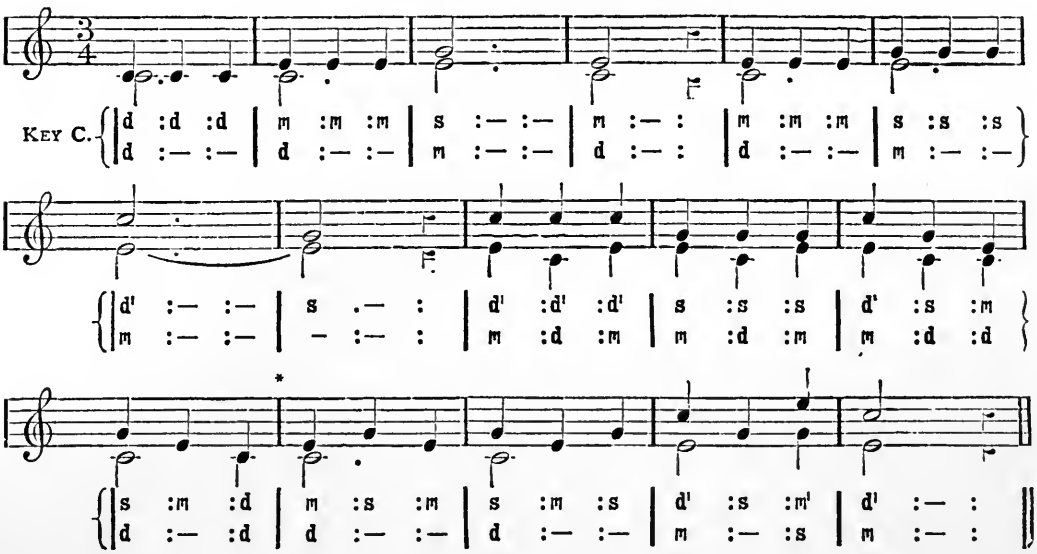


16. The following exercises are in "two parts" (Definitions, page 1). In sol-fa "parts" that are to be sung together are "bracketed" and "barred" together. The double bar serves the same purpose as in Staff Notation—it shows the close of a piece or of a section. When *two* are studying together, the higher-pitched voice should take the *upper*, and the deeper voice the *lower* part; but, wherever the compass of the exercise will permit, they should occasionally "change parts." The teacher will sometimes supply the place of a fellow-student.

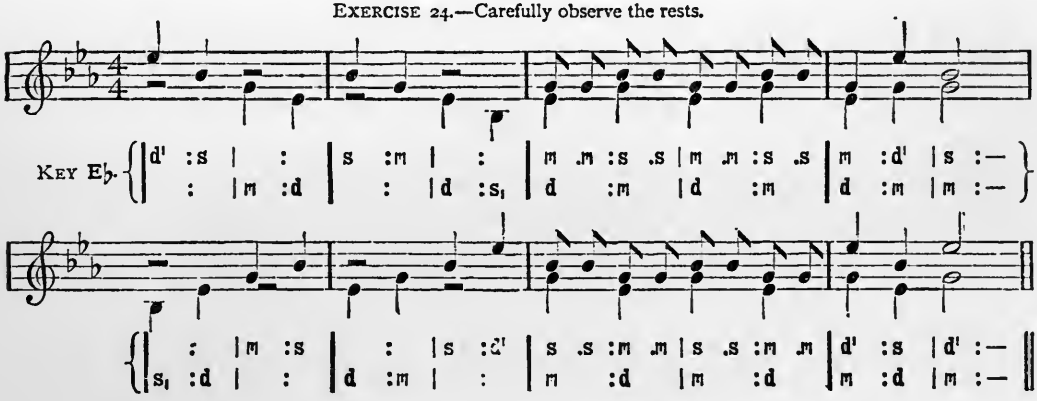
EXERCISE 22.



EXERCISE 23.—Sing quickly, and observe the proper accentuation.



EXERCISE 24.—Carefully observe the rests.



CHAPTER II.

CHORDS OF TONIC AND DOMINANT

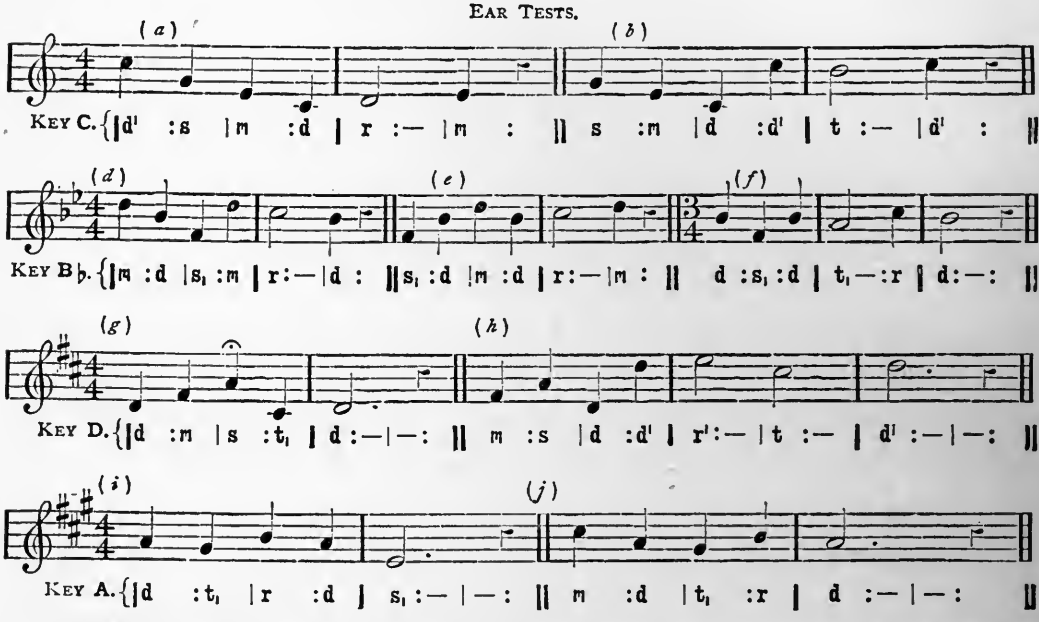
Singing as an Art. Musical Form. Illustrative Pieces.

17. A THOROUGH mastery of the exercises in the preceding chapter is absolutely necessary to every student who would proceed with personal pleasure and profit to those which are to follow. It is very difficult, almost, if not altogether, impossible, to make music—if indeed it may be so named—interesting, when the notes of only one chord are to be employed. But the plan of "one thing at a time" demanded this; and experience teaches that, given the ability to sound with the voice the different intervals found in connection with the tonic chord, the

obstacles that lie in the path of the youthful sight-singer are in a great measure overcome. What follows comes with comparative ease, and comes with an ever-growing interest. Surely this ought to be an incentive to aim at success in a work which at first may partake somewhat of drudgery. There is no "royal road" to art of any description. It could not be called "ART" if there were; and it should ever be remembered that however much the teacher may labour at making crooked places straight, and rough places plain, yet from all who would excel, effort, careful, constant, consistent, *personal*, has always been and ever will be requisite.

18. In Rudiments of Music, par. 31, it was explained that the dominant note of the scale, while acting as the fifth of the tonic chord, becomes the root of yet another, to which its own name is given. In this relation, viz., as root of a chord, the dominant note, *soh*, and, with the two additional notes required, the complete dominant chord, has now to be introduced to the student. It may safely be said that in music every new thing is best learned by "the hearing of the ear." Presuming that *doh*, *me*, and *soh* are in *this way* well known, let the following musical phrases be played or sung to figures (numerals) or to *la*, and the student asked to say where, on what figure, or on what particular *la*, a tone, unknown before, was brought in.

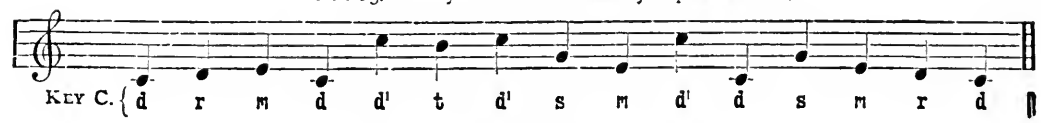
EAR TESTS.



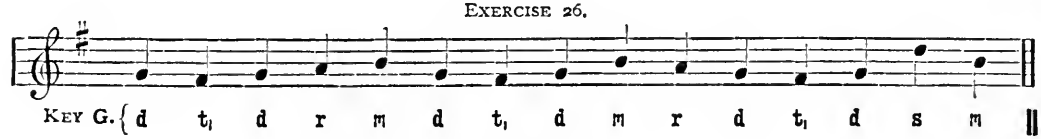
These little ear-tests may be multiplied indefinitely, each, as it were, putting a new meaning into the tones just introduced. As may now be seen, and as taught in Rudiments of Music, par. 31, 32, the one is the supertonic, and the other the leading note of the scale, *ray* and *te* being respectively the Tonic Sol-fa names. *Ray* has been variously described as, in its key relation, restless, rousing, onward-moving; and *te*, as sensitive, entreating, piercing. The names we give to the various feelings or emotions which tones in key suggest to our minds are of comparatively small importance; but it is *all-important* for every musical student to realise them. They are tone-characteristics which reveal to the musician distinct personalities, and thus every scale-tone, when properly produced, comes to be distinguished as easily and as surely as the voice of a familiar friend, when heard at a distance.

19. The following *timeless* exercises, as they may be called, are designed to give greater intimacy with, and greater facility in striking with the voice, the tones *ray* and *te*. The tonic chord being sounded, and the key thoroughly established, they should (1) be sung to the sol-fa syllables—sol-faed, backward as well as forward; (2) sung to *ah* or *la*.

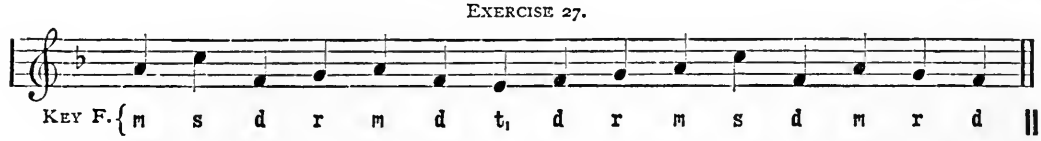
EXERCISE 25.—"Ray" and "Te" taken by step of a second.



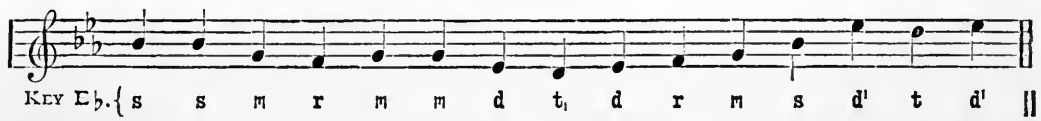
EXERCISE 26.



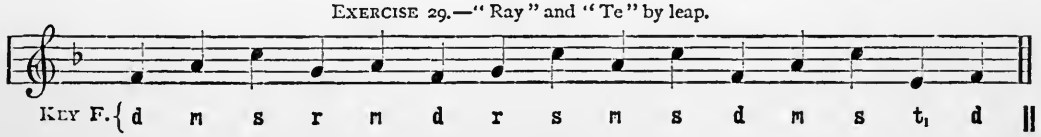
EXERCISE 27.



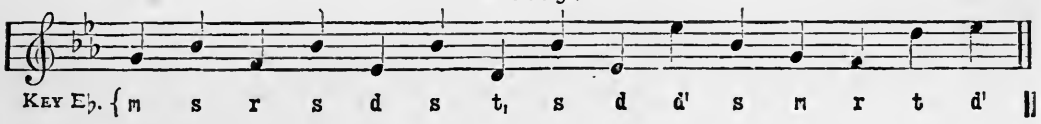
EXERCISE 28.



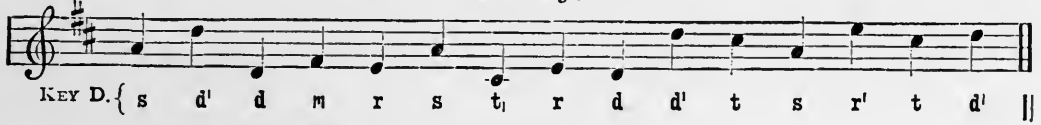
EXERCISE 29.—"Ray" and "Te" by leap.



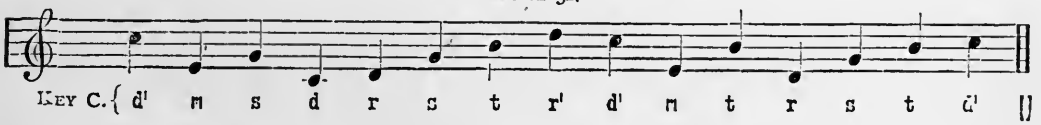
EXERCISE 30.



EXERCISE 31.

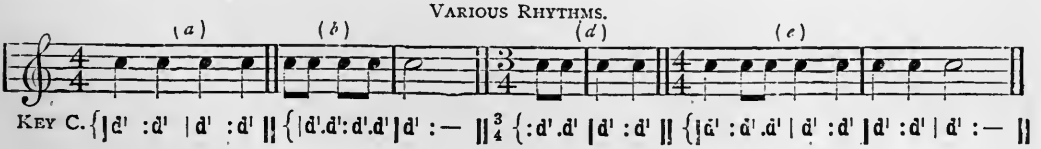


EXERCISE 32.

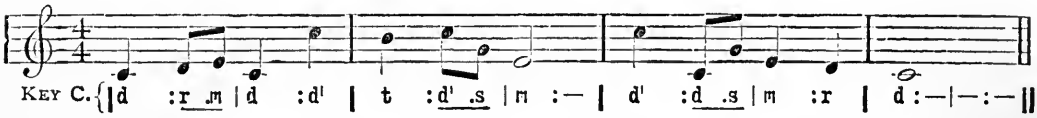


After being thoroughly practised for tone effect, and so known familiarly, these exercises may be sung to any or, in turn, *all* of the following rhythms, when the last note should in each case be lengthened.

VARIOUS RHYTHMS.



That there may be no misunderstanding regarding what is here intended, the following is Exercise 25 written out in the rhythm last given.



The *slur* is shown in sol-fa by a horizontal line *under*, instead of a curved line *over* the notes so to be treated (see Rudiments of Music, par. 87).

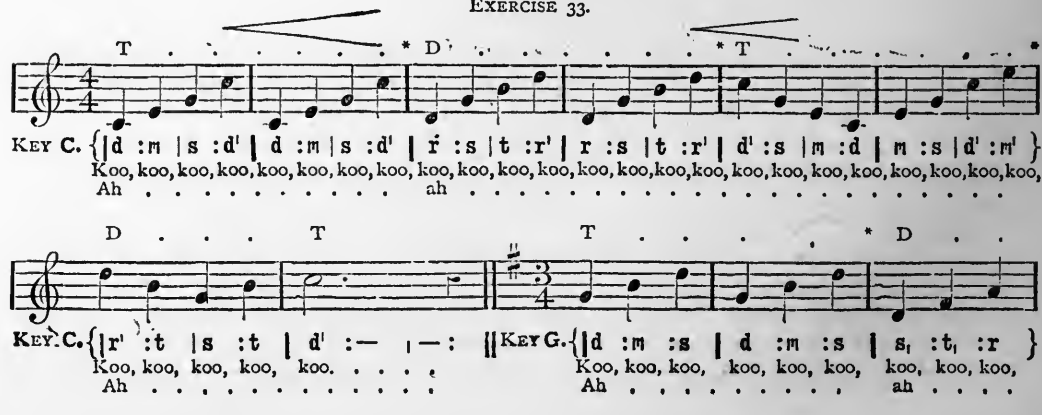
20. THE SECOND STEP MODULATOR, if rightly used, now becomes of great service to the student. Every tune and every *part* should at this stage be learned by means of it. In doing so the teacher, or, better still, the student holds the book or separate card (which may easily be had) in the left hand, and points out the notes with the right. Thus the comparative height or depth of the tones becomes indelibly imprinted on the memory; a mental modulator is set up, so that afterwards when, on a *level line*, the initial letters only are printed, in the "mind's eye" they are seen to rise and fall, as in this extremely useful and most ingeniously contrived *singer's chart*. "Voluntaries" should also occupy a brief space of time at each lesson. In these the teacher points out certain notes, and the pupil or pupils sing the notes pointed.

S'
M'*
R'
D'oh
Te
:‖:
Soh
Me*
Ray
Doh
T_1
:‖:
S_1

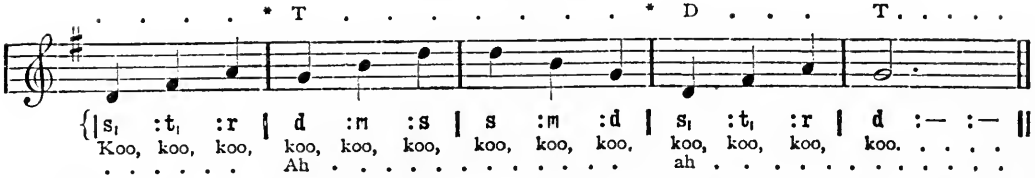
21. Voice-forming studies, as explained in par. 2, should, from the first, be the singer's "daily bread." At a later stage in this course, the writer's views on the important subject of voice cultivation and *preservation* will be more fully given. Meantime the student would do well to attend to the following rules:—(1) Breathe deeply, and so use the lower and *broader* part of the lungs. (2) Do not *drive out* the breath as so many do—*hold it back*, restrain it, retain it, *husband* it, and thus make it last long. (3) Sing with open mouth, open throat, flattened tongue, and erect body. (4) Above all, at present, *sing softly*, coax the voice, *never* force it. To the would-be vocalist the importance of these suggestions cannot well be over-estimated.

22. In early exercises the syllable *koo*, sung lightly but quickly and rather *staccato* (Rudiments of Music, par. 87), has been found useful in giving freedom to the vocal organs and in promoting good tone-quality. In using this, the lips are rounded and slightly protruded, and the voice-box, or *larynx*, should be absolutely free. Sing the following (1) in the manner described, giving a distinct *koo* to each note; (2) connectedly to *ah*, taking breath and repronouncing the *ah* at the given marks. The letters T and D (printed above) show respectively where the exercises may be accompanied by the tonic and dominant chords.

EXERCISE 33.

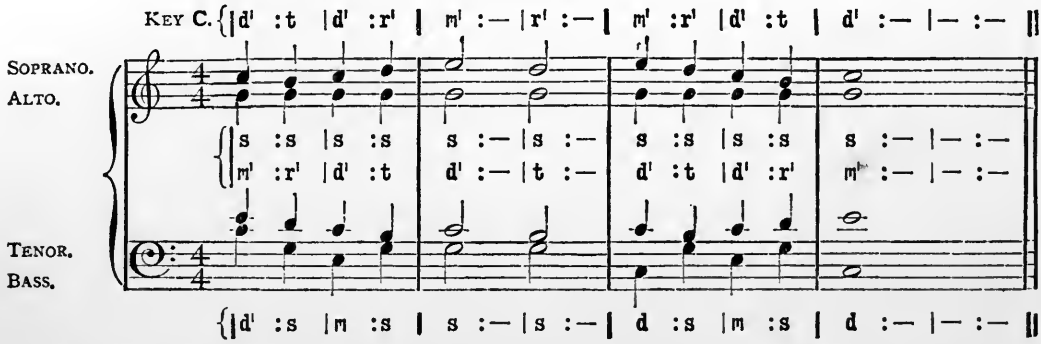


EXERCISE 33—*continued.*



23. The brightening effect of the dominant chord was mentioned in Rudiments of Music par. 32. What was there asserted may now be put to the test in the following *tuning exercises*, which should be sung softly and rather slowly. If convenient, the chords may be played while the voices accompany. See definition "Short Score," Rudiments of Music, page 1.

EXERCISE 34.



24. With the notes of the tonic and dominant chords at command, we may now, in our music, endeavour to give vocal expression to poetry. In doing this, a new consideration as to the choice of breathing places comes into operation. Hitherto these have been chosen to give, as it were, sense and meaning to the music—phrasing, as it is called; but when words are employed, and distinct ideas are to be expressed, melody must be content to take a secondary position. The composer, however, will, or *should*, always endeavour to make verbal expression and musical meaning coincide, so that the one will be a help, not a hindrance, to the other. The places where breath may be taken will for the present be marked; but in learning to choose these, it may be helpful to know that the rules for good reading are all in full operation when music is wedded to words.

25. To save space, the exercises which are to follow are mostly written in two parts only (or two-part harmony), and in short score. These "parts" may be sung by soprano and alto, or tenor and bass, single voices or in chorus; but when taken up by male voices it should be understood that, when printed in the treble clef, they are to be sung an octave lower than written, or rather printed. For the sake of the gentlemen, and to give further practice in reading, the bass clef will by-and-by occasionally be used. In studying illustrative pieces, it would be well (1) to sing on *one tone* to time-names or *la*, attending to time and accent only; (2) sol-fa the piece; (3) sing to *la* in time and tune; (4) sing to words with expression and feeling.

26. *Musical Form* may here be briefly defined as the means whereby a composer gives coherence and unity, and imparts ever-growing interest to a composition; or, shorter still, the means employed to make it *a composition*, not a compilation of notes. More of this at a later stage of the course. Exercises 35, 36, 37 below, belong to what is called the Psalm or Hymn-Tune "form," each consisting, like the verses, of four lines or sections, which become, as it were, resting-places both for mind and voice. Let it be observed that in each case, while the

poetic lines vary, the musical sections are maintained at equal length, the last sectional note having frequently to be prolonged for this purpose. In doing this we are said to *Balance the Rhythm.*

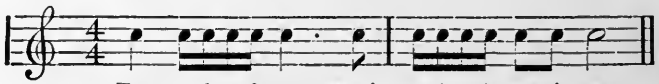
27. The *Round*, of which "form" examples are given in Exercises 38 and 42, is so contrived that two, three, or any number of voices sing the same music one *after*, *not with*, the other; the result being, in most cases at all events, excellent harmony. Thus in Exercise 38 the first voice sings by itself to the mark 𝄇, at which point the *second* voice takes up what the *first* has just finished, while the *first* keeps going on with the second section of the music. Similarly the third follows the second, in each case till the end is reached, and then D.C. The *Round* is extremely useful in training young singers to maintain, in proper time and tune, their own part against the disconcerting effects of other voices.

28. The *Canon* is a "form" very much akin to the *Round*, but, unlike the latter, does not require the first musical section to be complete before the second voice enters. A pulse, two pulses, a measure, as in Exercise 42, or, as in the case of Exercise 39, *two* measures being given by way of start, the second voice follows, and, in *strict canon*, repeats, note for note, what has just been given out by the first; the original "canon," or "law" being throughout strictly observed. When after a certain number of "bars," as measures are not seldom called, the "canon" is brought to an end by a full close or cadence, the canon is said to be "Finite;" but when, as in the examples, a return can, without stop, be made to the beginning, it is "Infinite," that is to say, like the brook of which Tennyson so sweetly sings, it can or may "go on for ever."

29. The *Song Form* takes various shapes, according to the nature of the sentiment or style of the metre for which music is to be provided. Exercises 36 and 43 partake more or less of the simple style that is most frequently to be met with in the musical setting of songs. In the case of the latter, the chorus, or *refrain*, is heard *first* and *also last* (Fine)—what is really the second part of the melody coming between.

30. A *point of Imitation* occurs when, as in the middle of Exercise 41, one "part" gives out a theme which, after a certain number of pulses, and at some particular interval above or below, is more or less strictly imitated by the "part" which follows. The *imitation* may be taken at any *point*, and may affect any number of "parts" or voices; but in its melody it should always come as near to the *theme* as possible. In the present case the "point" is after four pulses (one measure), and the interval is a fifth below.

31. Time exercises should now include notes getting a pulse and half, quarter-pulses, and also six-pulse measure. The time-names for a pulse divided into four quarters, are *ta, fa, te, fe.* Let the student test by experiment that, including the pause which naturally follows the pronunciation of the single word *taa, ta-fa-te-fe*, standing in a group, can be distinctly enunciated in exactly the same time: the time-name for a note getting a pulse and a half (dotted note) is *taa-aatai.* If these names are to be of any service, care must be taken to give as much, and no more, time to *taa* by itself than to *taa-tai* or *ta-fa-te-fe.* The *sign* for a quarter-pulse in sol-fa is the *comma*: thus {| d. d :d. d || being half-pulses; {| d, d. d, d :d, d. d, d || are quarters. Sing the following on one tone (1) to time-names, (2) to *la* and (3) in time and tune to the same rhythm tune-forms below.



(1)
KEY G. {|d :m ,r .d ,r |m :-.r | d ,t,.d,r :m .r | d :-||

(2)
KEY F. {|m :s ,m.d ,m|s :-.t, | d ,r .m,r :d .t, | d :-||

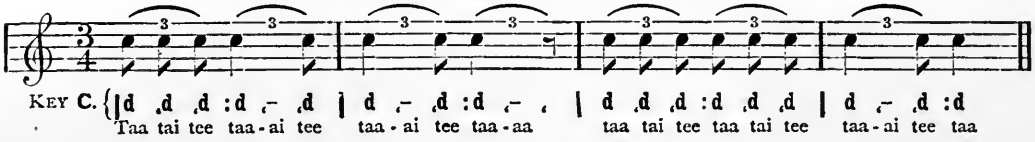
(3)
KEY A♭. {|d :t, ,d .r ,t, | d :-.m | s ,m.d,r :m .s | s :-||

32. Exercises 38 and 40, written in six-pulse measure, should be sung so quickly that the singer should feel as if a kind of two-pulse measure were being performed; three pulses thus running together as one. See compound duple time, Rudiments of Music, pars. 77, 78. The student will perhaps obtain the most correct idea of what is required if a portion of the *rhythm* of No. 38, is here rewritten in two-pulse measure (simple duple time), with triplets, or thirds of a pulse where required. See Rudiments of Music, par. 78. The time-names for a pulse *divided into thirds* are *taa, tai, tee*, and the time-sign is the comma *inverted*. If a note gets two-thirds of a pulse the consonant before the second syllable is dropped: thus { | d ‚ d ‚ d ‖ are *thirds;* (Taa tai tee) { | d ‚ — ‚ d ‖ two-thirds and one-third. (Taa - aa tee)

Sing to time-names and to *lah* as before.

PART OF THE RHYTHM OF EXERCISE 38 IN SIMPLE DUPLE TIME.

(Sing to time names and to "Lah" as before.)

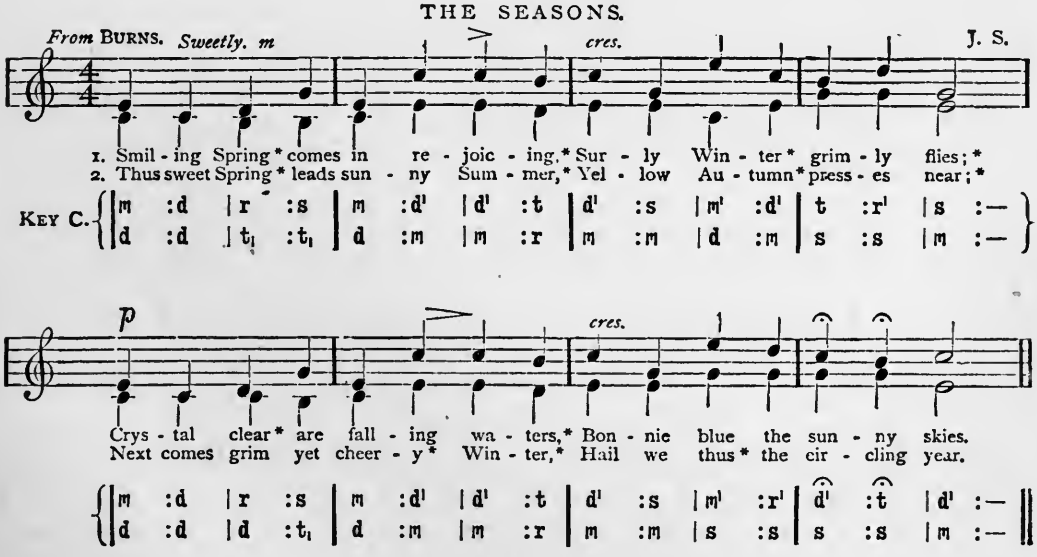


33. In Exercise 40 an attempt is made to verify what is advanced in Rudiments of Music, par. 77, viz., that words and music are mutually suggestive of rhythm. The truth of the principle should be tested by the student.

34. *Normal Force.* Every piece of music should be expressive of some particular feeling or emotion, as sadness, gladness, hope, joy, &c., and should thus require to be sung slowly or quickly, loudly or softly, as the case may be. This may be called the normal, original, or general character of the piece. See below.

EXERCISE 35.

THE SEASONS.



EXERCISE 36.

SOW THY SEED.

MONTGOMERY. J. S.

Boldly. *mf* *dim.*

1. Sow in the morn * thy seed,* At eve * hold not thine hand; * To
2. Thou canst not toil in vain: * Cold, heat,* and moist, and dry,* Shall

KEY B♭.

s₁	:m₁	.s₁	| d	:t₁	| d	: —	| —	:d	| r	:d	| t₁	:d	| r	:—	| —	:s₁	}
m₁	:d₁	.r₁	| m₁	:s₁	| m₁	:—	| —	:m₁	| s₁	:m₁	| s₁	:m₁	| s₁	:—	| —	:t₂	}

f

doubt and fear * give thou no heed,* Broad - cast it * o'er the land.
fos - ter * and ma - ture the grain * For gar - ners * in the sky.

m₁	:s₁	| d	:t₁	| d	:r	| m	:s	| m	:r	| d	:t₁	| d	:—	| —	:	‖
d₁	:r₁	| m₁	:s₁	| m₁	:s₁	| d	:t₁	| d	:s₁	| s₁	:s₁	| m₁	:—	| —	:	‖		

EXERCISE 37.

THE RAINBOW.

MRS. HEMANS. J. S.

Gently and smoothly. *mp*

1. Soft falls the mild re - viv - ing show'r * From A - pril's change - ful skies,*
2. But mark! * what arch of va - ried hue * From heav'n to earth * is bow'd? *
3. Yet not a - lone to charm thy sight * Was giv'n the vis - ion fair: *

KEY A♭.

:d	| m	.d	:m	:r	| d	.t₁	:d	:s₁	| d	.r	:m	:d	| r	:—	}			
:m₁	| s₁	.m₁	:s₁	:s₁	| m₁	.r₁	:m₁	·s₁	| m₁	.s₁	:d	:d	| t₁	:—	}			

mf *dim.* *cres.* *rall.*

And rain-drops * bend each trem'-bling flow'r * They tinge with deep - er dyes.
Haste ere it van - ish! * haste to view The rain - bow * in the cloud.
Gaze on that arch * of col - our'd light,* And read God's mer - cy * there.

:m	| s	.m	:s	:r	| m	.d	:m	:d	| t₁	.d	:r	:t₁	| d	:—	‖			
:d	| t₁	.d	:t₁	:t₁	| d	.m₁	:s₁	:m₁	| s₁	.s₁	:s₁	:s₁	| m₁	:—	‖			

EXERCISE 38.—Round for three parts.

SING WE.

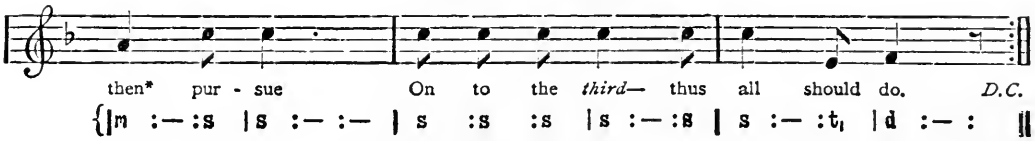
Lively. ✻ J. S.

Sing we the *first* * with ac - cent true,* So sing the *sec - ond,* * and

KEY F.

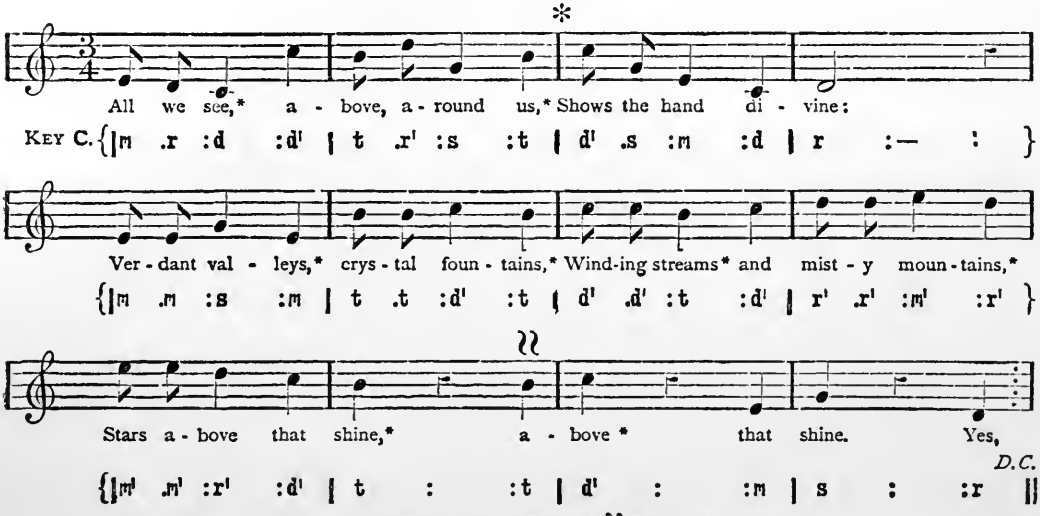
| d	:d	:d	| t₁	:—	:t₁	| d	:—	:r	| m	:—	:	| m	:m	:m	| r	:r	:r	}

EXERCISE 38—*continued.*

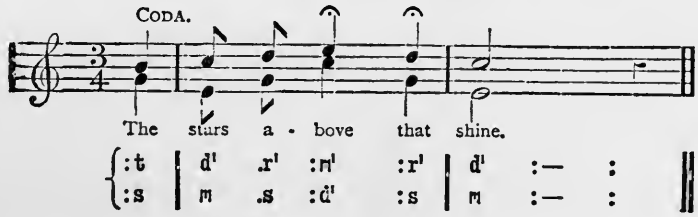


EXERCISE 39.—Canon for two parts.

GOD IN NATURE. J. S.

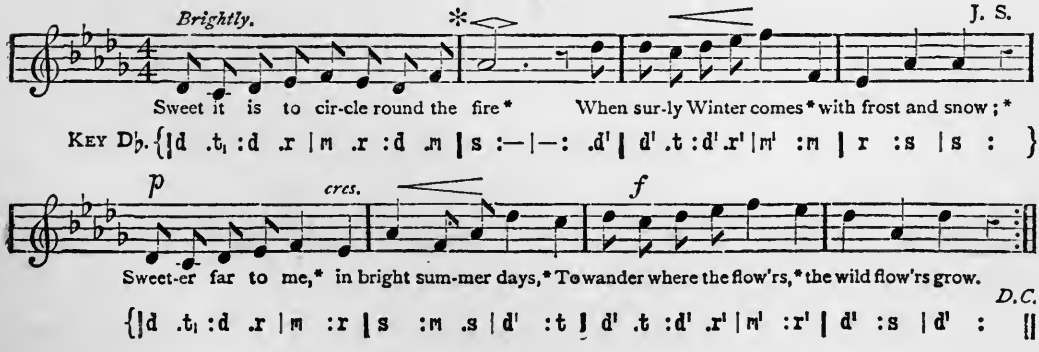


NOTE.—When ending the Canon, leave off at 𝄐 and proceed to *Coda.*



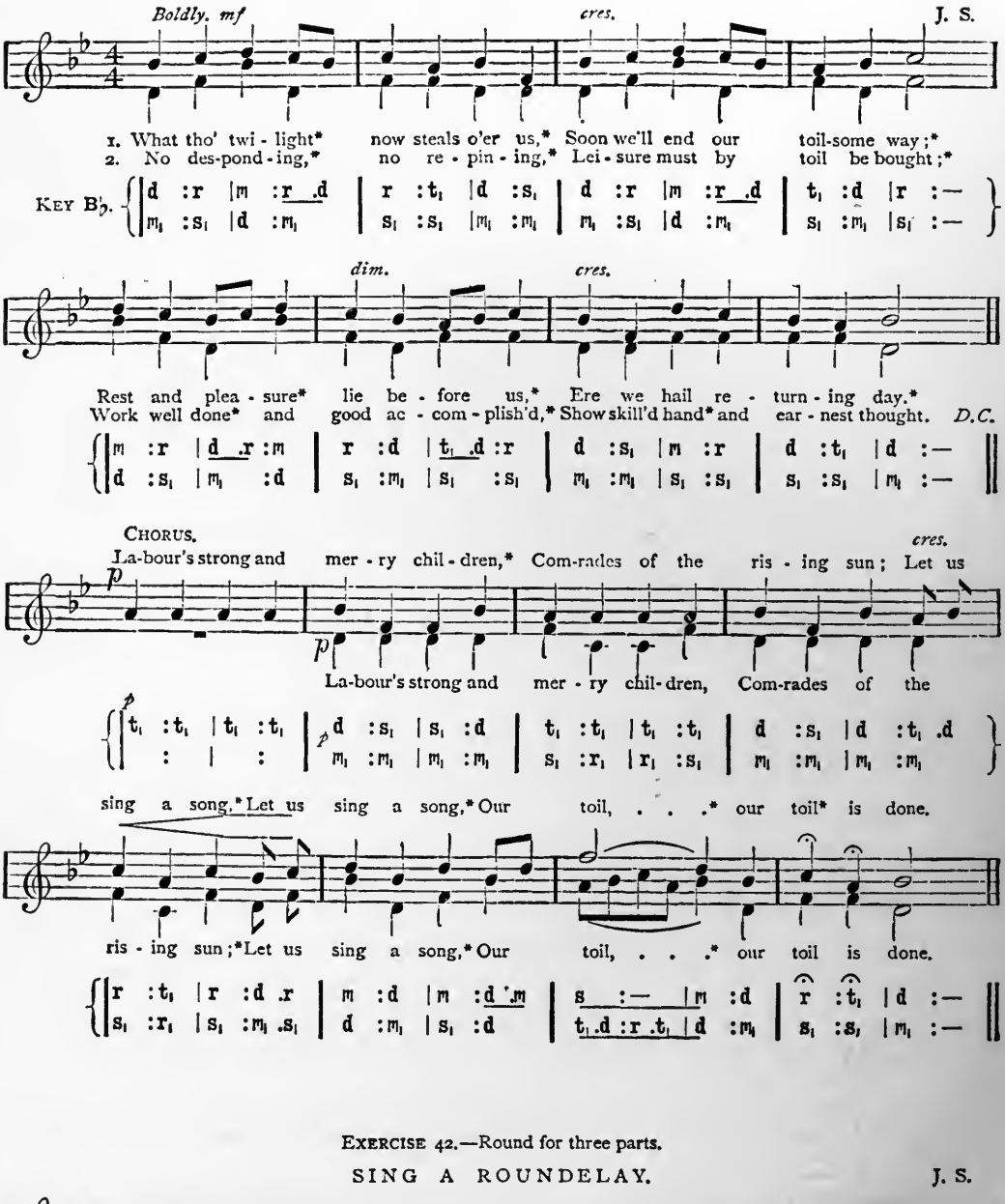
EXERCISE 40.—Canon for two parts.

BRIGHT SUMMER DAYS.



EXERCISE 41.—Two-Part Song.

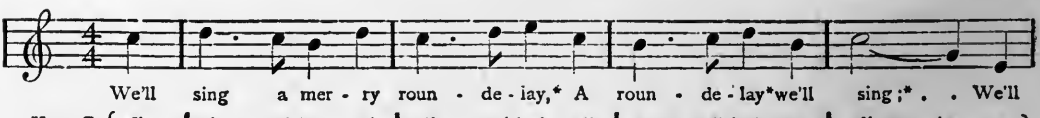
LABOUR'S CHILDREN.



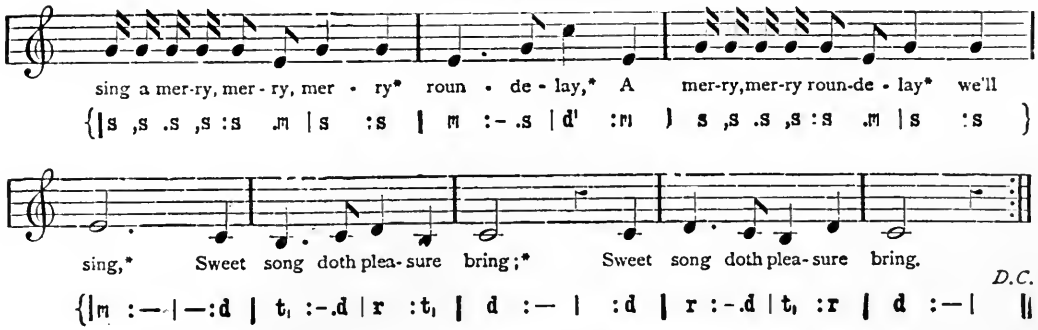
EXERCISE 42.—Round for three parts.

SING A ROUNDELAY.

J. S.



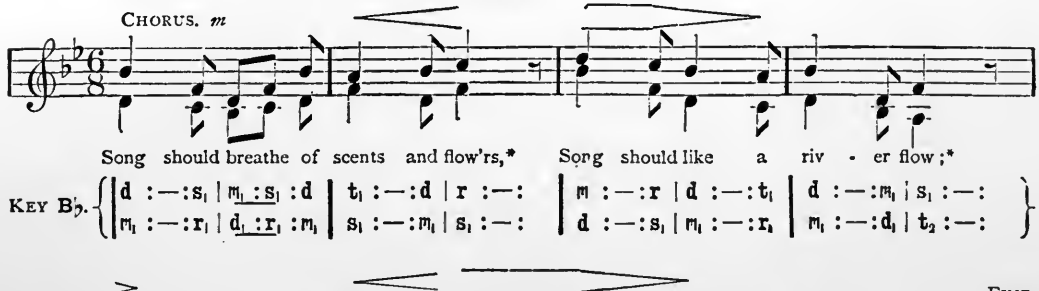
EXERCISE 42—*continued.*



EXERCISE 43.—Beating twice to the measure.

BARRY CORNWALL. THE MISSION OF SONG. J. S.

CHORUS. *m*



[To be continued.]

THE VIOLIN.

By W. DALY.

PRELIMINARY.

The violin is the king of all instruments. While every other musical instrument has undergone, and is still undergoing, countless modifications and improvements, those of the violin family—violins, violas, violoncellos, and double-basses—remain as they were more than three hundred years ago. They alone would appear to be perfect, and among them the violin reigns supreme.

The most difficult of all instruments, the violin is also by far the most fascinating; and those who have sufficient zeal and industry to make a *thorough* study of the initial steps in violin-playing, will find their reward in the pursuit of a study, the successive stages of which will be but as introductions to new and ever higher pleasures. To derive true satisfaction, however, from the study of the violin, there are several most important considerations which must unceasingly be kept in mind. First: every point, whether of theory or of practice, must be mastered in turn as it presents itself—an unelucidated difficulty passed over is, like an uncaptured fortress, left in the rear by an army advancing into an enemy's country, a vexation and a hindrance, if no worse. Second: there must be no thought of "drudgery." "Drudgery" implies mechanical, unreflecting labour, and study of this kind is simply a throwing away of valuable time and energy. Granted, exercises are not always filled with melody, and sometimes they may seem very far removed from everything that is interesting and enjoyable, but still each exercise a student of the violin is called upon to master has its own individual importance; it exists for some definite purpose, and it is for reflective students to perceive this purpose, and to do their utmost to realise it. In this way alone can genuine progress be made. Third: the great end and object to be considered in violin-playing is the production of tone—beautiful tone, and with regard to this, it may be remarked that quality is everything, and quantity, comparatively speaking, nothing. Of two students, one may only be able to play the very simplest melody, but play it very nearly perfectly, as regards truth and beauty of intonation, and expressive and intelligent phrasing. The other student may make a gallant attempt at something filled with difficulties, and scramble through it—somehow. Nine people out of ten will probably applaud the dash, the mere audacity, of the second player, and be blind to faulty intonation, vulgar phrasing, and generally haphazard *technique;* but the first player is a true artist, the second is not. In connection with this third point for consideration, therefore, let it be always remembered that it is a comparatively easy thing to acquire what is commonly called "a good tone" on the violin, provided only it be conscientiously striven after from the outset, but that to have to come back, after a certain amount of progress has been made, to what should never have been lost sight of from the very beginning, means hard, tedious, dispiriting work.

SECTION I.

OF THE VIOLIN AND ITS BELONGINGS.

The Choice of a Violin.

To those desirous of taking up the study of the violin, and who are as yet unpossessed of such an instrument, the question of the choice of a violin is necessarily one of considerable importance. It is, however, one which must be decided almost entirely according to the means and inclinations of the individual; and consequently advice and information on this point can only be given in very general terms. Setting aside alike the violins of well-known and famous makers, ranging in price from comparatively few pounds to many hundreds, as unattainable, and the cheap rubbish to be seen in musicsellers' windows, as still more undesirable, the intending student of the violin may yet purchase a respectable instrument for from three to ten pounds. For a price ranging between these two figures, a varying quality of what might be called the violin of commerce may be readily obtained from any reputable dealer in musical instruments. These violins are new ones, made in France, Germany, or Switzerland, and, thanks to the keen competition existing in the music trade, are really wonderful value for the money. In purchasing such an instrument, however, it would be well, if at all possible, to be guided by the opinion of some professional violin-player. In conclusion, the intending purchaser of a violin need have little hope of picking up a "bargain" of the kind one reads about in books. These fancy bargains almost invariably fall to the lot of men who have passed a life-time in the buying and selling of violins; and the venerable-seeming impostures, which are likely to come in the novice's way, are generally more fit for use as firewood than in any other capacity.

The Bow.

Violin-bows are to be had at all prices, ranging in quality from things little better than toys, to be bought anywhere for a couple of shillings, to the matchless handiwork of Tubbs,—from a violinist's point of view, marvels of beauty and fitness. These are the extremes of bow-making; and a good, really useful article may be bought for from ten shillings to a guinea. The points to be considered in choosing a bow are:—that it is *straight;* not too heavy; and that it has a good amount of resistance, evenly distributed throughout the length of the stick. Bows are generally lapped with silver thread or wire: in the course of time this wears loose, and should be replaced with thin morocco leather, which any repairer of violins will put on for a very trifling charge. Bows that require re-hairing should always be taken to a regular repairer of violins, and not to a music-shop: the same rule applies to the violin itself, and to everything connected with it. In putting rosin on the bow, care should be taken to apply it equally throughout the entire length of the hair, passing the bow over the rosin with a moderate pressure and speed. In the use of rosin, as in everything else, extremes are bad; for too much rosin on the bow produces a harsh tone from the violin, while not enough rosin results in there being little or no tone at all. A new bow, or one that has been newly haired, has no rosin at all on it, and will require a very considerable application of it before being fit for use. A common plan is to crush a little rosin into powder, and rub both sides of the hair with it; this is a rapid but not a specially cleanly method of bringing the bow into proper playing condition; it is much better to rosin the bow in the usual way from the first. In either case it will give a roughish tone at first, but this will disappear in a few days. The

screw of a new bow very often works stiffly, and should be oiled. After using the bow the strain on the stick should be slackened by easing the screw slightly—a couple of turns will be enough. The bow should also invariably be replaced in the lid of the violin-case after being used, and never left resting on the violin, as it will soon become warped by lying on an unequal surface.

Strings.

Strings, like violins and bows, are to be had at a variety of prices, and the purchase of these, again, is a matter to be regulated by the means and inclination of the individual: it is, however, the truest economy to purchase the very best one can afford. A really good string lasts longer, sounds better, and is in every way more desirable than an inferior one; and the extra money paid for the finer quality will be more than realised in the greater pleasure of the performer. "G," or fourth strings, are covered with fine wire, and are generally referred to as silver, plated, or copper "fourths," according to the nature of the wire with which they are covered. Of these, the copper string is to be recommended. It is cheaper than the genuine silver string, and as a general rule much better than the plated ones. Indeed, many violinists prefer a good copper fourth string to all others. In choosing strings those obviously got up to attract the eye should be carefully avoided. A very white-looking, polished, gut string has been brought to that condition by the aid of pumice-stone. To the uninformed eye such a string will doubtless appear very pretty, but it is not a good one for all that. Highly burnished fourth strings are also to be avoided. All this polishing and beautifying means needless wear and tear of the fibre of the string, and also implies an attempt on the part of the manufacturer to conceal the inferiority of his material, under a display of outside show and glitter. A really good gut string should be of a clear, brownish-yellow colour, dull, and slightly rough on the surface, and with a certain moist, "soapy" feel when touched. It happens sometimes that a string, to all outward appearances a good one, is "false," that is, that there is some inequality, or other defect, in the wrapping of the fibres of which it is composed. A "false" string is unusable, and there is a simple test which should be applied to all strings before putting them on the violin, and by which this falseness may be detected. Hold the string at the two ends of the length it is proposed to use, between the finger and the thumb of each hand, pull it rather tight, and then set it vibrating with the fourth finger of the right hand. If the vibrations are regular, and resemble the following figure—

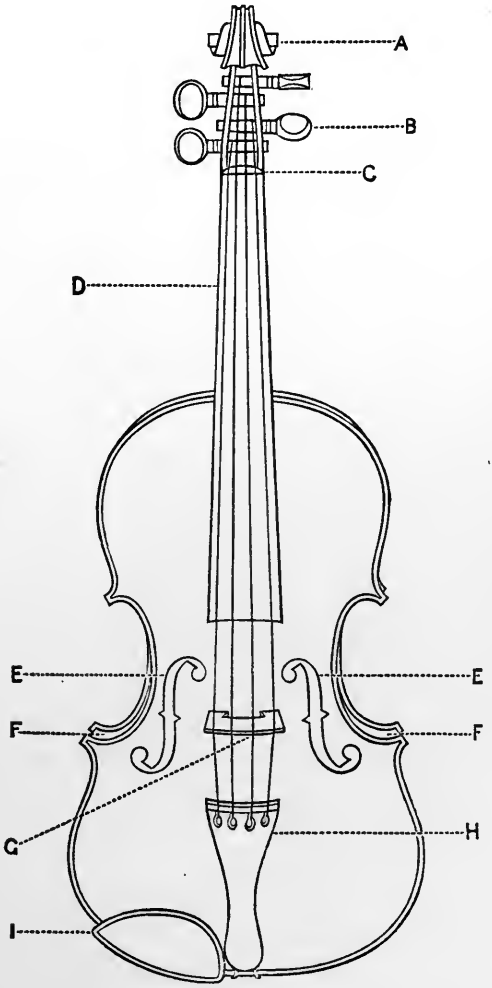
the string will be "true," and fit for use. If, however, there are one or more secondary lines revealed in the vibration, thus—

that particular portion of the string is false, although it does not necessarily follow that the entire string is false; for a defect of this kind may be confined within a very limited area. The trouble is to find out just that particular point in the string where the flaw exists. Strings should be kept in an air-tight tin box, being first of all wrapped in a piece of oiled silk, or gutta-percha tissue.

The Care of the Violin.

For the keeping of the violin in proper condition there are several things which it is important to remember. In the first place, as regards the strings:—different violins require different sized strings, some taking a thinner string than others; in fact, every violin appears to have its

own individual requirements in this respect, and it is a sort of study with a professional violin player to discover, through repeated experiments, with what thickness of string his instrument will yield the best results. This susceptibility to variation in the thickness of the strings is greatest in very old violins, and in the new violins commonly sold at prices ranging to ten pounds may hardly be said to exist at all. In all cases, however, it is advisable to have one's strings *undersized.* Gauges giving the relative proportions which the four strings of the violin



A. The Scroll.
B. Peg.
C. The Nut.
D. Neck and Finger-board.
E E. *f* holes.
F F. The Hoops, or Ribs.
G. The Bridge.
H. The Tail-piece.
I. Chin-rest.

FIG. I.

should bear towards one another are to be bought in any music-shop. These gauges are generally marked with three degrees of thickness for each string; but the sizes indicated on them are much too large; and it is a good rule to have each string a shade thinner than the thinnest size indicated for it on the gauge. By this means it will be possible to have a properly proportioned set of strings of moderate size on the violin. Strings are things to be treated with consideration; they should be screwed up gently, and after the violin has been in use, a clean rag should be passed over them before the violin is replaced in its case, in order

that any dust, rosin, or moisture upon them may be removed. When the strings feel dry and hard, either when being first put on the violin, or through long use, a very sparing application of trotter oil to their surface is of immense advantage, inasmuch as, penetrating into the fibre of the string, the oil softens it, and thus rendering it more elastic, enables it to vibrate more freely, and at the same time materially lessens the risk of it breaking. In putting strings on the violin, care should always be taken to have them *tidily* arranged in the peg-box, each string lying well over towards its own side of the box, and the least possible amount of string coiled round each peg. In tuning the violin, the upward movement of the strings is apt to bend the bridge forward slightly: this should be corrected after tuning, by pinching each string in turn with the finger and thumb, just in front of the bridge and as close to it as possible. This has the effect of pushing any portion of the bridge displaced back into its proper position again.

Now-a-days it is customary to have a "chin-rest" attached to the violin for the greater convenience in holding it. There are many kinds of chin-rests to be had, but the best and simplest is one of ebony,* maintained in position by two screws, or one made of vulcanite, with a single screw.

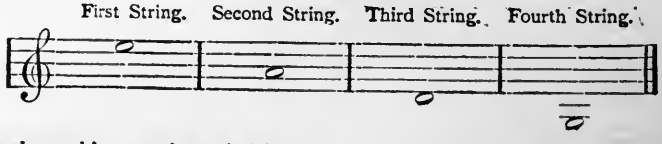
Lastly, the violin should always be kept *clean*. Many people have a sort of vague idea that an untidy violin, with loose ends of string straggling about it, a thick deposit of rosin under the strings, and the varnish all dulled and obscured, looks rather well. This is a most mistaken idea. Nobody, who has a real regard for his or her violin, should leave a particle of dust on it. In time, of course, a violin is bound to become more or less dirty through much handling. It should then be carefully cleaned with very weak spirits and water (whisky or methylated spirit). After this has been very sparingly employed, the violin should be rubbed up with a little light oil, neatsfoot, trotter, or fine boiled linseed oil: any one of these will serve, the only thing essential being that whatever oil is used, none of it should be allowed to remain on any of the surfaces of the violin, but should be carefully rubbed off with a cotton or silk cloth.

SECTION II.

FIRST STEPS IN VIOLIN-PLAYING.

The Strings.

It is assumed in the following pages that the student is already acquainted with the rudiments of music, the names of the notes, their varying values, rests, the different degrees of time, and the like. Acting on this assumption it may be premised that the violin is fitted with four strings, sounding as follows:—†



* It is one of these ebony chin-rests shown in Fig. I.

† In tuning the violin the pitch of the A should first be fixed by means of a pianoforte, which will give the pitch proper for every voice or instrument which may happen to be used in conjunction with that particular piano; in the absence of a piano a tuning-fork may be used, which will give the absolute pitch. The A having been ascertained, the D should be then tuned to a perfect fifth with the A, the G to a perfect fifth with the D. Lastly the E should be tuned to a perfect fifth with the A, and the violin will then be ready for use.

These are the natural, or *open* notes of the violin, and the first thing is to be able to produce these *open* notes in a proper manner. To do this there are two points of the most vital importance, which must be thoroughly understood beforehand,—the manner of holding the violin, and of holding the bow.

On Holding the Violin.

The first thing to be considered is that the general pose and attitude of the student should be easy, comfortable, and dignified. There should be no stooping, no ungainly or slovenly

FIG. II.

attitude, and beyond everything, *no muscular contraction.* The surest guide to a correct attitude is a feeling of perfect ease and comfort. The violin should rest on the left collar-bone, being steadied in that position by the gentle pressure of the chin * on the chin-rest (Fig. I.), the chin lying somewhat sideways on this support, so that the player's head is slightly inclined towards the left, the eyes having a corresponding direction to the right. There must be no feeling of

* The *side* of the chin.

stiffness or contraction in the player's neck. The position of the violin should be horizontal, and its neck should be *almost* at right angles with the centre of the left shoulder.

The neck of the violin is to be held between the thumb and first finger, great care being taken that the neck is never allowed to drop into the fork formed by the finger and thumb, but that a space is always left clear between the violin-neck and the junction of the thumb with the rest of the hand (Fig. III.).

FIG. III.

The upper part of the left arm should be held close to the body, but without pressing upon it, and the elbow should lie in under the centre of the instrument (Fig. II.).

The great end and object to be secured is that the violin should be so held that the arm will not become tired, and that the fingers may be at liberty to move freely and easily upon the finger-board; and if there is any contraction in wrist, arm, or shoulder, the arm is bound to become tired very soon; it will be altogether impossible for the fingers to move freely, the tone will be poor, and the violin-playing, instead of being a pleasure, will be a punishment, not only to the player, but to a number of respectable people who never did him any harm.

On Holding the Bow.

The correct method of holding the bow is rather a difficult matter to set down in words, although very easy of practical demonstration. In Figs. IV. and V. are given two illustrations of

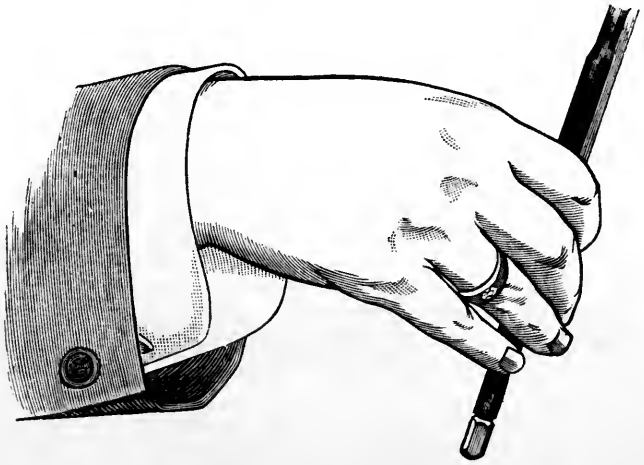


FIG. IV.

the proper way in which a bow should be held, and these illustrations will well repay careful study. A very essential point is, that just as there must be no contraction or stiffness in the left hand,

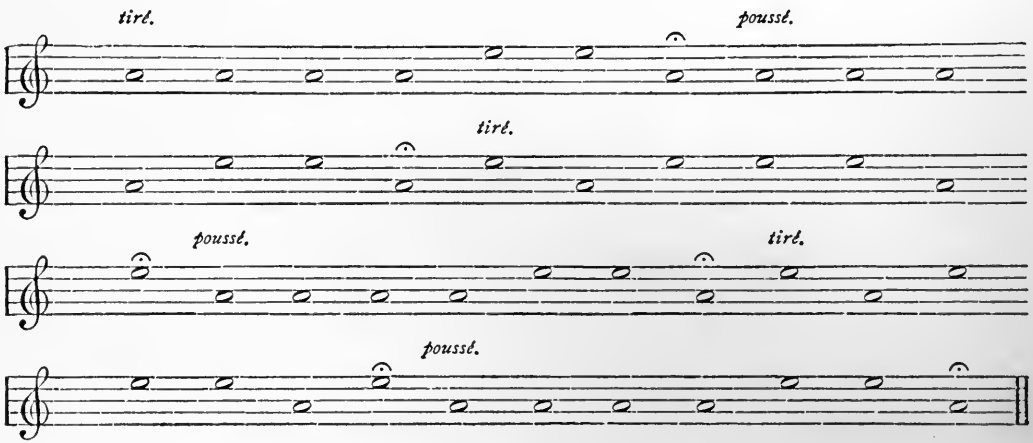
FIG. V.

so also there must be none in the right. The wrist must be perfectly loose and easy, and the fingers must hold the bow securely, but not in the least degree tightly.

On Playing the Open Notes.

The first step in actual violin-playing is the playing of the four *open* notes, E, A, D, G. The student is supposed to be standing, bow and violin in hand, before a music-desk

adjusted to such a height that, while he is standing in an erect attitude, the eyes fall easily and naturally upon the pages of an open book placed upon the desk. He must stand a little to the left of the desk, so that his violin, properly held, may not interfere with his view of the music. The principal weight of the body should rest on the left foot, the right foot being a little apart from the left, and pointed outward. The violin and bow held strictly in the manner already described and illustrated, the bow having been previously properly rosined and screwed up to a moderate degree of tension, the student may make a start with the following simple form of exercise:—



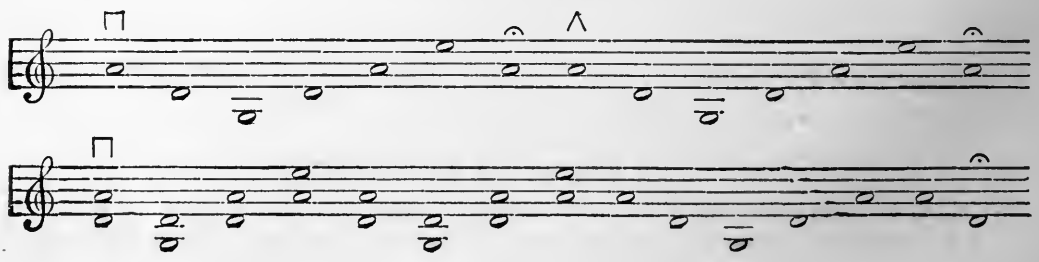
This is the first exercise in Spohr's "Violin School." It will be observed that over certain notes the words *tiré* and *poussé* are marked. *Tiré* signifies that the bow is to be drawn downwards, *poussé* means that the bow is to be pushed upwards. Down-bows and up-bows are generally expressed by signs thus—

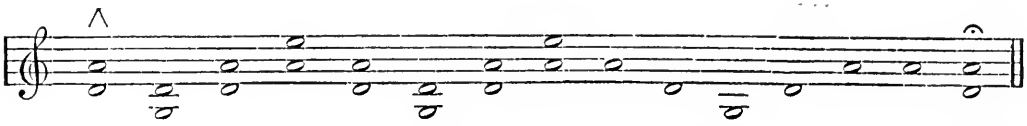
Tiré—Down-Bow—⊓
Poussé—Up-Bow—⋀

In this exercise the student commences on the first note with a *down-bow*, passing the whole length of the bow-hair slowly over the string, taking very great care, at the same time, that the bow moves absolutely parallel to the bridge.

In playing, the bow should be used in the same way as is a brush in painting, and the slow, regular up-and-down movement of the bow-arm, must on no account be associated with the operations of sawing or filing. The great thing in bowing is to acquire an even, *moderately* firm pressure, the full breadth of the bow-hair being placed upon the strings. Too slight a pressure fails to set the string completely in vibration; too strong a pressure produces a harsh, grinding tone, which is not the pure vibration of the string at all.

A companion exercise to the one already given is as follows:—

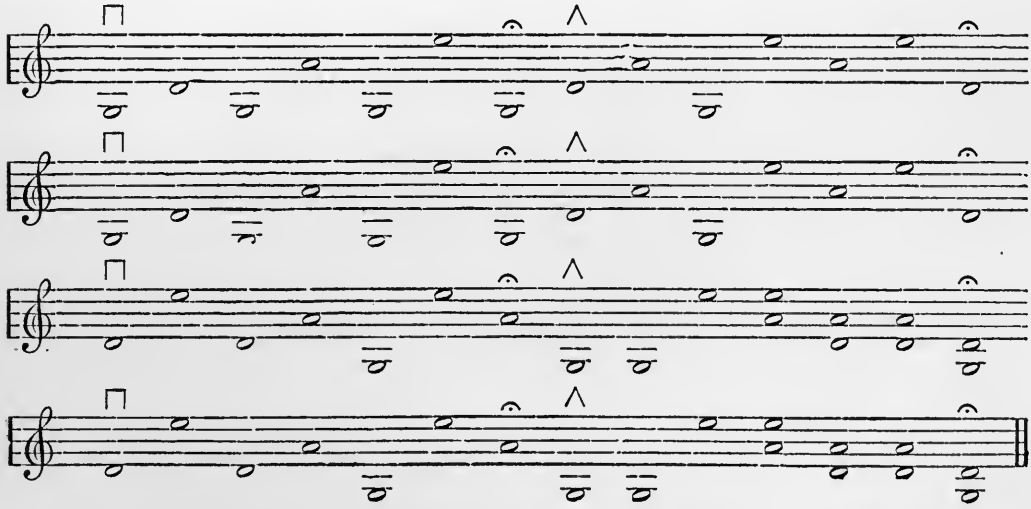




In this exercise all four strings are employed. The preceding one, in which only the two upper strings were used, required no deviations from the normal attitude of the performer as already described. In this exercise, however, the bow-arm must be brought round somewhat, so that the bow may be placed easily and comfortably on the third or fourth string as occasion may require. The alteration in the position of the arm itself must be of the very slightest nature, the bow being brought into its proper position over the third or fourth string principally by the raising of the wrist, the elbow being moved outwards from the body just so far as to allow of the wrist and hand being raised sufficiently to bring the bow easily into the proper position for starting a long, slow down-bow on the D string. In the case of the G, or fourth string, a slightly greater degree of elevation will be required. At all times the motion of the bow-arm must be confined to the wrist and elbow, and no matter what string is being played upon, the upper arm must on no account depart from its normal position.

The double notes in this exercise must be played with an equal pressure, so that the one note does not sound louder than the other.

So far we have been occupied merely with the transition from one string to its immediate neighbour above or below, passing simply from E to A, A to D, D to G, and *vice versâ:* in the next exercise the difficulty of passing from a lower to a higher string without touching the intervening ones has to be surmounted.



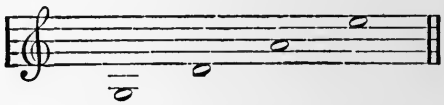
The foregoing exercises are not lively, but they are very necessary. They are intended to give the student a certain amount of control over his bow. The correct manipulation of the violin bow is only to be properly learned through much careful study, practice, and, above all, thought. It can rightly be compared to nothing outside itself; and the comparison already made between it and the brush of a painter, although the most accurate, is but an imperfect one at best. Like an artist's brush or pencil, it must move in direct sympathy with the intelligence; only when the bow moves as if a nerve ran through it connecting it with the brain, is the art of bowing seen in perfection, and by that time bowing has become not so much an art as an instinct. Doubtless this sounds very far removed from the production of open notes, but it is

bowing as it *should be;* and the principal object of these open-note exercises is that the student may learn to bow *correctly;* and the finest bowing in the world can only be correct.

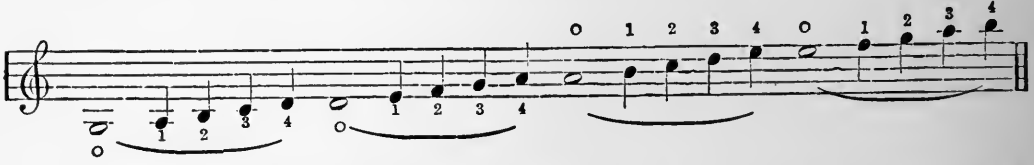
In practising these exercises the student should invariably *stand.* At first a feeling of fatigue will be experienced after very few minutes' playing. This is only natural, and harm rather than good will result from any attempt to fight against this fatigue. At the least feeling of weariness the violin should at once be put down from the neck: a couple of minutes' rest will suffice to bring relief to the system learning to adapt itself to new conditions; and then the practice may be resumed with muscles, eyes, and intelligence rested and refreshed. How long these open-note exercises should be worked at depends, of course, entirely on the capacity of the individual. In any case they should be persevered with until it is felt that a full, pleasing quality of tone can be produced, and that the correct position of both hands and arms, and of the bow on the strings, from being an object of anxious study and consideration, has come to be largely a matter of habit; and, in connection with this, it is well to remember that it is really very much easier to acquire good habits than it is to get rid of bad ones. Finally it should always be borne in mind that in violin-playing, as in everything else, "the more haste, the less speed." For the attainment of respectable results, untiring patience and deliberation are absolutely essential.

On Stopped Notes.

After a certain degree of proficiency has been attained in the playing of the open notes and in the management of the bow, the attention must next be directed to the production of the *stopped* notes of the violin—notes produced by the pressure of the fingers of the left hand on the strings. The violin is tuned in fifths, the four strings, as has already been shown, emitting the notes—

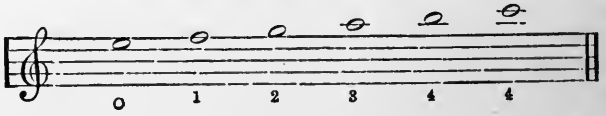


These notes represent, as it were, a sort of outline, which is filled in with the following additional notes, all of which lie easily under the fingers of the left hand when held correctly in the normal, or first position (see Plates II. and III.)—

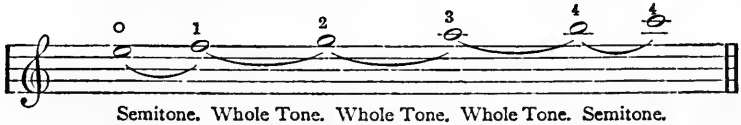


For the sake of clearness the stopped notes have been written down as crotchets. The mark O under and over the semibreves signifies the open notes, the figures, 1, 2, 3, 4, represent the first, second, third, and fourth fingers. It will be observed, also, that the fourth-finger note on one string is the same as the open note of the string above; sometimes it is necessary to use the open note, and at other times the stopped one must be employed. This, however, is a matter belonging to a later stage of study.

In learning to produce these stopped notes, one string should be thoroughly mastered before another is considered. Starting with the first string—

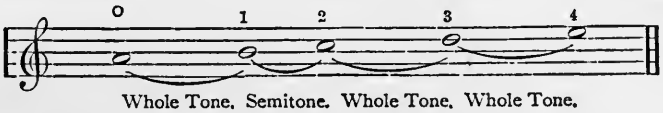


there are six notes to be produced, the last one, C, being reached by an extension of the fourth finger. Before attempting to play these notes, their relation to one another must be carefully considered. On the pianoforte the player has all the notes ready-made, and to play out of tune is impossible. On the violin the case is different, the making of the note rests entirely with the player, and unless the nature and value of intervals are thoroughly understood, the notes made by the player will not be in tune, and the most sensitive ear will not make up for a lack of knowledge on this point; for the ear cannot form any estimate of the tunefulness of a note until that note has actually been played, whereas, with a thorough understanding of the nature of intervals, the meaning of the variations in distance between the different notes on a string is easily grasped; and, given a tolerably acute ear, the great bulk of the difficulties surrounding the attainment of correct intonation disappears at once. In the notes on the E string—



Semitone. Whole Tone. Whole Tone. Whole Tone. Semitone.

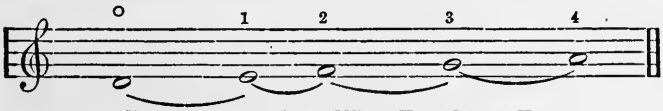
it must be remembered that from the open E to the F is only a half-tone; consequently, the hand being maintained in its proper position, the first finger is to be drawn back somewhat and placed very firmly on the string close to the nut. The first finger still pressing the string, the second is put down upon the string at a greater distance from the first than exists between the nut and the first finger, for the interval F—G forms a whole tone. The first and second fingers remaining on the notes they have already made, the third is now placed on the string to give the note A a whole tone from G. Now the fourth finger makes the note B a whole tone from A, the remaining fingers continuing in their original positions. B made, the fourth finger is moved forward slightly, care being taken that the position of the other fingers remains unaltered, and the note C is obtained by what is called an "extension." It must be remembered that C is only a semitone higher than B, and that consequently the alteration in the position of the fourth finger must be proportionately slight. On the second string there is another series of notes—



Whole Tone. Semitone. Whole Tone. Whole Tone.

Here the semitone B—C lies between the first and second finger notes. Otherwise the same course is to be pursued in regard to the notes on this string as with those on the first, the fingers being held firmly in position as each succeeding note is produced.

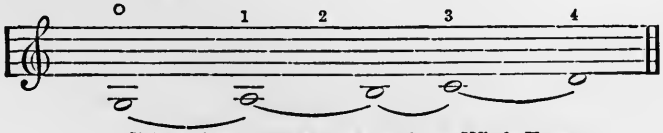
The series of notes on the third string—



Whole Tone. Semitone. Whole Tone. Whole Tone.

is exactly similar to that on the second, the semitone coming between the first and second fingers. Before playing these third string notes, it would be as well to read again the paragraph dealing with the altered position of the bow-hand, in playing on the third and fourth strings.

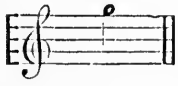
The notes on the fourth string—



Whole Tone. Whole Tone. Semitone. Whole Tone.

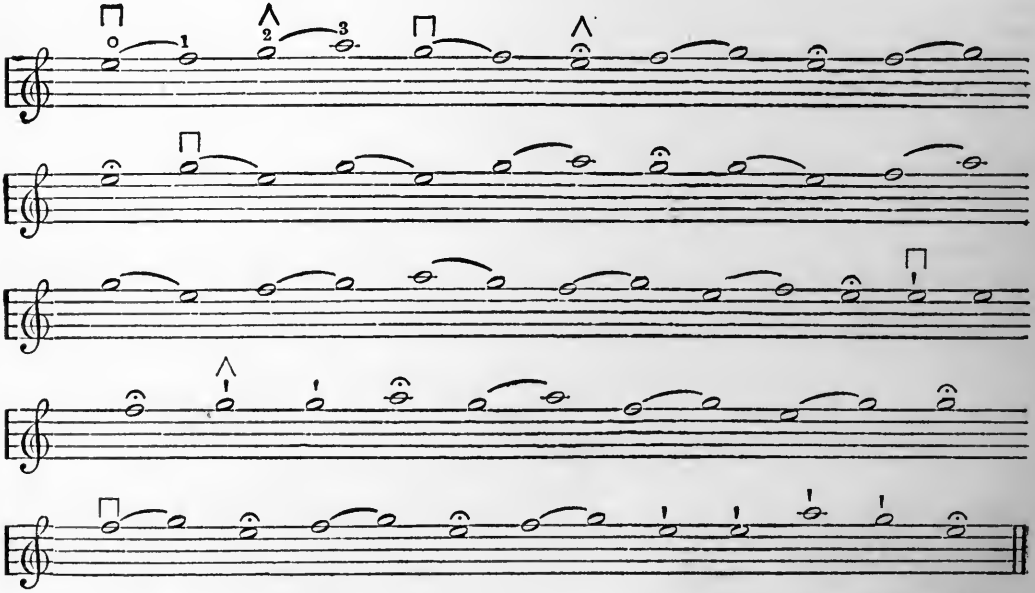
are to be produced in exactly the same way as the others, due attention being paid to the fact that the interval between the *second and third* fingers is a semitone.

In producing these notes there are several points which demand very careful consideration. In the first place, everybody knows that strings of varying lengths produce sounds of varying acuteness—in music, different notes. Now the object of what is called *stopping* on the violin is to produce, for the time being, the effect of a shorter or a longer string; thus, when the note G is made with the second finger on the first string, the effect is supposed to approximate to the sound of an independent string of which the natural or open note would be G.



It will thus be seen that, in making a stopped note on the violin, the finger must be pressed upon the string so firmly that no vibration passes through into that portion of the string lying between the finger and the nut; for if any perceptible amount of vibration passes through into that portion of the string which is supposed to be shut off by the pressure of the finger, it will be readily understood that the quality of the stopped note will be neither pure nor brilliant. Thus a very great pressure is necessary in the production of stopped notes, and the ability to apply this pressure can only be acquired by practice; for this pressure is not to be attained through clutching the neck of the violin as if it were a broom-handle. On the contrary, the violin must be held as lightly and easily as ever, and the muscular, or rather, nervous force employed must come solely from the fingers. The one difference between playing open notes and stopped ones lies in the firm, decided pressure of the fingers of the left hand. In all other respects, attitude, freedom from all muscular contraction, method of bowing, &c., the rules already laid down must be followed as strictly as ever.

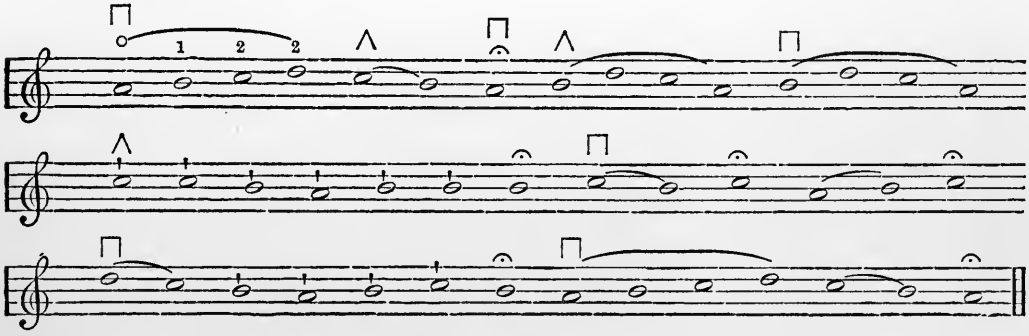
The student having become familiar with the stopped notes on the different strings, may next work at the following exercise:—



The notes connected with each other by a slur ⌒ or tie are to be played with the same bow. Thus the exercise commences with the open E, played with a down-bow. Half of the full length of the bow having been passed slowly over the open string, the first finger is placed firmly on the string in the proper position for making the note F, and, without the slow, even motion of the bow having been in the least checked, the second note, F, is played with the remaining half of the bow. The first finger still holding the note F, G is made with the second

finger, and an up-bow just as slow and even as was the down-bow is started. Half way in the upward course of the bow, the third finger is placed upon the string to produce the note A; and to the sounding of this note the lower half of the up-bow is devoted. Meanwhile, the first and second fingers are supposed to have been kept stationary on the notes F and G. If this has been done, the note G with which the succeeding *down*-bow commences will be obtained by simply raising the third finger from immediate contact with the string, and in the same way, the F, played with the second half of this down-bow, is obtained by raising the second finger. This practice of always, wherever possible, keeping the back fingers down on the strings is a most essential one. Not only is the hand thereby maintained in its correct position, and true intonation secured, but by the reinforcing of, say, the third finger by the first and second, a much better tone is secured; and most especially is this the case with the fourth finger,* the weakest on the hand, which, by the observance of this principle, obtains the assistance of the three other fingers.

The notes marked with a pause 𝄐 are to be reckoned as twice as long as the others; and to these single notes a bow of the same duration as that required for *two* slurred notes must be given. Further on there are some detached notes marked with an accent thus— ' These, also, are to be played with whole bows, but the bow must be moved proportionately faster, the accent being given effect to by a slight emphasis with the first part of the bow, up, or down, as the case may be.



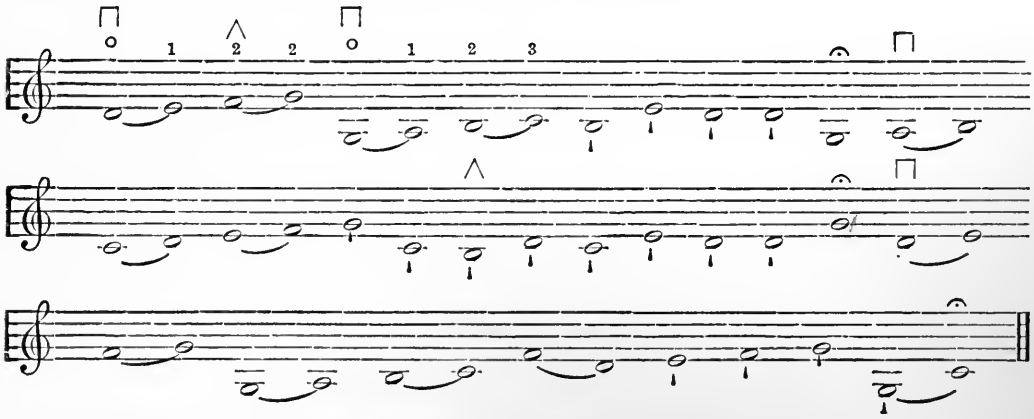
In this exercise groups of *four* notes to be played with one bow are introduced. The same principles are to be observed in this exercise as in the preceding ones.

After the two exercises illustrating the employment of the notes on the first and second strings have been thoroughly mastered, the next exercise, instead of, as before, being confined to the notes on one string alone, will deal with the notes on the two strings (E and A).

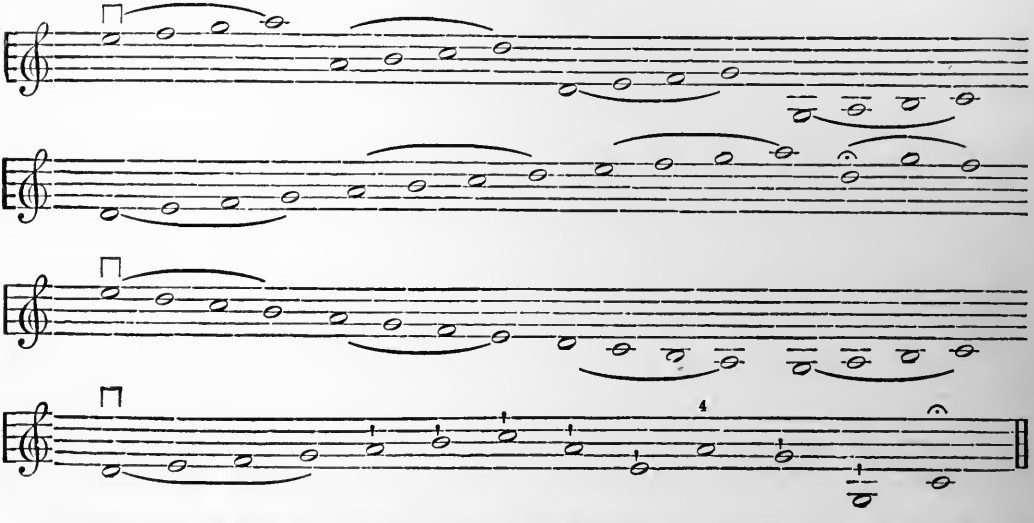
* A very common failing with students of the violin is to let the fourth finger, when not in use, curl downwards *past* the finger-board, thus pulling the hand out of its proper position, weakening the pressure of the other fingers, and so spoiling the quality of the tone; besides making correct intonation almost impossible. This is a most serious error to fall into, and must be carefully guarded against. *All* the fingers should remain curved over the strings whether in immediate use or not.

In this exercise the different positions of the tones and semitones on the two strings must be carefully remembered, the semitone on the first string lying between the open note and the first-finger note; the semitone on the second lying between the first and second fingers.

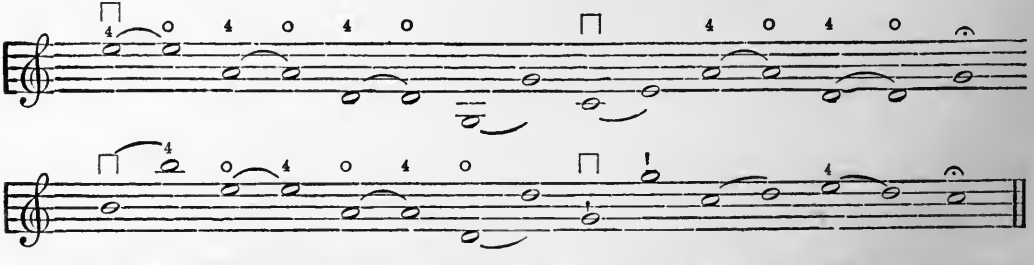
The following exercise deals with the notes on the third and fourth strings:—



The next exercise is one in which all four strings are employed—



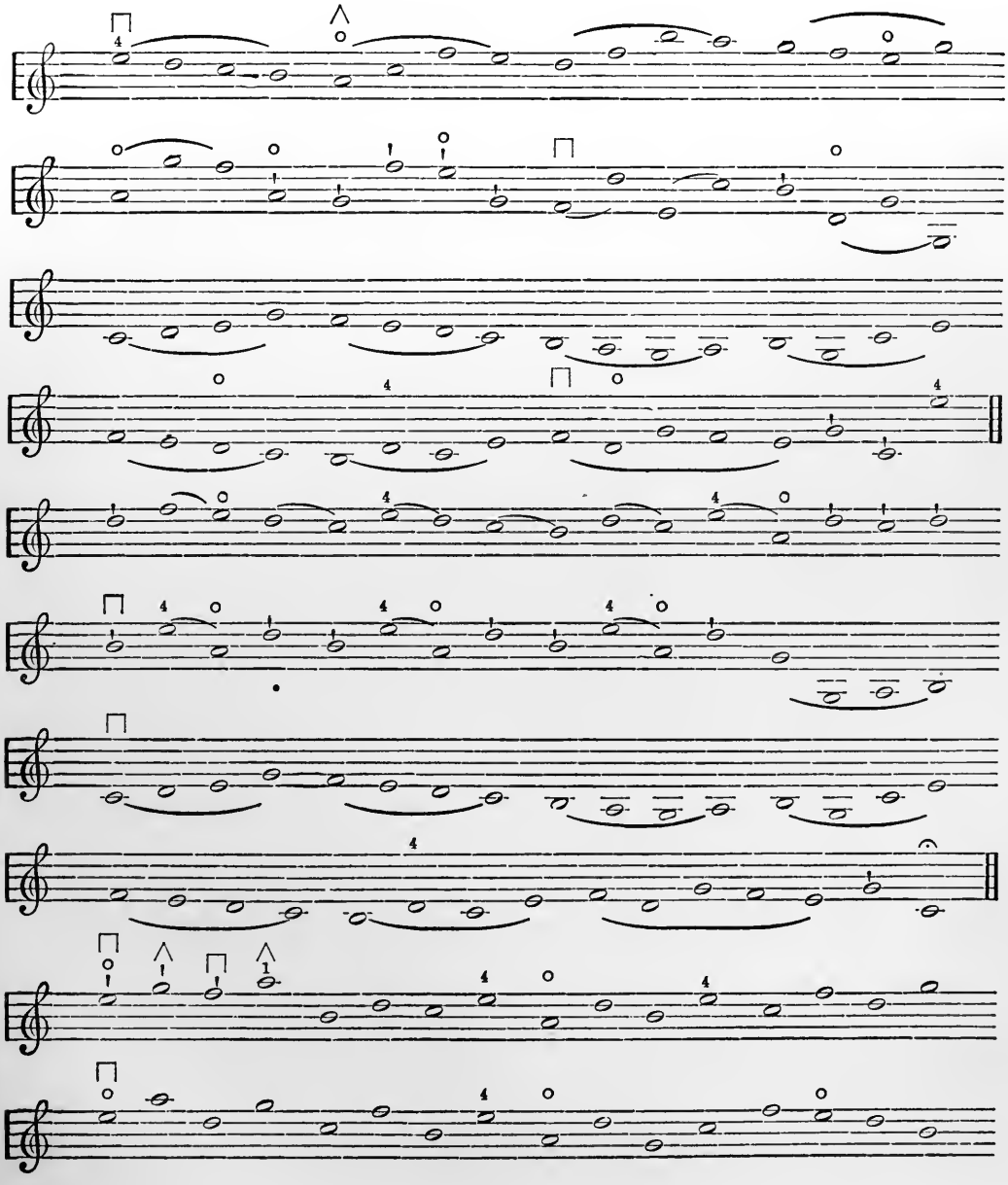
The fourth finger being the weakest, the following exercise is designed to strengthen it, and to make the correct intonation of fourth-finger notes as easy as others.

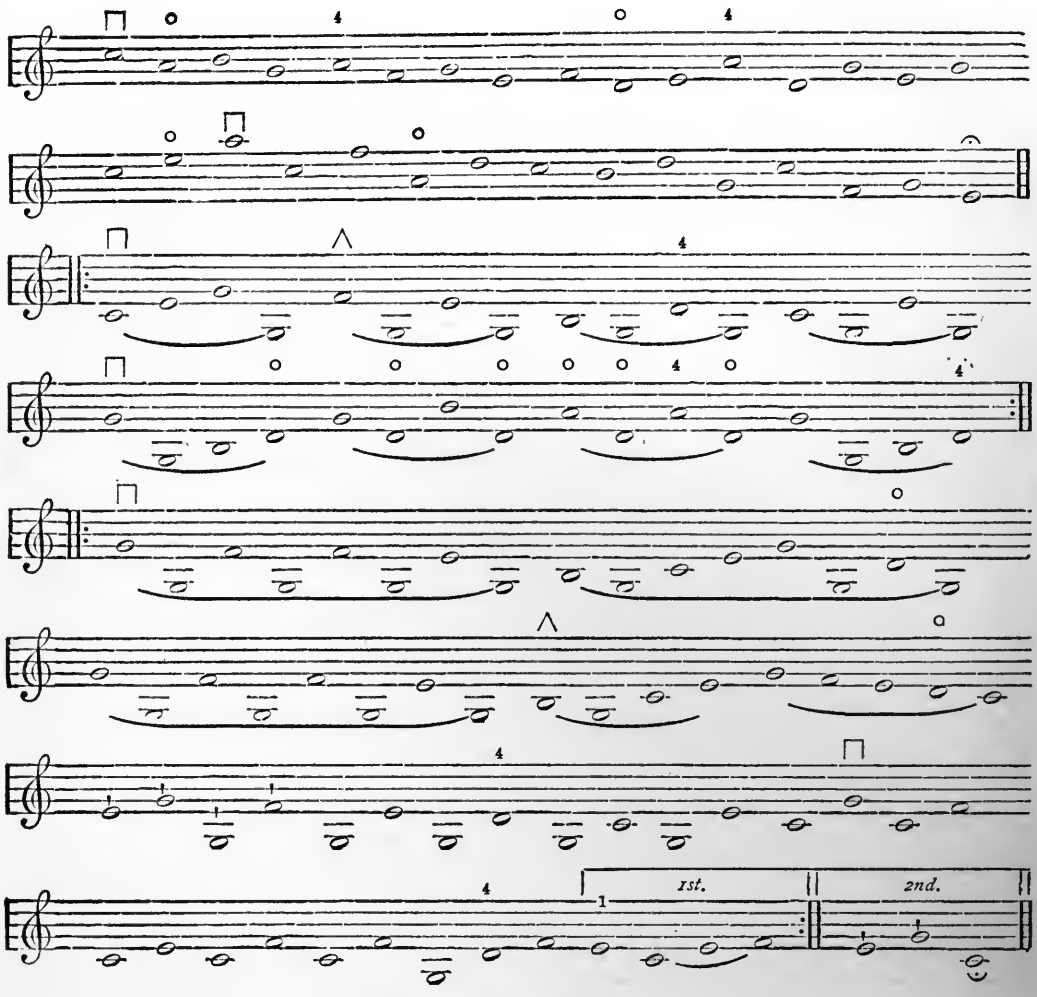


At first there will be some difficulty in putting the fourth finger readily on the required note, and there will probably be a tendency towards pulling the hand out of its proper position in

order to allow the fourth finger to reach the note: this, however, will be merely to change from one evil to another. *The hand must on no account be suffered to depart from its proper position.* Until the student has become familiar with the position on the finger-board of the fourth finger notes in this exercise, it will be a good plan to get the correct position of such notes by playing the series of notes, commencing with the open string, and maintaining each finger in its correct position, as already recommended. By this means there will be perfect assurance that the hand is being held correctly, the difficult note will become easy, and the fourth finger being reinforced by the others, a respectable tone will be produced.

In the next exercises all four fingers are employed on every string.





Sharps, Flats, and Naturals.

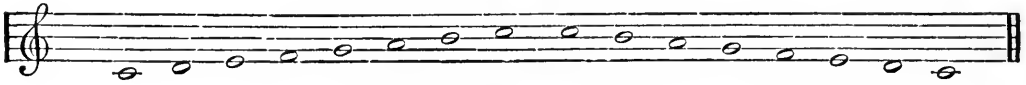
Hitherto all the exercises have been in the key of C major, and any semitones employed have been *diatonic* ones, that is to say, the semitone interval has lain between two notes of different names, as E, F, or B, C. The reason for this was that the student might not have to deal with too many difficulties at once. By this time, however, it is to be supposed that the various notes already employed have become of the nature of fixed points on the finger-board; and the next step, before proceeding to exercises of a more advanced nature, will be to make the student acquainted with the intervening *chromatic* semitones.

In order that the student may become familiarised with *every* note on the finger-board coming within the compass of the first position, the major and minor scales are here subjoined in a simple form; and following them are a few of the exercises already studied, transposed into various major and minor keys. The scales are as much for study as practice; and the more extreme keys may be passed over for the present. If, however, the student feels equal to wrestling with the difficulties of C♯, or C♭, major, or B♭, or E♭, minor, it is highly desirable that he should do so. The importance of slow, careful, scale-practice cannot possibly be over-estimated. With scale-practice the proportions of the different intervals will be thoroughly

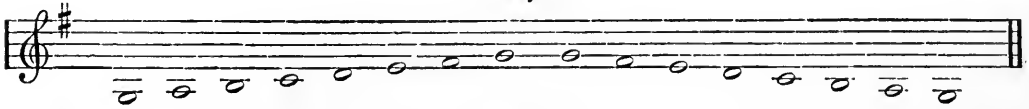
mastered, and will become so fixed in the memory that correct intonation will become almost a matter of instinct.

MAJOR SCALES.

C MAJOR.



G MAJOR.



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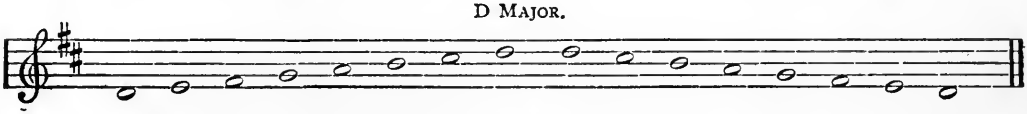

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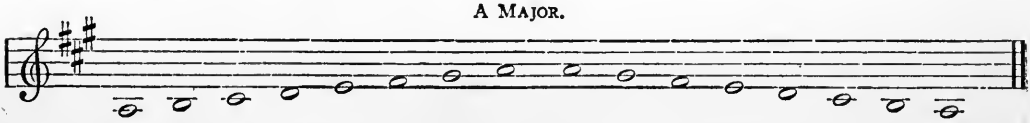
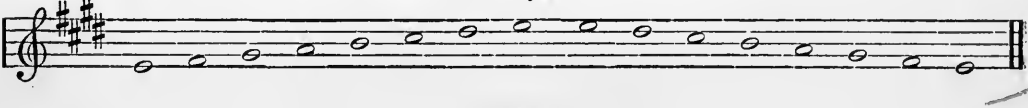
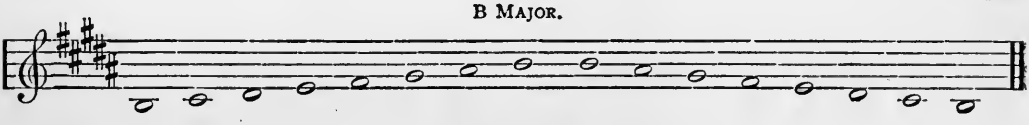


E MAJOR.



B MAJOR.



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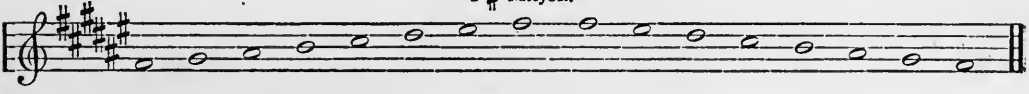

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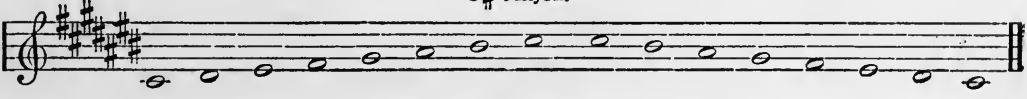

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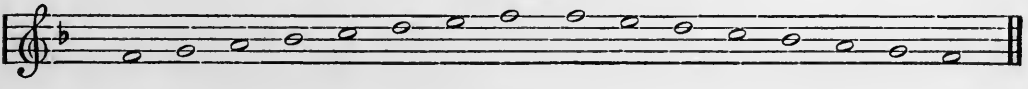

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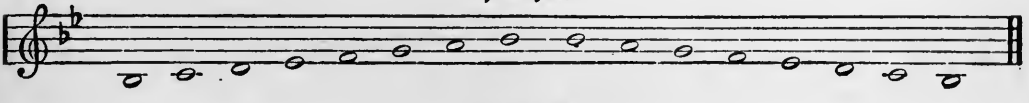

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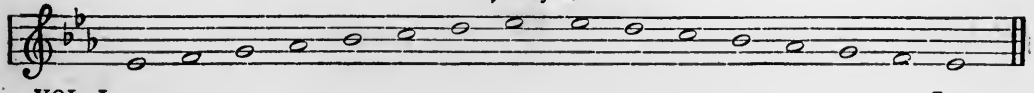
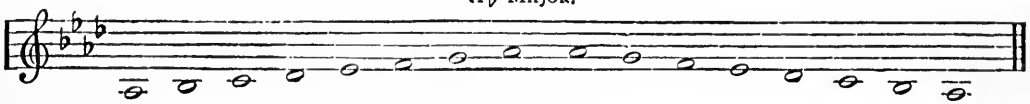
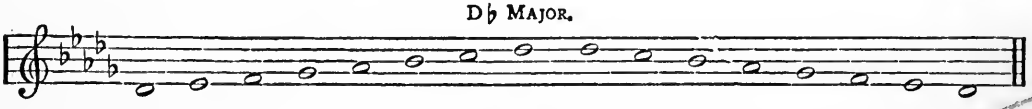


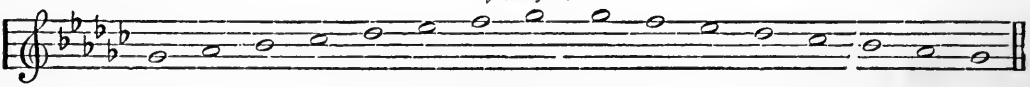
A♭ MAJOR.



D♭ MAJOR.



G♭ MAJOR.



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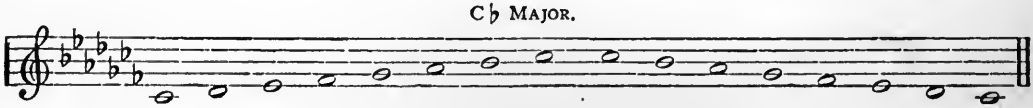
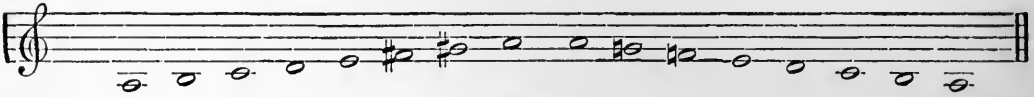


MINOR SCALES.

A MINOR.



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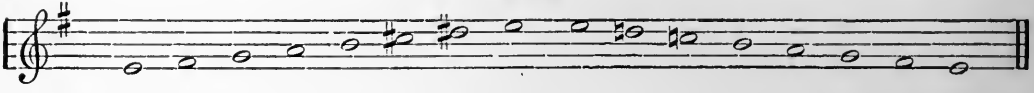

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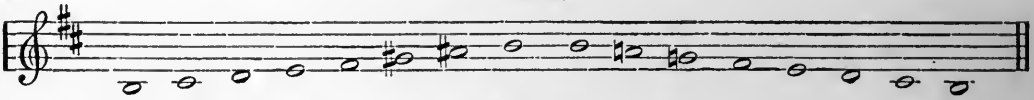

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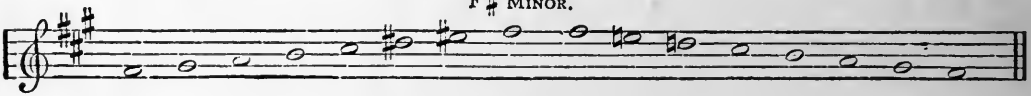

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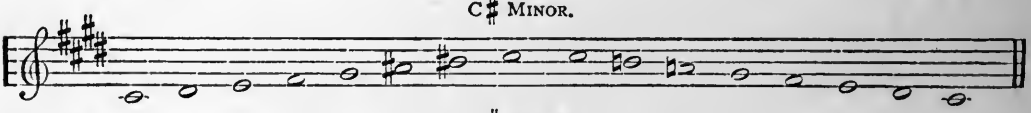

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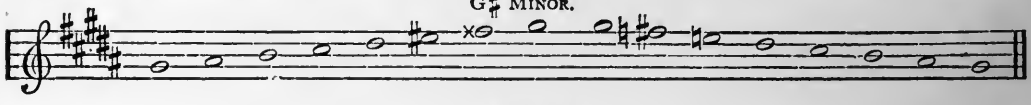
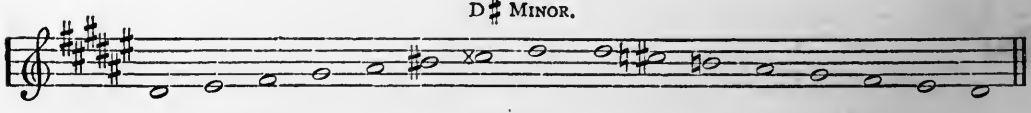
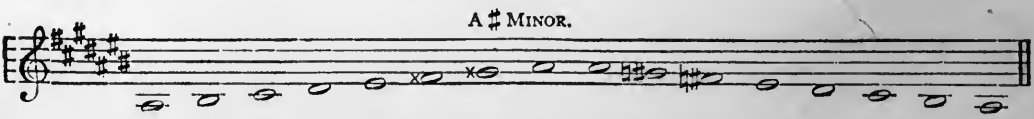


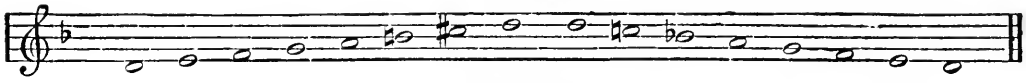
D♯ MINOR.



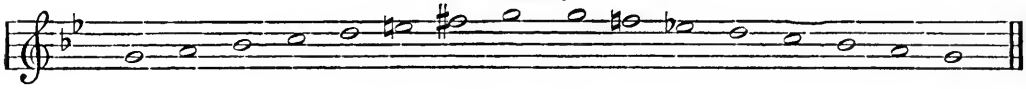
A♯ MINOR.



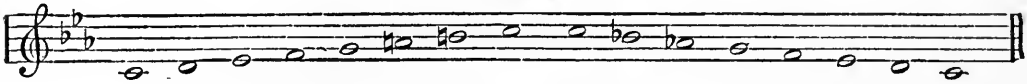
D Minor.



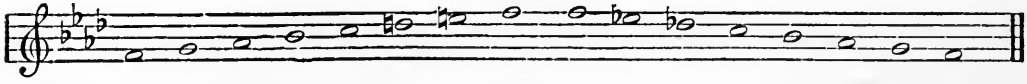
G Minor.



C Minor.



F Minor.



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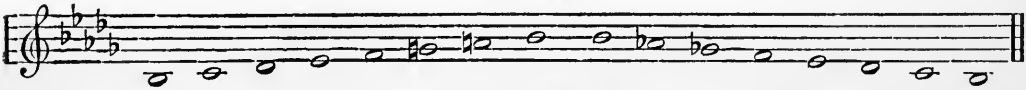
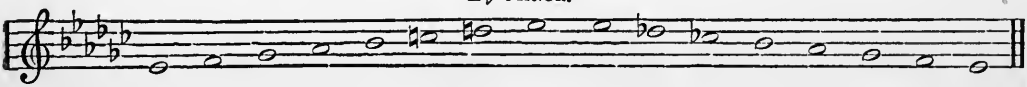
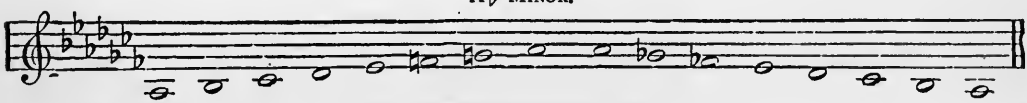
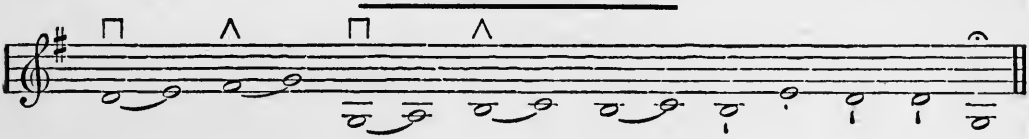


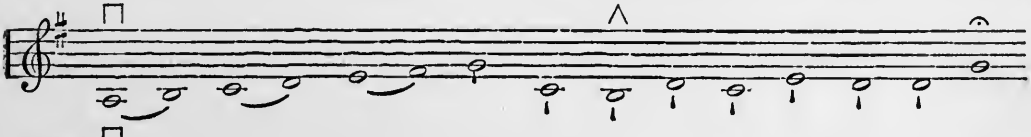
E♭ Minor.

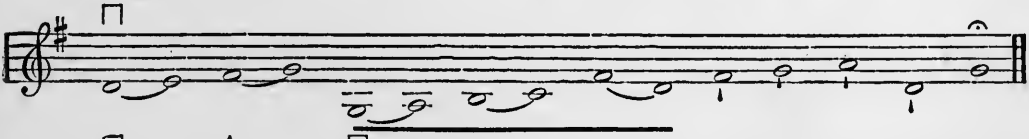


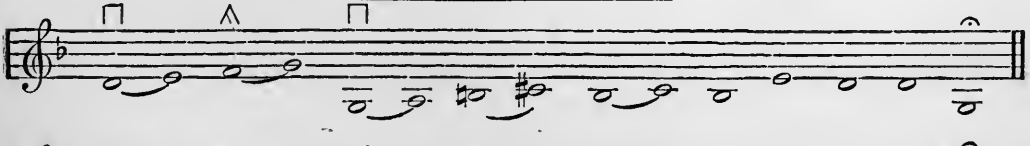
A♭ Minor.

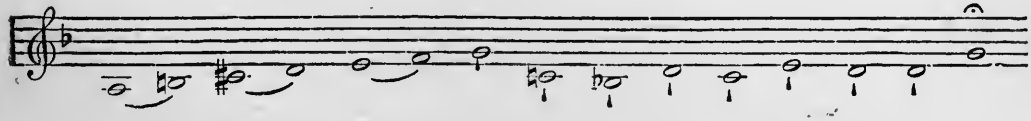


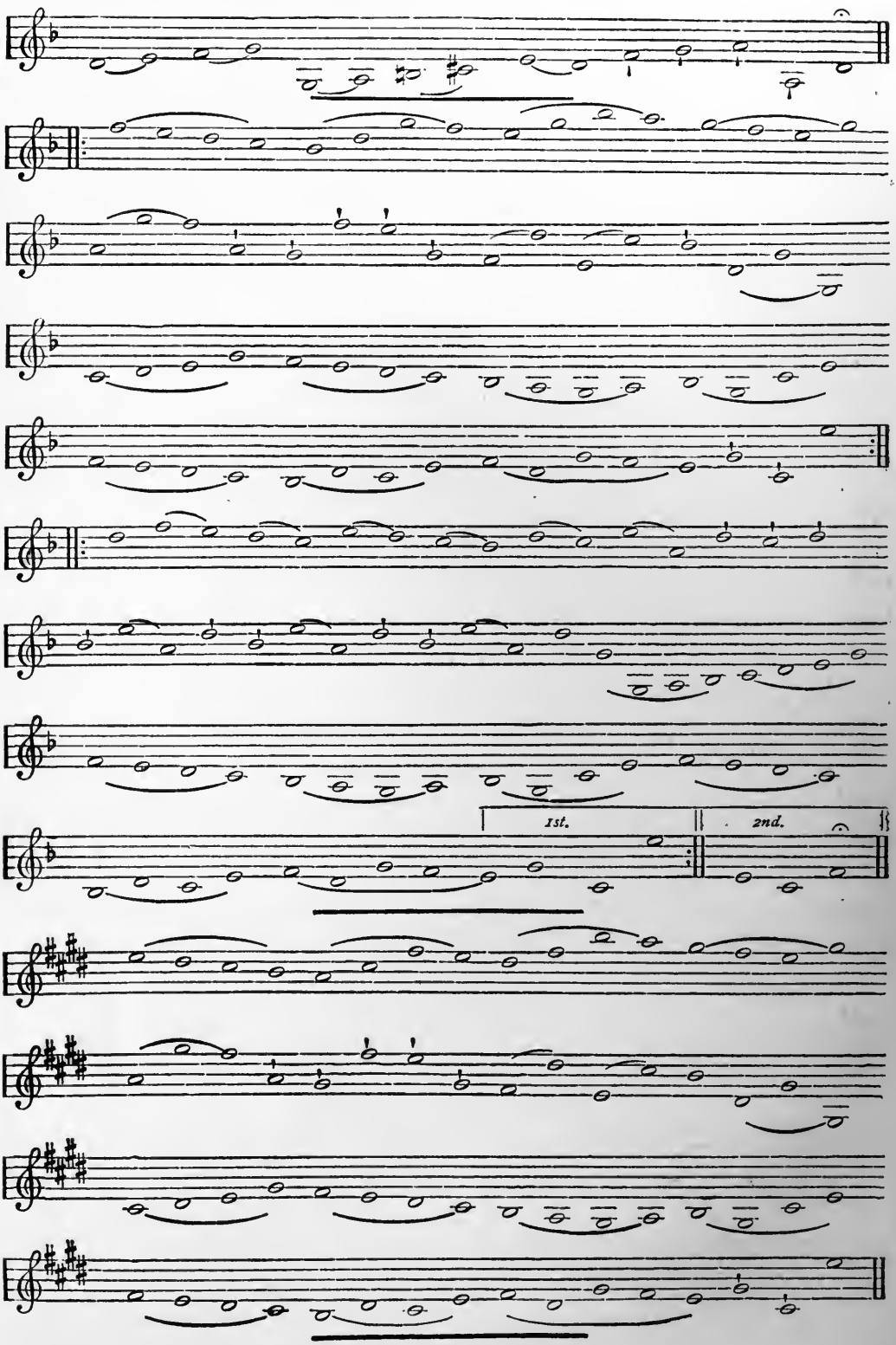


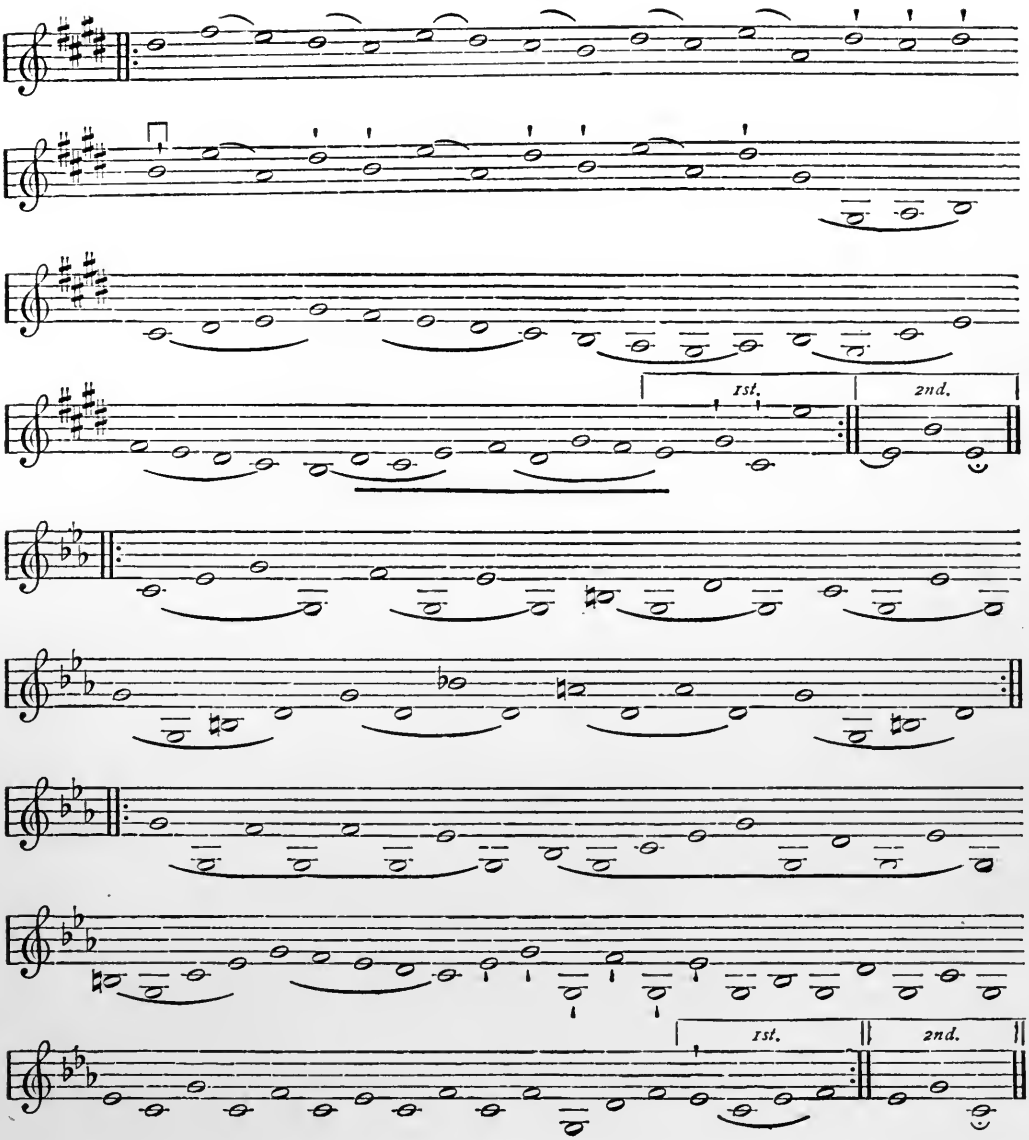









1st.
2nd.

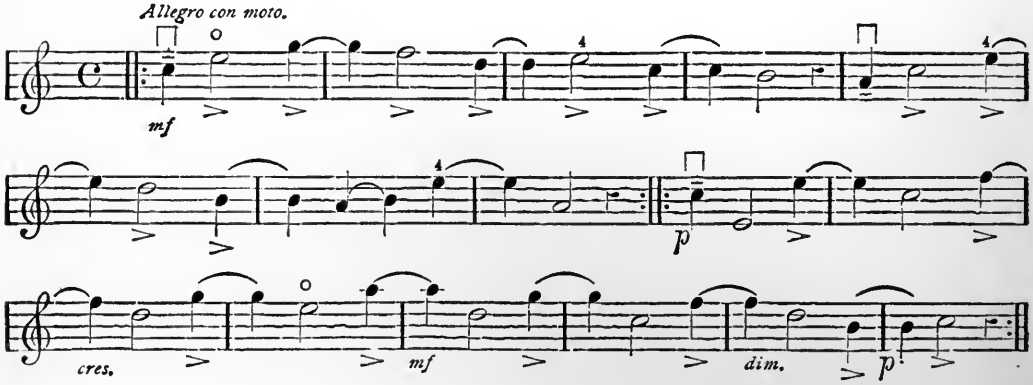


These exercises upon the major and minor scales should be persevered with until the proper observance of the modifications in the intervals, caused by the use of different signatures and of accidentals has lost much of its original difficulty; and towards the attainment of this end there is no more important and valuable assistance to be obtained than through steady and regular scale-practice.

When the difficulties of these exercises have been mastered, the student should be in possession of a tolerable acquaintance with all the tones and semitones lying within the first position on the violin, and should be able to realise pretty clearly the difference between a whole tone and a half tone. The difference between tones and semitones forms one of the great stumbling-blocks of the average pupil; and, as he or she is generally not called upon to consider chromatic modification of intervals until a point has been reached at which there are

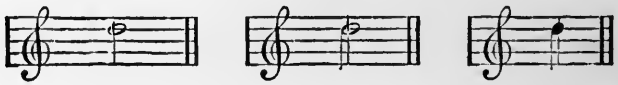
quite enough other difficulties to be grappled with, it is usually a very serious stumbling-block indeed. In this case it seemed advisable to take up the subject of the practical application of sharps, flats, and naturals, at a stage where the student had comparatively few things to consider beyond the correct intonation of certain intervals, and though thus prolonging the earlier and less interesting stages of work, make the succeeding stages, where there will be many other things to be considered, a little easier.

In the next exercise, it will be observed, a great step in advance is made, and in this little study by Campagnoli, we have, for the first time, something of the nature of a distinct musical composition.

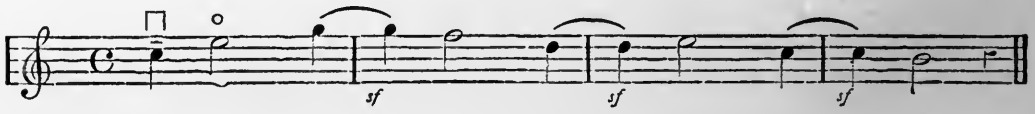


This exercise should be played very slowly at first, and special attention must be given to the correct phrasing of the syncopated notes. The great art of playing anything in syncopated rhythm is in playing *across* the bars, as it were. Thus in the first four bars of the above exercise, the last note of the one bar is continued smoothly into the first note of the following one, and although certainly the first note of the bar, it should not be accented in the least. Syncopation is a very common thing in music, and a very incorrect idea of its nature is, among amateurs, even more common. The whole difficulty lies in the correct phrasing of a combination of notes like this :—

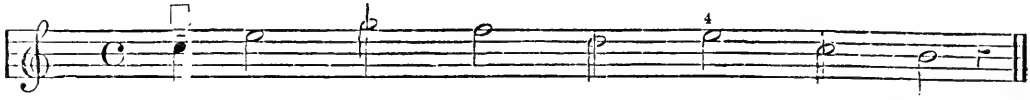
Once the fact has been thoroughly grasped that such groups of two notes must invariably be read as *one* note, the difficulties in the way of playing anything in syncopated form become surprisingly diminished. Read correctly the above notes should sound as though they were written so :—



Many people, who ought to know a great deal better, play passages similar to the opening bars of this little study by Campagnoli as though it were marked this way—

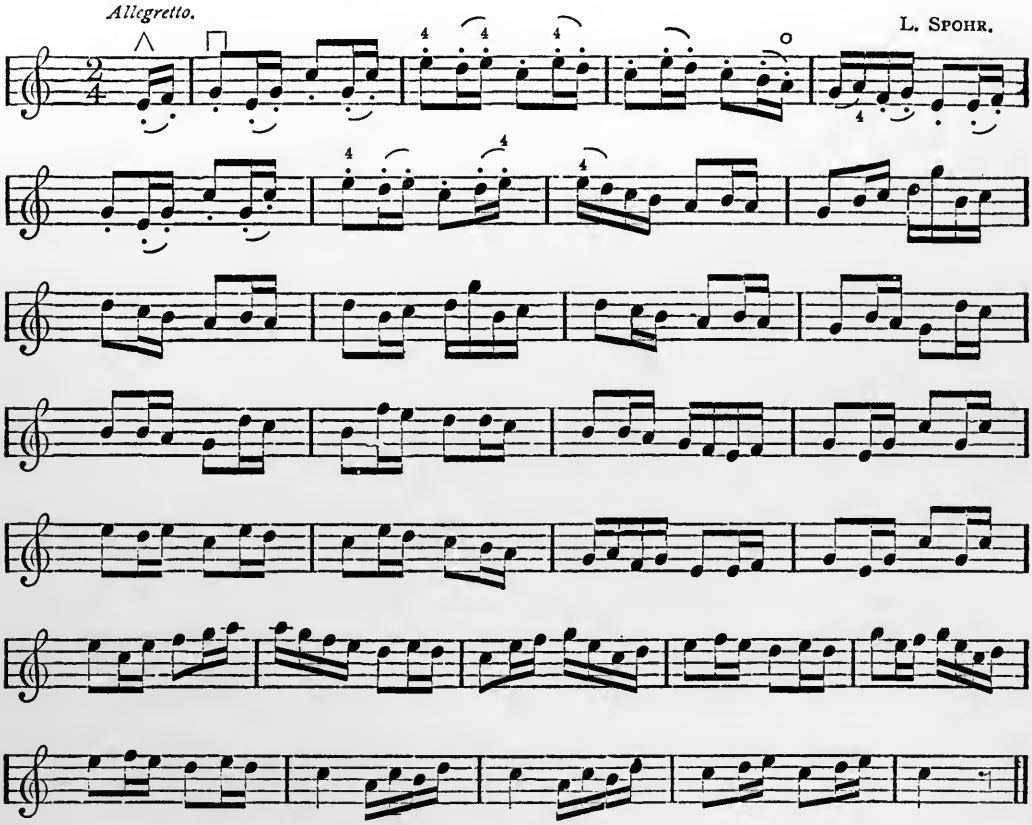


with a tremendous accent with the second half of the down-bow on the first note of the bar. This is the wrong way of doing things: and, correctly played, these bars should sound as follows—

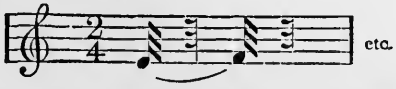


Beyond the syncopation there is little calling for remark in this exercise, and if the earlier exercises have been thoroughly mastered, it should present no great difficulty to the student. The mark — over a note signifies that it should be played with a firm, decided, and rather short stroke, the bow, however, not being allowed to leave the strings. The old rule of keeping the back fingers down on the strings wherever possible, thus reinforcing the finger actually making the note, must always be carefully remembered.

The next exercise is by Spohr—

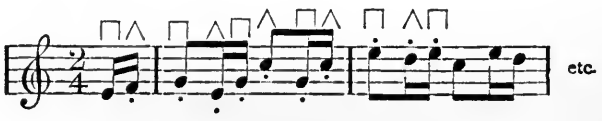


This exercise requires very neat bowing, the effect to be obtained with the initial up-bow approximating somewhat to the following:—



This is the meaning of the dots placed under or above the notes; they are to be played with a slight *spring* in the bow, so that, following upon the feeling of the bow striking upon the first part

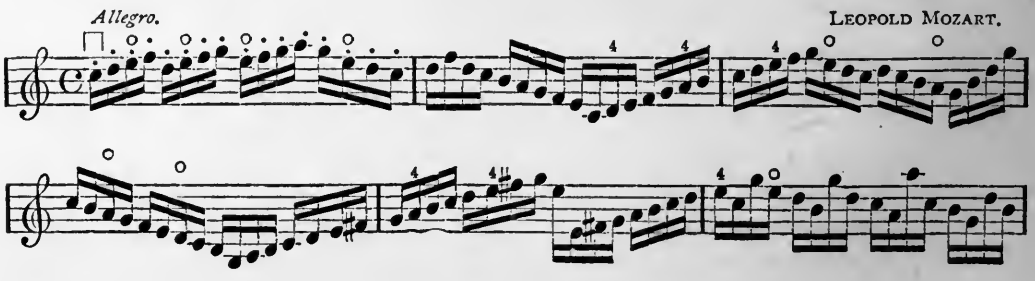
of the note, there may be an attendant sensation of the bow rebounding. These sensations of springy impact and rebound, of course, must be more apparent than real; but it is in this feeling of elasticity that the secret of *staccato* bowing lies. Short bows are to be used, the quavers having about a third of the bow, with a tolerably smart, decided accent on the first part of the note, the other notes having lengths of bow in proportion to their value. The principal difficulty is to get the semiquavers to sound lightly, firmly, and distinctly *within the slurs*. Another version of the same exercise which should be practised alternately with the one already given is as follows:—

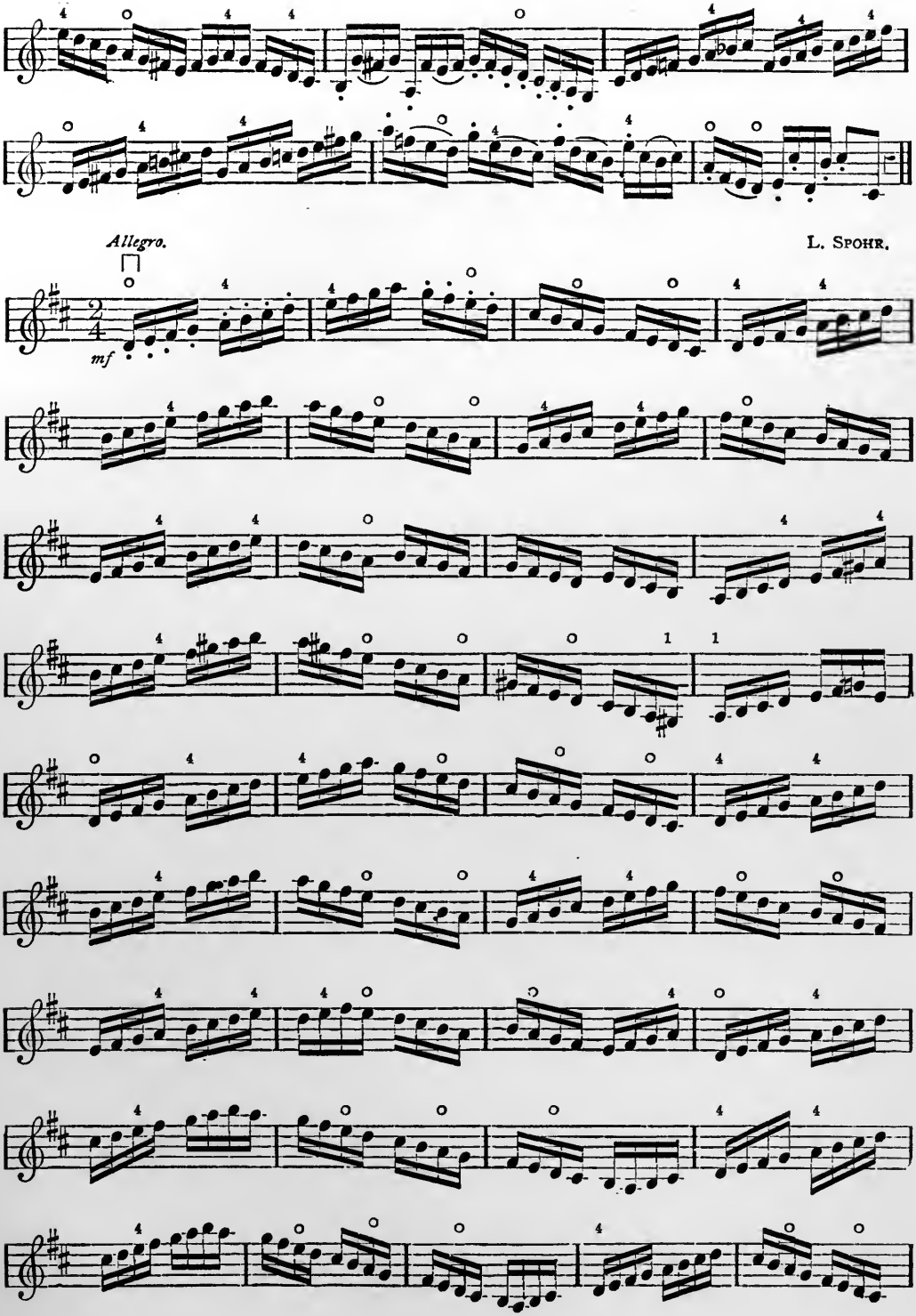


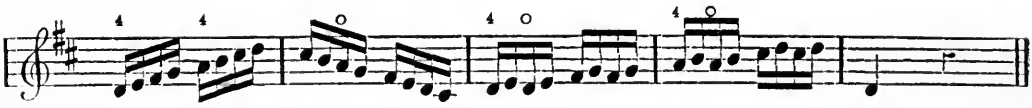
all the slurs being omitted, and the student commencing with a down-bow.

This exercise should impress on the student the vital importance of acquiring a free, unconstrained bow-arm, and a thorough mastery of the bow and its logical apportionment among notes, and groups of notes of varying value, so that he may not discover himself trying to fit in eight semiquavers with the extreme end of his bow, after having wasted at least three-quarters of the length of the bow-hair upon two quavers marked to be played *staccato*. The next two exercises are intended to assist in the cultivation of an easy, flexible bow-arm, with the motion wholly from the wrist and elbow, the shoulder being altogether at rest, and the notes made with short, decided strokes with the middle portion of the bow. The fact that both exercises are marked *Allegro*, and present a rather threatening array of notes to the eye, need not distress the student overmuch. Any sort of *Allegro* will do to begin with; and, in fact, the slower these exercises are played at starting the better. The only thing essential is, that played slow or fast, the notes must be phrased exactly as they are written—in groups of four: this is done by giving a very slight accent to the first note of each group. One other thing: at whatever rate of speed each exercise is commenced, that *tempo* must be maintained, without increase or diminution, to the end; and it would be well that each exercise should be started at no greater pace than can be maintained unbroken, comfortably, and with every attention to quality and truth of tone, correct position, and style of bowing, &c. What might be called the "switch-back" style of practice—rattling through the easy bits, and toiling painfully through the more difficult portions, of an exercise—is as unprofitable as it is childish.

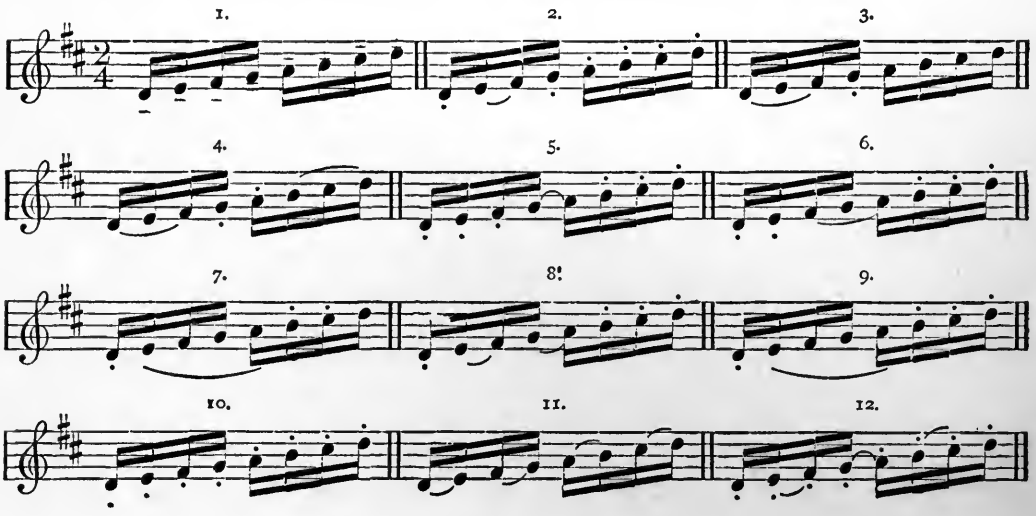
The first of these exercises is from the "Violin School" of the elder Mozart. It will be observed that in the eighth, eleventh, and twelfth bars there are slurred notes. In these cases the detached note of the group, which is each time made with a down-bow, must be played with a somewhat swifter and more extended bow, so that a proper allowance of bow for the three slurred notes may be secured. This adaptation of a down-bow to the increased requirements of a succeeding up-bow must not, however, cause any undue accent to be placed upon a note where no such accent exists.




Allegro.
L. Spohr.
mf



The following bowings of the Spohr exercises should also be practised :—



[*To be continued.*]

THE HARMONIUM.

By J. C. GRIEVE, F.E.I.S.

CHAPTER I.

THE HARMONIUM BRIEFLY DESCRIBED—ITS MECHANISM AND RESOURCES.

The Harmonium, in something like its present form, was invented, and first brought out in 1840, by Alexander Debain of Paris. It is the youngest of key-board instruments;* and its commodious and portable character, its durability and general utility, combined with its higher musical qualifications, have won for it exceptional favour, and created such a demand for its services as to make the harmonium one of the most popular of instruments. In the concert-hall, the theatre, the church, the schoolroom, the home, and even in the street, the harmonium is equal to all emergencies, and its services find ready acceptance.

It is not here necessary to say much about the construction and mechanism of the instrument, beyond those parts which the performer comes into immediate contact with, and which will be considered in due course. The harmonium is a *Reed* instrument,—that is to say, the sound is immediately produced by what are called *Reeds*. These are thin tongues of brass, of various lengths, fixed over an aperture in a metal plate. Each tongue is screwed to the plate at one end only, and fits the aperture as closely as possible, without actually touching the plate excepting at the fixed end. The reed is thus left free to vibrate without interruption, and thus receives the name of a *Free Reed*.† The apertures into which the reeds are fitted are closed on their upper side by means of pallets. Those pallets are held down by springs, and are connected with the black and white keys in front of the instrument by a kind of lever mechanism; so that when the performer presses down a particular key, the corresponding pallet is lifted and the aperture with the reed in it is held open. Underneath the reeds is the *Wind-chest*. Below this is the *Reservoir*, which is supplied with wind by two *Feeders* connected by levers to the *Pedal-boards*. When the performer places his feet upon the pedal-boards and puts them in motion, the feeders blow into the reservoir. The reservoir is made to expand, in bellows fashion, with the entrance of the wind. But a strong spring resists this expansion, and the wind is thus sent into the wind-chest in a compressed state, where it is imprisoned until the performer presses down one or more of the keys. The wind then escapes through the opened apertures, and in its passage causes the reeds to vibrate, some quickly, some slowly, according to their length and thickness; and corresponding sounds, high and low, are the result. This brief description of the internal arrangement of the harmonium may be considered sufficient, seeing that its importance to the player is comparatively small; dealing, as it does, with a portion of the instrument which is only under his control in a secondary sort of way, and which he does not even require to think about in the ordinary exercise of playing.

The essential difference between the harmonium and the American organ is (as far, at least, as the foregoing explanations are concerned), that in the harmonium the wind is forced *out* through the reeds, whereas in the American organ it is drawn *in*. In the former case the

* The American organ, which is but a modified harmonium, was introduced some twenty years later.

† The free reed is said to have been employed for musical purposes in the time of Confucius, 479 B.C.

pressure of wind on the reeds is greater than in the latter. For this reason the sound of the harmonium may be considered slightly harsh, compared with the velvety tones of the American organ; at the same time, and for the same reason, the harmonium has more character, greater distinctness of tone, and a quicker response to the touch of the performer, than its rival can claim. So that while the American organ may be allowed to equal, and perhaps to surpass, the harmonium for domestic use, and in some instances for concert purposes; yet, where a large number of voices are to be accompanied, or where power and marked delivery are called for, in church, concert, or school work, the harmonium, not to speak of its superior hardiness, possesses immense advantages over the American organ.

To any one desirous of learning to play the harmonium, the expense of purchasing an instrument need not be much of a hindrance. A new harmonium (or American Organ) may be had as low as £5. Better class instruments, of course, there are to be had in great variety, ranging from the price just quoted up to two hundred and even three hundred guineas. For a beginner, however, if money is to be any consideration, the advantages to be derived from the possession of a large instrument would not warrant the expenditure. Of course the various qualities of tone which such an instrument might produce would afford the young student a certain degree of pleasure. This, however, would be merely a matter of amusement, and could not be really an educational advantage, nor would it tend to his progress as a player, until he knew how to utilise the resources of his instrument. This he could not know for a considerable time; during which period the capabilities of a small instrument would be quite sufficient to supply his wants. Of course cheap harmoniums are not always good—cheap anythings seldom are. There are plenty of so-called cheap harmoniums in the market that would be dear at any price. But a low-priced instrument by a good maker may be perfectly as good, so far as it goes, as one that costs ten or twenty times more—the quality may be the same in both cases, the difference lies in the quantity generally. There are so many good harmonium makers, that it would be impossible to mention them all. "Alexandre," "Cæsarini," "Christophe," "Debain," "Trayser," and "Baur" instruments are among the best; while, for American organs the "Mason and Hamlin," the "Bell," the "Clough and Warren," the "Carpenter," and the "Estey" are all to be depended upon. No matter who the maker be, however, buy your instrument from a good firm with a reputation to sustain, and the purchase will the more surely be a safe one.

The harmonium is slow to deteriorate; and, if properly cared for, it will stand for ten, fifteen, ay, twenty years, and be as well in tune then and possess as good a quality of tone as the day on which it left the dealer's warehouse. The smaller the instrument the more likely is this to be the case. There is less mechanism in a small instrument to begin with, and consequently less chance of its going out of order. Moreover, the smallest harmoniums have only one set of reeds—that means, one reed for each key on the key-board. Larger instruments have more reeds, corresponding to their size, up to six sets or more. Now, the reeds *may* go out of tune; but if there be only one set they will simply be out of tune amongst themselves. If there be more than one set, however, the reeds in each set may go out of tune amongst themselves, while at the same time the different sets may be out of tune with each other. It has been already indicated that the tendency to go out of tune is very small in harmoniums. We now see that where untunefulness does exist, it is apt to be greater the larger the instrument is.

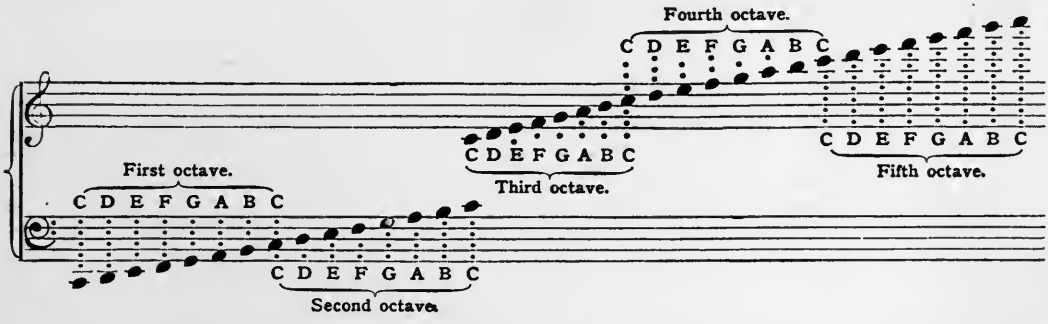
Supposing the student to begin with a small-sized instrument; as he progresses in his studies and improves in his execution, he will naturally desire something larger and better. He may now be in a position to appreciate the facilities which a higher-class instrument affords; and by the acquisition of a new harmonium his pleasure is increased, his enthusiasm is strengthened, and his interest is quickened. Thus a fresh stimulus is given to his efforts, which in all probability would not have occurred had he been practising on the larger instrument from the beginning of his studies.

There is a somewhat prevalent notion that the harmonium is only suitable for sacred music. This is a mistake. It is true that for music of a slow and sustained character, the harmonium, by reason of its power to prolong the sounds to any required length, is particularly suited. But this tone-sustaining power is not its only qualification. The very fact that the instant the finger leaves the key the sound ceases, renders the harmonium capable, to a very considerable degree, of producing sounds in rapid and light succession. No learner should begin the study of the harmonium impressed with the idea that the instrument is only fitted for slow music; and no harmonium student should devote too much of his time to the playing of psalm tunes; for by so doing he is apt to develop a sluggish finger and a cramped wrist, which are enemies to graceful and easy playing.

Let us now turn our attention to the exterior mechanism of the instrument, and try to understand how it should be employed so as to fulfil the various purposes for which it was designed. In what is now to be dealt with, occasional explanations in regard to *musical notation* are given, necessarily brief, but still sufficient to enable the student, who may have no knowledge of this part of the subject, to follow the instructions contained in the pages before us. Of course it need scarcely be said that some previous theoretical knowledge would enable the student to comprehend the matter in hand much more fully and more rapidly.

The *Key-board* (which has already been alluded to) is an arrangement of thirty-six white and twenty-five black keys. The white keys correspond to what are called the *natural* notes in music, and the black keys to what are called the *sharps* and *flats*. The white keys are named after the first seven letters of the alphabet. Beginning with the key to the extreme left (which gives the lowest sound of the instrument), the alphabetical names occur in the following order—C, D, E, F, G, A, B. The eighth key from the beginning is named C again, and the same succession of letters is applied to the next seven keys, and so on until the key to the extreme right (the highest sound of the instrument)* is reached. Thus the series of seven names is five times repeated. Each series of seven is called an octave, the eighth note being common to adjacent octaves. The harmonium, then, has a *five-octave* key-board. The black keys are named from the white keys next above and below them; an explanation of which will be found in its proper place, further on.

The following (Ex. I.) shows the range of musical notes corresponding to the white keys of the harmonium:—



The above illustration is called the *Great Stave*. It consists of eleven lines, the centre line being omitted for convenience, a little bit of it being employed when the sound it represents is required, as in the example. The upper five lines are marked off at the beginning by a character called the G clef 𝄞 This clef is placed upon the second line of the five, and

* In the American organ the order is somewhat different. The lowest key is F, the fifth below the harmonium C. The same with the highest key.

gives its name, G, to that line. The under five lines have what is called the F clef placed at the beginning. This clef stands upon the fourth line, to which line it gives the name of F. The upper five lines constitute the *treble stave*, and notes placed thereon are usually played with the right hand. The under five lines form the *bass stave*, whose notes are usually played with the left hand.

CHAPTER II.

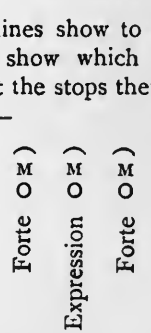
THE STOPS AND THEIR CHARACTERS.

WHAT are called *Stops* are a number of white knobs (the number depending upon the size of the instrument) occupying a position behind the key-board. Stops are of two kinds—*sounding stops* and *mechanical stops*. Every sounding stop communicates directly with a set of reeds; so that if one or more of these stops be drawn, the instrument is prepared to produce sound in the ordinary way. Without a sounding stop being drawn, the keys may be pressed and the bellows blown, but no sound will be forthcoming; unless it be in a small instrument of one set of reeds, where sounding stops are not required. Mechanical stops have no reeds of their own, so to speak: they simply set in operation some contrivance by which the effect of whatever sounding stops may be drawn at the time is modified in various ways. The stops are usually arranged in three groups—a right-hand group, containing both sounding and mechanical stops; a left-hand group, of a similar description; and a centre group, containing mechanical stops only. The stops in the right-hand group affect only the higher part of the key-board, from F in the *third octave* upwards. Those in the left-hand group affect the lower part of the key-board, from E in the *third octave* downwards. The centre group of stops is entirely mechanical, and affects the whole key-board. The following table (Ex. II.) shows the arrangement of the stops in several different sizes of instruments. Although the order here given may not be considered altogether absolute, as the stops employed by one maker are not exactly the same in every particular as those used by another, still, there is never such a difference as would be confusing to the student. Stops of the same name are generally found to occupy very much the same position in all harmoniums, irrespective of size and make.*

Ex. II.—STOP ARRANGEMENT.

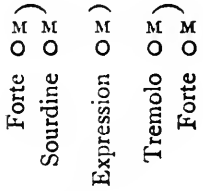
In the following table the curved lines show to which group—right, left, or centre—the stops belong. The letters S and M show which of the stops are sounding, and which mechanical. The open circles represent the stops themselves, and beneath are their names.

1. One set of reeds. Three stops:—

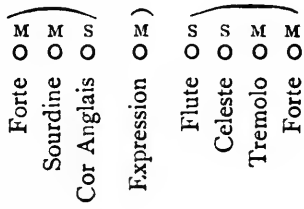


* In the American organ there can hardly be said to be anything like a uniform order for arranging the stops. Different makers adopt very different methods. Even in the *names* of the stops (quite different from those in the harmonium) each maker seems to follow very much a line of his own. To any one, however, with a good idea of the harmonium stops—their pitch and quality—the American organ would not present much difficulty in this respect.

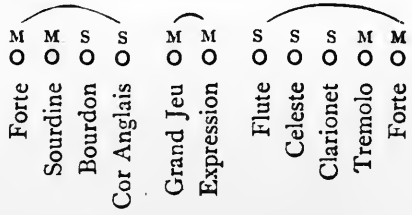
2. One set of reeds. Five stops :—



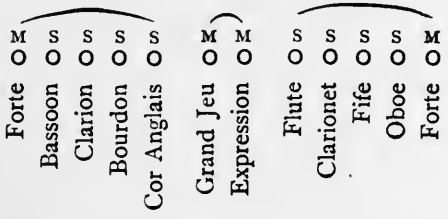
3. One and a half sets of reeds. Eight stops :—



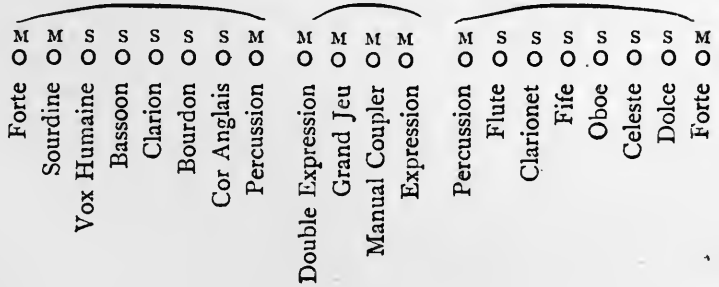
4. Two and a half sets of reeds. Eleven stops :—



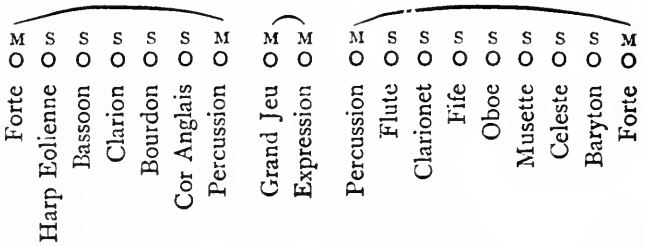
5. Four sets of reeds. Twelve stops :—



6. Five and a half sets of reeds. Two key-boards. Twenty stops :—



7. Seven sets of reeds. Eighteen stops :—



We have here given seven different sizes of instruments with stops. The table might easily have been made to include a larger number, but our purpose would not thereby have been any better served. From the examples before us it will at once be seen that the capacity of the instrument does not always depend upon the number of its stops. It is the reeds that comprise its real value as a musical instrument. Five or six sets of reeds played in full combination must obviously produce a richer and grander effect than can be obtained from one or two sets. Moreover, as each set of reeds differs in tone from every other set, the *contrast of musical quality* (a valuable factor in practical music) obtained, by using the stops either singly or in small combinations, is an important advantage in an instrument with a large selection of reeds, and in the hands of an experienced player may produce delightful results. An instrument, therefore, like No. 2 in the table, although having five stops, might hardly be better than one having no stops at all; No. 5, with twelve stops, would be about twice the value (musically speaking), of No. 4 with eleven; and No. 7, with fewer stops than No. 6, would have more power and greater variety.

Besides the names given to the different stops, which are usually marked on their respective knobs, numbers are also attached to the sounding stops *—1, 2, 3, and so on, as far as may be required. The right-hand group and the left-hand group are similarly numbered. In the right-hand, thus—Flute 1, Clarionet 2, Fife 3, Oboe 4; in the left-hand, Cor Anglais 1, Bourdon 2, Clarion 3, Bassoon 4. Where these stops are present, their order is always the same. Other sounding stops lying beyond these are subject to some slight variation, as Ex. II. will show. It has already been explained that the right-hand stops sound no lower down than F in the third octave, and that the left-hand stops join on at the next note, E, and carry the succession of sounds downwards. This is most strictly true of stops 1, 2, 3, and 4. In this group the right-hand and the left-hand stops having the same number are always the complement of each other; so that if No. 1 stop be drawn at both sides, and the keys pressed down in succession from the one end of the key-board to the other, the sounds produced will agree throughout, both in quality and in pitch. Something similar happens when both No. 2's, or 3's, or 4's are drawn. But if No. 1 be drawn at the one side and No. 4 at the other, it will be found that while the pitch is uniform throughout, an unmistakable change in the quality of the tone takes place in passing from E to F in the third octave. Again, if No. 1 be drawn at the one side and No. 2 at the other, a change both in pitch and in quality will be easily observed in passing from the E to the F; the sounds appearing to belong to two different instruments and to two different octaves. And if No. 2 in the one hand and No. 3 in the other be drawn, a more startling change, both in pitch and quality, will be the result in passing from the E to the F. The passage from E to F in the third octave, then, is the point where what is called the *break* of the instrument occurs; and this must always be borne in mind by the student in manipulating the stops, else some very ludicrous and by no means agreeable effects may be produced.

The reason for the foregoing will be easily understood from the following explanation of the nature of the stops :—

* Mechanical stops are not numbered. The forte stops, however, have sometimes the figure o on them.

Cor Anglais and *Flute*, No. 1 on both sides :—A pair of complementary stops, sounding throughout the entire key-board, and having a smooth, full, and open tone of 8-feet pitch.*

Bourdon and *Clarionet*, No. 2 on both sides :—A pair of complementary stops, sounding throughout the entire key-board, and having a broader, more powerful, and somewhat harsher quality than the preceding, with a pitch of 16 feet.

Clarion and *Fife*, No. 3 at both sides :—A pair of complementary stops, sounding throughout the entire key-board, with a light and shrill quality of tone, much thinner than stop No. 1, and having a pitch of 4 feet.

Bassoon and *Oboe*, No. 4 at both sides :—A pair of complementary stops, sounding throughout, and having a broadish tone of a slightly reedy character, with a pitch of 8 feet.

Celeste.—This stop brings into action two half sets of reeds very slightly out of tune with each other. This small difference of pitch, which is not enough to be disagreeable, causes a faint waviness in the tone. Sometimes the Celeste makes use of the Flute reeds; then it is of 8-feet pitch : sometimes it makes use of the Clarionet reeds; then it is a 16-feet pitch. Occasionally it happens that both sets of reeds in the Celeste are independently its own; then it is generally a 16-feet stop. At times the Celeste is made complementary to the Vox Humaine; at other times it is purely an independent half key-board stop.

Dolce.—This is a similar arrangement to the preceding stops, namely, two half sets slightly out of tune with each other, one of which is the Oboe. The pitch and quality are the same as in the Oboe.

Musette.—This a peculiarly reedy-toned stop, not unlike the Bagpipe Chanter in quality. Its pitch is 16 feet. This is an independent half key-board stop.

Barytone.—Something similar in the quality of its tone to the Musette, but heavier and broader. Its pitch is 32 feet. This is also an independent half key-board stop.

Vox Humaine.—This stop has already been spoken of as being complementary to the Celeste. Its pitch and quality are the same as those of the Cor Anglais, whose reeds it sometimes uses for one of its half sets.

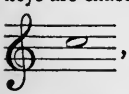
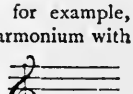
Harp Eolienne.—Two half sets are also used in this stop, slightly out of tune with each other. Its tone is thin, reedy, and quivering. Its pitch is 2 feet. It is an independent half key-board stop.

Fortes.—These stops, when drawn, open two shutters, one belonging to the right half of the key-board and one to the left, and placed above the *Reed-box*. By this a greater volume of tone is allowed to escape. These stops may of course be worked together, or separately; so that the tone may be increased throughout the entire key-board, or on either half, as may be required.

Percussions.—The drawing of these stops brings into operation a somewhat complicated mechanism like the action of the Pianoforte, namely, an arrangement of small hammers, which, when the keys are pressed, strike the reeds. This causes the tone to be more emphatic. The Percussions only act on No. 1 reeds.

Tremolo.—This is a mechanical arrangement by which a tremulous effect is produced on the tone; similar to the Celeste, but much more pronounced, and not always desirable. The Tremolo sometimes acts on the Flute reeds and sometimes on the Clarionet.

Sourdine.—This stop obtains a softened tone on the lower half of the key-board. It usualiy affects one of the 8-feet stops in the left-hand group, and is only available when drawn by itself.

* 8-feet pitch is the normal sound of the instrument. This practically means that the sounds produced by the keys are exactly the same in pitch as those represented by the notes in the music. This note, for example,  represents the sound of the ordinary C tuning-fork; and if it be played on the harmonium with an 8-feet stop, a sound of the same pitch will be the result. 16-feet pitch means, sounding an octave lower; so that if the above note were played with a 16-feet stop out, this would be the actual sound produced— 

32-feet means sounding two octaves lower. 4-feet means sounding an octave higher; and 2-feet, sounding two octaves higher.

Expression.—This is the most serviceable of all the mechanical stops. When it is drawn, the air is driven directly from the feeders to the wind-chest, without being stored in the reservoir. The effect of this is that every movement of the performer's feet tells immediately upon the tone. This gives him immense power of light and shade, as he may instantly change from soft to loud, or increase and decrease the strength of the tone to any degree he may think fit.

Grand Jeu.—When this stop is drawn, no matter what stops may be already out, or whether there be any out, the full power of the instrument is brought on at once.

Manual-Coupler.—This stop is only found in instruments having two key-boards.* When the stop is drawn, the action of both key-boards is connected, so that when the performer presses down the keys of the one row, the corresponding keys in the other row are brought down also.

Double-Expression.—The object of this stop is to equalise the pressure of wind on the reeds, so that the tone may be kept at a uniform strength, no matter how the blowing may be varied. The sound can be increased or decreased at pleasure by pressing two levers with the knees.

Knee-Levers.—These have just been referred to, but they are not confined to instruments having the Double-Expression stop. Knee-levers are found in all kinds of instruments, except perhaps what may be reckoned as the smallest sizes. Sometimes there is but one knee-lever, put in operation by an inward pressure of the right knee, and shut off by an inward pressure of the left. In most cases, however, the single knee-lever is pressed outwards by the right knee, and when the pressure is withdrawn it shuts itself off by means of a spring. Single knee-levers generally bring on the full power of the instrument. Where there are two knee-levers, it is not uncommon to find the one to the right used as just described, while the one to the left opens the shutters of the Forte stops. By being pressed slowly outward, the left lever is capable of producing a slight crescendo effect—the shutters being made to open gradually, which cannot be done by means of the Forte stops. Both knee-levers are in some instruments made to serve this latter purpose of crescendo; then each lever acts upon its own half of the key-board. A lever for the heel of the performer is also sometimes employed for the purpose of bringing out the full power of the stops.†

CHAPTER III.

BLOWING.

Let us now suppose that the student has made some acquaintance with what has just been explained—that he can tell the alphabetical names of the lines and spaces of the staff, and knows the corresponding keys on the key-board. He is now ready to commence operations on the instrument.

The *harmonium-seat* should be of such a height, that when the performer is seated, his elbows will be two or three inches above the level of the keys. There is nothing more trying to the player than sitting on a low seat, by which he is compelled to stretch up to the keys, and to bend his body nearly double in his efforts to press down the pedal-boards. On a

* When there are two key-boards, one is placed behind and four or five inches higher than the other. The stops are divided between the two, and the heavier—such as Nos. 1 and 2—are given to the front key-board, while the lighter—such as 3 and 4—go to the back. The knobs of the stops are fitted with felt washers of two different colours, by which those belonging to the one key-board may be distinguished from those belonging to the other.

† The stops most commonly to be found in American organs are—*Melodia* and *Flute* for the right-hand, and *Diapason* and *Principal* for the left. The *Melodia* and the *Diapason* are the normal 8-feet stops; the *Flute* and *Principal* are 4-feet. The *Octave-Coupler* and *Sub-Bass* are also somewhat common: the former of these two is a right-hand stop. When it is drawn and a key pressed down it causes the key an octave higher to sound also. The latter stop belongs to the left-hand; and in connection with the lowest keys of the instrument, it brings into operation an octave and a half of 16-feet reeds of a very ponderous character.

high seat, the performer's hands rest naturally and easily on the key-board, and the weight of the arms assist the pressure of the fingers. Moreover, the high seat, especially if it be sloped towards the front, throws some of the weight of the body on the pedal-boards; and this gives considerable relief to the legs in blowing.

In sitting down to the instrument the student should take his position exactly opposite the key-hole. He must not sit too close to the instrument—this cramps both the arms and the legs—but as far away as would cause the elbows just to touch the body were he trying to bring them together. In spite of what some authorities say to the contrary, the best and easiest method of blowing for ordinary purposes is to allow the heels to rest on the pedal-boards. and not the front part of the foot only. It is not meant that the heels should supply any of the pressure required in blowing; but they should certainly afford some support to the legs, and act as a kind of pivot for the feet in their downward and upward movements, as the hinges do for the pedal-boards. If the instrument be a very large one, with an exceptionally high key-board, and seat to correspond, it might of course happen that the performer could not conveniently reach the pedal-boards with his heels. But with a small or even a moderately-sized instrument, it would be next to impossible to blow and to continue blowing for any length of time with the heels resting on nothing. Some players blow with the feet only half over the pedal-boards. This can never be right. Surely it stands to reason to suppose that the nearer the feet are to the back part of the pedal-boards the greater must the leverage be, and the blowing correspondingly the easier. In blowing, the feet should be moved alternately; their action should take place almost entirely by means of the ankle joints—the knees moving as little as possible. The boards should be pressed far down, steadily and slowly. The beginner should remember never to blow without first having some of the keys pressed down, or he is in danger of straining the bellows. Before beginning to blow, he will find it necessary, if the instrument has any sounding stops, to draw at least two, the safest pair to commence with being Cor Anglais and Flute. If there should be only mechanical stops in the instrument, none need be drawn to begin with. It is advocated by some that the art of blowing should be first practised with the Expression stop drawn. But the Expression stop presents such a serious difficulty to the beginner, and its results are sometimes of such a very disheartening nature, that its use is not here considered advisable for some time. This need not apply, of course, to one who may have already acquired some experience of pianoforte fingering, and who may also be able to read his notes fairly well. Such a student might easily devote the extra amount of attention to the blowing which the use of the Expression stop demands. To one, however, beginning the whole subject at once—to one who can neither *finger* nor *read*, and whose attention must necessarily be divided amongst three things, namely, *fingering*, *reading*, and *blowing*—the easiest way is surely the best way, provided the method taken be a legitimate one. Some authors assert that it is *never* right to play without using the Expression stop. But the very fact of harmoniums being made with Expression stops, *which may be opened or shut at pleasure*, proves that it is quite as legitimate to play with the stop shut as to play with it open: the capability of the Expression stop to open or shut is intended to afford the player a means of variation in the use of the wind, which, were it improper, would surely never be provided for. The beginner will do well to leave the Expression stop alone in the meantime. The following (Ex. III.) is a blowing exercise:—

Ex. III.

In the foregoing exercise (Ex. III.) the keys must be pressed down in the same order in which the notes are given. The little finger of the left hand will play the first note (C). When the key has been depressed, the feet should begin to move very slowly, so that the tone may be as soft as possible. The beginner should strive to use no more wind than is actually necessary to produce and sustain the sound. *Over-blowing* is a most common fault with beginners; and unless some attention be paid to the movement of the feet, the student will frequently and unconsciously be found guilty in this respect, and he will probably contract a bad habit which it will be difficult to cure. When the first key has been held down for a moment or two, with the tone maintained at a uniform softness, the next note (G) may be played with the forefinger: the preceding key will still be held down,* so that there shall now be two notes sounding. A very gentle increase will now be required in the blowing; as the greater the number of keys pressed down simultaneously, the larger must be the quantity of wind supplied. The next note (C) will, after a moment or two, be played with the left-hand thumb; the two preceding keys being still held down. As each new note is played, the student should be careful that the tone is still kept soft and even. The fourth note (E) will next be played with the right-hand thumb; then the fifth note (G) with the middle finger; and lastly, the sixth note (C) with the little finger. None of the preceding keys must be raised until all the notes have been played.† When the exercise has been played over several times in this way, it may be varied a little by playing the left-hand notes an octave lower—that is, beginning with the lowest C on the keyboard. It will be found that more wind is required for this, the reeds being larger for low sounds than for high sounds: the blowing must therefore be a little quicker. Another variation may be made in the exercise, by playing *both hands* an octave lower. This will require more wind still, and quicker blowing. In every case, however, a soft and steady tone must be aimed at. We may now leave the feet to take care of themselves in the meantime, and turn our attention to the hands.

* The curved lines, in Ex. III., extending from note to note, are called *ties*, and indicate that each note, once sounded, shall continue to the end of the series.

† Over the last note a character called a *pause* 𝄐 is placed. This means that the whole of the sounds should be sustained for any reasonable length of time.

[*To be continued.*]

THE ORGAN.

By J. S. ANDERSON, Mus. B., Oxon.

GENERAL DESCRIPTION.

The Organ being the most complex of all instruments, it will be well before proceeding to actual practice, that the student should make himself acquainted with the various parts and their uses, as well as with the general structure of the instrument.

Some considerable preliminary description and explanation will therefore be necessary.

I. The Wind Supply.

It need hardly be said that the organ is a wind instrument. The necessary compressed air is furnished from the *Bellows*, or *Air Reservoir*, which is kept replenished by the indispensable blower, or preferably by hydraulic or other motive force. The bellows is placed in the base of the organ, and has been aptly called the "lungs" of the instrument, as without an abundant and constant supply of "breath," it could not be made to speak promptly and with proper tone.

Formerly the kind of bellows in use was that known as the diagonal bellows, which was

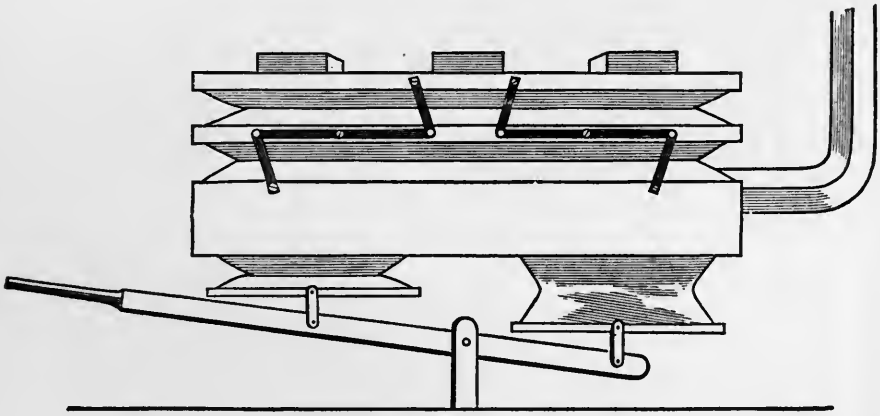


Fig. 1.—BELLOWS.

exactly like a blacksmith's or kitchen bellows on a large scale. These were worked with the feet (hence the German name for a blower, *Balgtreter*, or bellows-treader); and for a large organ a great many pairs would be in use, necessitating a number of blowers to keep them in operation.

Since the end of last century, however, the horizontal form has been in use; and as the old form had many defects, it is now obsolete.

The horizontal bellows and feeders were the invention of an ingenious clock-maker named Cummings, and are so named from the fact that the top of the reservoir, when distended, rises horizontally instead of obliquely as in the older form (see fig. 1).

The bellows is divided into two main parts, viz., the *Feeders* below, and the *Reservoir* above. The handle which the blower works acts on the feeders only, whose part it is to keep the reservoir above full. The upper board of the reservoir is heavily weighted by flat metal weights, so that the wind is sent out from it under pressure. What is known as the "weight of wind" is regulated by these weights, and this is tested by a simple instrument used by organ-builders, called an *Anemometer* or *Wind-gauge*, a glass tube bent into the form of the letter U and partly filled with water (see fig. 2). When fitted on to the sound-board, the pressure of the wind causes the liquid to rise beyond the level, and the amount of this variation being noted in inches, can be regulated by increasing or diminishing the weight on the bellows. The general pressure of wind in an ordinary church organ is from two and a half to three inches. In organs where stops on a heavy wind are introduced, a separate reservoir is necessary, weighted to produce the desired pressure, which may be from five up to twenty or more inches.

FIG 2. WIND-GAUGE.

II.—The Wind-chest and Sound-board.

From the bellows the wind is distributed throughout the various departments of the organ by means of *Wind-trunks*—wooden or metal—air-tight channels varying in size, according to the number of stops to be supplied through them. The wind-trunk conveys the wind into the *Wind-chest*, an air-tight box or chamber situated directly underneath the organ pipes. The upper part, or roof, of the wind-chest is called the *Sound-board;* and this is fitted on its under side with parallel bars of wood running from front to back, the spaces between which are termed *Grooves*. Each of these grooves is fitted with a closely fitting *Pallet*, or valve, hinged at the back, and kept in position by a spring underneath. Each pallet has attached to its under

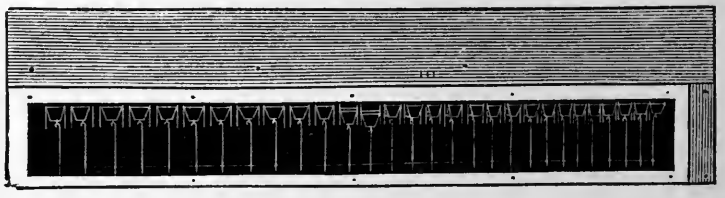


FIG. 3.—WIND-CHEST.
Front-board removed, showing the pallets.

side a wire *Pull-down*, which passes downwards through the bottom of the wind-chest for connection with the key action, so that when the key is depressed, the pallet is opened, and the wind finds its way through to make the pipes speak. The number of grooves and pallets in the sound-board will therefore be the same as the number of keys on the key-board (see fig. 3).

The upper part of the sound-board is called the *Table*, and is perforated with holes at the proper places to admit wind to the pipes.

Concussion bellows—the invention of Mr. Bishop—are fixed on the side of the wind-trunks, to ensure regularity and steadiness in the wind supply, according to the varying demands made on it.

III.—The Draw-stops and Arrangement of Pipes on the Sound-board.

The use of registers to enable the performer to play upon the *Stops*, or sets of pipes individually, is as old as the sixteenth century; and the draw-stops placed to right and left of the key-boards actuate the mechanism which effects this.

The most important part of this is the *Slider*, a flat strip or slat of hard wood placed across the table, and below the *Upper-board* which supports the pipes. The sliders and upper-board are, like the table below, perforated with holes corresponding with the pipes which stand above. When the stop is pulled out, the slider is drawn into position, so that the holes in the table below, in the slider itself, and in the upper-board are coincident, thus admitting the wind to the pipe when the pallet is opened. If, however, the stop be pushed in, the position of the slider is altered so that the openings do not correspond, and no wind can pass

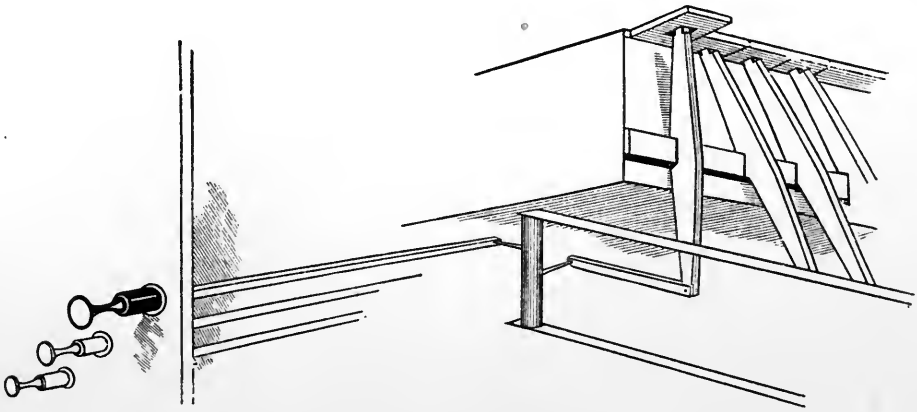


FIG. 4.—END OF WIND-CHEST.
Showing Mechanism between Stop-handle and Slider.

through. Each stop-handle acts on a separate slider which controls the entire set of pipes belonging to it (see fig. 4).

Ciphering is caused by any defect in the fitting of the pallets or sliders which allows the wind to get to the pipe without the key being touched, so that it is very necessary that all the mechanism for controlling the wind should fit perfectly.

The arrangement of the pipes is not, as might be supposed, in the order of the key-board. This, besides throwing the greater part of the weight of the organ (the largest pipes) to one end, would also have the effect of making the pipes speak more unsteadily by reason of the great demand for wind made at one end of the wind-chest. The speech of two pipes, which are a semitone apart in pitch, is also apt to be interfered with when these are placed in too close proximity to each other; so that the plan generally adopted is to place the largest pipes at opposite ends of the sound-board, each side decreasing in pitch by whole tones and correspondingly in size towards the centre. The order in which the pipes stand would therefore be—

On the extreme left C, D, E, F♯, G♯, A♯, C, and so on *upwards* by whole tones towards the middle of the sound-board.

On the extreme right C♯, B, A, G, F, D♯, C♯, and so on *downwards* by whole tones towards the middle of the sound-board. The left and right of the player are frequently called the C and C♯ sides of the organ respectively.

The pipes themselves are steadied and supported in position by a framework of wood called a *Pipe-rack*, fixed on to and standing a few inches above the upper-board, each pipe being fitted into an aperture specially made to receive it and hold it steady (see fig. 5).

The pipes forming the exterior or case of the organ are arranged so as to form a tasteful design; and these are taken from their proper place on the sound-board, their wind being

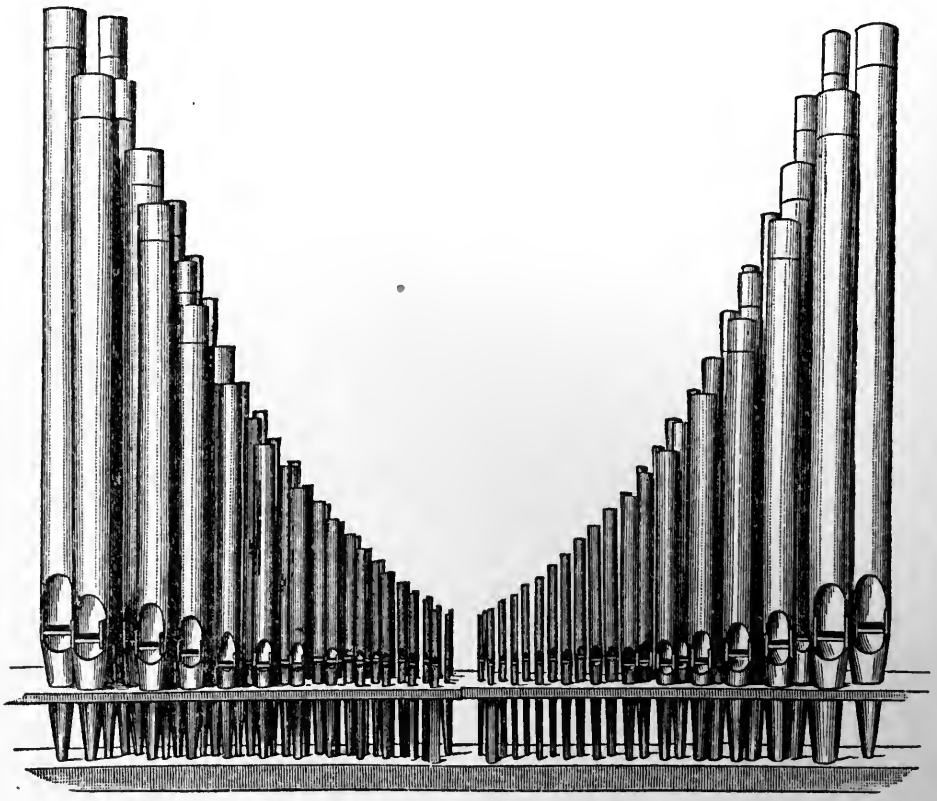


FIG. 5.—STOP OF PIPES.
As placed on Organ Sound-board.

conveyed to them by means of metal tubes called *Conveyances.* The front pipes are generally taken from the great—those at the sides, from the pedal organ.

IV.—The Different Departments of the Organ acted on by the Various Key-boards.

The principal department in all organs is that known as the *Great Organ* (German, *Hauptwerk;* French, *Grande Orgue*). In an instrument of only one manual it would be assigned to this department; and here we find, as the name implies, the manual stops having the greatest volume and breadth, as well as dignity and grandeur of tone.

If there are two key-boards, the upper is assigned to the *Swell Organ* (German, *Oberwerk;* French, *Recitatif Orgue*), all the pipes of which are enclosed in a wooden box made of sufficient thickness to confine the sound.

The front, and sometimes also the sides of the swell-box are fitted with shutters or louvres similar to the Venetian blind; hence it is sometimes called a Venetian swell. The shutters of the swell-box are brought under the control of the player, by suitable mechanism attached to

the swell-pedal near the player's right foot; and by this means a crescendo and diminuendo effect can be produced by opening or closing the shutters. The predecessor of the swell was the *Echo Organ*, in which the pipes were either enclosed or placed at a considerable distance away, so as to produce a soft and distant effect.

The first swell, known as the *Nagshead* swell, was merely a sliding shutter moving up and down like a window-sash. It was invented by Abraham Jordan, an English organ-builder, in 1712, and by him first applied to the organ in St. Magnus' Church, London Bridge. The importance of the invention was at once appreciated, and many of the old echo organs were converted into swells. The application of the Venetian swell by Samuel Green was a further improvement; and this is now exclusively used.

From the intelligent use of the swell-pedal, much of the effect of the organ as an expressive instrument is derived, and a crescendo or diminuendo effect obtained, such as cannot be produced on any other instrument.

The third key-board is placed below that of the great organ, and is known as the *Choir Organ* (German, *Positiv;* French, *Positif*). In this department we find the softer flute stops with others suitable for accompanying voices. Occasionally the experiment has been tried of enclosing the choir organ in a box, acted on by a second swell-pedal, but with doubtful success, although the reed stops may with advantage be enclosed.

In large organs a fourth key-board is found, which is assigned to the *Solo Organ.* This is generally placed above the three previously described, being therefore the highest in the set of four key-boards. In this organ we find stops of a distinctively solo character, generally voiced on a heavy wind.

Every organ of any pretension now possesses a key-board played on by the feet. In this, which is known as the *Pedal Organ*, we find a suitable bass for the different manual stops; and the lowest notes of the instrument are heard here.

The idea of notes to be played by the feet is generally attributed to Bernhard, a German,—organist to the Doge of Venice, 1470–80; but they were probably in use even before that.

The introduction of pedals into England, however, dates no further back than the end of last century, when they were applied by Snetzler to the organ in the German Chapel, Savoy, London. The first application of pedals in Scotland was probably by David Hamilton, to the organ then in St. John's Episcopal Church, Edinburgh, about 1833.

Pedal-boards were at first made with the notes straight and flat, called *German* Pedals; but that form is now generally modified in some of the following ways:—

The *Radiating* pedal-board, first made by Messrs. Elliot & Hill, in 1834.

The *Concave* pedal-board, first made by Schulze, in 1851.

Mr. Henry Willis combined these two forms in the *Concave and Radiating* pedal-board; while the form, recommended by the College of Organists, is *Concave and Straight.*

These different departments (*Great, Swell, Choir, Solo, and Pedal*), having each its separate clavier, or key-board, are in reality separate organs, having each its own wind-chest, sound-board, draw-stops, &c., as has been described; and the noble instrument we speak of as an *Organ* is therefore comprised of several complete organs under the control of one performer, whose skill is exemplified by the manner in which he can manipulate the resources at his disposal.

The arrangement of the groups of draw-stops belonging to each department of the organ is generally as under:—

Left.	*Right.*
Swell Organ.	Solo Organ.
Pedal Organ.	Great Organ.
Couplers.	Choir Organ.

The compass of the manual key-boards is from CC (second leger line below the bass) to G

or A—4⅝ octaves; occasionally they are even carried up to high C. The pedals extend from CCC to F—2½ octaves (see fig. 6).

C, as the lowest note, has been recognised as the correct compass in Germany since before the time of Bach, although in England, up to a comparatively recent period, the lowest note was generally F or G below, necessitating the use of a pedal-board of irregular compass.

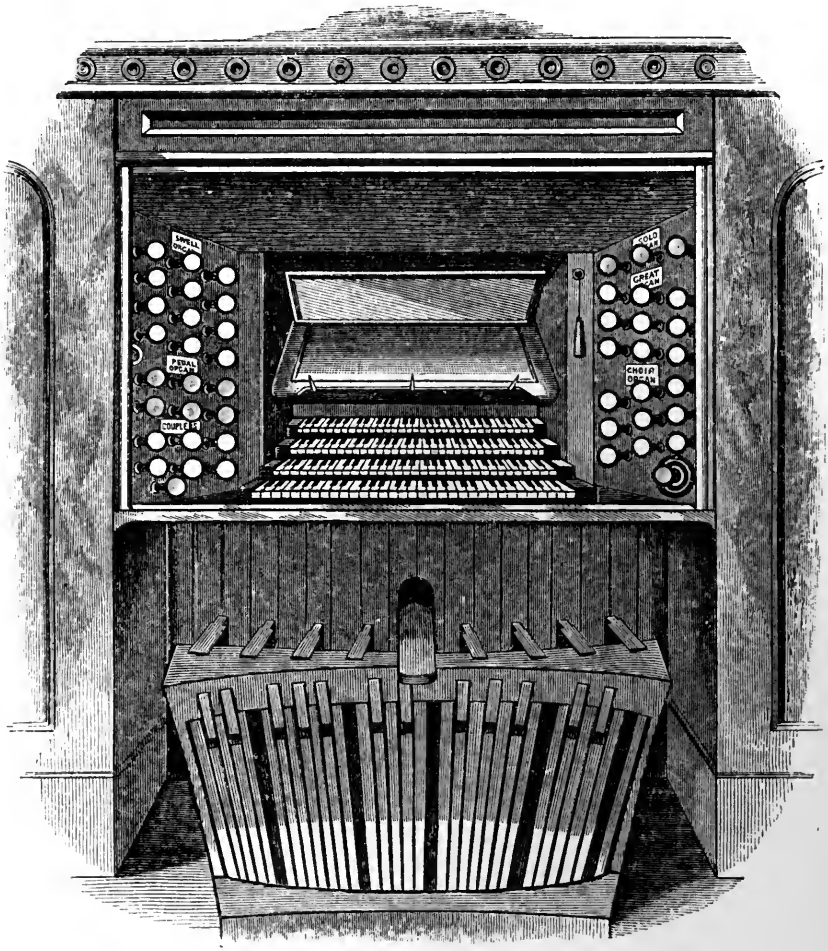


FIG. 6.—CONSOLE OF A FOUR MANUAL ORGAN.
Swell Pedal placed in the centre.

Mainly through the efforts of Dr. Gauntlett, the C compass was introduced into this country. The following is from the preface to his "156 Questions on the Art of Music-making":—

"Some years ago when talking with the late Mr. Samuel Wesley on certain passages in Seb. Bach's music, I asked him, What effect would these passages produce on the organ? He replied, 'None whatever on our English organs; but the German organ is an instrument differing from ours.' Thereupon I set to work with the organ, and was for some years daily in the organ manufactory. In 1838 Mr. Hill erected the Chapel Royal organ, St. James's: this was built

on the old plan. About one or two years after, he built the St. Peter's organ (originally by Father Smith, 1681) under my direction, in Cornhill, which was followed by a succession of fine instruments; and England possessed organs on which could be played the music of the greatest of great organists. The effort cost me much time and money; but the end was obtained, and the thing done. A comparison of the two organs will prove the date of the new era in organ-building."

V.—The Key Action.

The action is the connecting link between the key and the sound-board pallet, which admits wind to the pipe. Various means for effecting this are employed:—

(*a*) The Mechanical or "Tracker" Action.
(*b*) The Pneumatic Lever Action.
(*c*) Tubular Pneumatic Action.
(*d*) Electro-pneumatic Action.

The oldest and most familiar is that known as the "*Tracker*" action, in which the finger pressure is communicated by a thin strip or riband of wood, technically known as a tracker.

The different parts from key to pallet are the upright *Sticker* (*a*), acted on by the end of the key; the *Backfall* (*b*), acted on by the upper end of the sticker; and the *Tracker* (*c*), acted on by the end of the backfall (see fig. 7). This only carries the action in a direct line, however; but as none of the pipes stand directly above, or even in line with the key, the action has to be carried to right or left. This is effected by means of the *Roller-board*, a flat board placed upright, and supporting a set of light rollers, hung on centres, and each with a short arm projecting from either end. The tracker coming up perpendicularly from the end of the backfall is secured to the projecting arm at one end of the roller (*d*) by the usual tapped wire and leather button; a corresponding tracker leading upwards, being secured by the same means at the opposite end of the roller. The result is that when the key is depressed, the roller gets a half-turn, by which the movement is continued from the one tracker to the other, and so carried onwards to the pallet. The length of the roller will be determined by the distance which it is necessary to carry the tracker so as to bring it directly underneath its own pull-down and pallet on the wind-chest (see fig. 8). The action is also diverted from the straight by means of squares made of wood or brass. These are very frequently used in the action of the pedal organ, and are in effect similar to the crank used by bell-hangers for carrying a connecting wire at right angles.

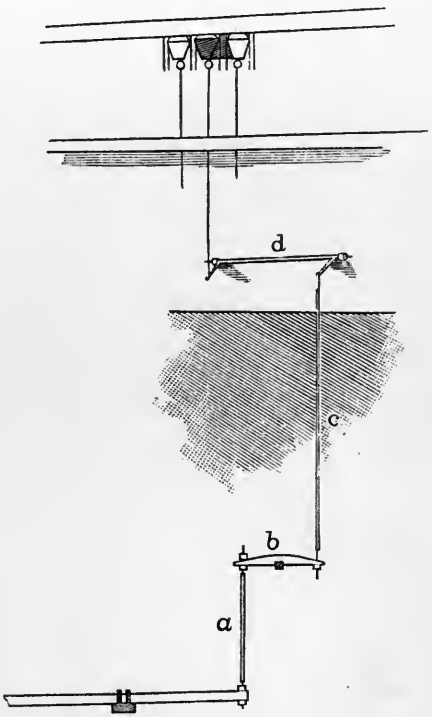


FIG. 7.—ACTION FROM KEY TO PALLET.

In large organs the tracker action alone is apt to have a heavy touch, and this led to the invention of the *Pneumatic Lever*.

This ingenious contrivance for lightening the touch, consists of an arrangement by which the key, when depressed, admits wind into a small bellows, the inflation of which acts on the pull-

down and pallet, and thus relieves the finger from the effort of opening the pallet. This invention, which has been of the greatest service, and is largely used both by British and Continental organ-builders, was made and first applied by David Hamilton of Edinburgh to the organ then in St. John's Episcopal Church, in 1835. The original model is now in the possession of Mr. A. Macdonald, Edinburgh, and was shown in the Exhibition there in 1890. There is no evidence to show how long Hamilton worked at his invention, or when the idea first occurred to him.

About the same time the same principle was also applied by Mr. Barker, an organ-builder at Bath, who carried the idea to Paris, where it was at once taken up by Messrs. Cavaillé-Coll, and first applied to their organ in St. Denis, in 1841.

The pneumatic lever is sometimes applied to a whole key-board; at other times only to the lower octaves, where the pressure of wind against the finger is greatest, and the touch heaviest. Besides being applied to the key-board, it is sometimes also used for the draw-stop action.

The *Tubular Pneumatic* action is of much more recent development, the first important example of the application of this principle being the organ in St. Paul's Cathedral, built by Mr. Henry Willis in 1867. As in the case of the pneumatic lever, compressed air from the bellows

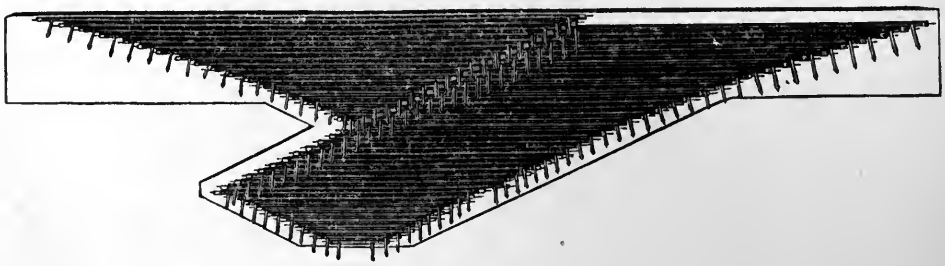


FIG. 8.—ROLLER BOARD.

is again the motive force; but the use of the tracker, &c., is entirely done away with, and, instead, we find tubes resembling gas-pipes connecting key with pallet, through which the pneumatic force is made to do its work.

Objectors to this system hold that, air being elastic, the speech of the pipe is not so prompt as in tracker action. Many examples exist, however, where this difficulty has been successfully overcome; and this kind of action can be easily carried in any direction or to any distance from the key-board, while the touch is much lighter.

On account of its noiseless action, the tubular pneumatic action is frequently applied to the pedals alone.

The use of *Electricity* was first suggested by Dr. Gauntlett in 1851, his proposal being to play all the organs in the Great Exhibition by this means at the same time. This idea was not realised; but in 1852 he obtained a patent for playing organs by electrical force.

The first successful application seems to have been by Mr. Barker (already mentioned in connection with the pneumatic lever), who patented a system, which he applied to the organ in St. Augustine, Paris, in 1867; and since that time Bryceson, Willis, Lewis, and other builders in this country, have erected organs with electric action. During recent years the electrical principle has been brought into greater prominence by the application of Mr. Hope Jones of Birkenhead, and may now be considered to have passed the experimental stage.

Some advantages claimed for the system are:—*Removal of all mechanism*, and consequent saving of space, the connection between the console and organ being furnished by means of a cable of wires less than an inch in diameter. *Rapid response and repetition of touch*, enabling the most florid music to be played with clearness and certainty. *Second touch*, by means of

which the key when depressed beyond a certain depth, is made to speak a different stop previously arranged, thus making it possible to play a solo, and accompany, on the same manual, or to produce *sforzando* effects by taking the deeper touch on a whole chord. *The Stop-switch*, by means of which any combination of stops may be arranged beforehand, and brought into use at the moment required. The *Console may be moved* to any position, so that the player can judge perfectly of the effect he is producing.

The console of a Hope Jones organ presents some important differences in appearance from that of the usual organ, there being no draw-stops (see fig. 9). In place of these we find a row

FIG. 9.—CONSOLE OF HOPE-JONES ELECTRIC ORGAN
(*With connecting Cable*).

of *Stop-keys* placed in front of the player in the position usually occupied by the stops in a harmonium. These stop-keys are brought on by being depressed, and thrown off by being raised, so that a single *glissando* sweep of the finger along the top of the row would bring on all the stops of the organ, while a similar movement below would suffice to throw them all off. The stop-keys are arranged in groups for great, swell, pedal, &c., and are coloured to distinguish between the different classes of tone—flue stops, white; reeds, red; while couplers are coloured black.

For organs which are divided into two portions at some distance from each other, or which involve special difficulties as to position or space available, and where cost is not a matter of first importance. the tubular pneumatic or electric systems seem specially suitable.

VI.—Accessory Stops, Composition Pedals, &c.

Accessory stops are distinguished from *Speaking* stops, inasmuch as when they are drawn they do not bring into operation any set of pipes so as to produce *tone.*

Their use is to connect the different claviers so as to get the effect of the stops drawn on each while playing on one key-board (*couplers*), or for the production of some special effect (*tremulant, sforzando,* &c.).

The use of mechanism to connect the different manuals is said to be as old as the fourteenth century. The couplers now in use are of various kinds :—

Unison Couplers.

Swell to Great, by which when playing on the Great, the corresponding keys are taken down on the Swell.

Swell to Choir, by which when playing on the Choir, the corresponding keys are taken down on the Swell.

Choir to Great, by which when playing on the Great, the corresponding keys are depressed on the Choir.

Octave (sometimes called super-octave) and *sub-octave* couplers take down the notes an octave higher or lower than the note played as :—

Swell to Great, octave.
Swell to Great, sub-octave.
Swell Octave,
Swell Sub-octave, } acting on the same manual.

Octave and Sub-octave couplers are most effective when applied to the Swell, either on itself or from the Great as indicated, but they are not a necessity as are unison couplers. They are consequently much less frequently found, although they are extremely useful. It is evident that the effect of these couplers cannot be carried to the extremities of the key-board, so that the effect of the octave coupler stops with the note an octave from the top, and similarly a sub-octave coupler acts only to the note an octave from the bottom.

Pedal Couplers connect the pedal organ with the various manuals. Their effect will be understood from what has been said in regard to manual couplers. The note taken down by the pedal on the manual, although generally of different pitch, is invariably the same note as written on the stave

Great to Pedal.	*Choir to Pedal.*
Swell to Pedal.	*Solo to Pedal.*

It may be mentioned that couplers sometimes do not actually take down the corresponding key on the manual which is affected, but merely act on the mechanism. In every case, however, the effect will be the same, although it may not be apparent to the eye.

Composition-pedals are the iron rods projecting from the front of the organ just above the pedal board. These are acted on by the feet, and are for the purpose of enabling the player to make changes on the stops without lifting his hands from the keys.

Originally these were known as *Single-action* pedals—each pedal performing only one function —some to push out and others to draw in certain stops. The kind now in use are *Double-action* pedals—each of which represents a certain fixed combination of stops, and not only brings out any belonging to that combination not already drawn, but also withdraws any which may have been drawn beyond the set number.

Composition pedals are arranged in a graduated series—No. 1 representing a soft combination, No. 2 *mf*, No. 3 *f*, &c. Those projecting above the upper half of the pedal board and near the right foot belong to the Great, those belonging to the Swell and Pedal being placed opposite the left foot.

Pneumatic Pistons, the invention of Mr. Henry Willis, are sometimes placed between the key-boards to effect changes on the stops. The effect of these is similar to that of the composition pedals.

In French organs *Ventils* take the place of composition pedals, the effect of these being to cut off the wind from certain groups of stops irrespective of whether these are drawn or not. The English composition pedals present this advantage to the player that the eye sees at once the stops which he is using.

The Swell-pedal is variously placed in many organs. In some it will be found projecting at right angles from the organ case, and within easy reach of the player's right foot. In others it is placed in line with and to the right of the Great Organ composition pedals, while in others it is placed directly in the centre where it can, if necessary, be reached by either foot. Usually the swell pedal—unless locked open by being depressed to its fullest extent and secured by the swinging bar at the side—closes of itself when released by the foot. The balanced swell pedal, however, has much to recommend it, as it remains in whatever position it is placed. The swell shutters can thus be left open to any extent without the necessity for keeping the foot constantly on the swell pedal.

The *Tremulant* is generally applied to the Swell Organ, and is an apparatus fixed on the wind-trunk, which by interference with the steady supply of wind, imparts an undulating motion to the tone. It is brought on either by a pedal or stop handle, and is most effective when used with a Solo stop.

The *Sforzando* pedal has the effect of bringing on an increase of tone without changing the stops, and usually continues to act so long as it is held down by the foot.

Having thus briefly described the purely mechanical parts of the instrument, we now proceed to consider those parts from which tone is produced.

VII. The Tone-producing Parts of the Organ.

Materials, Shape, &c. of Organ Pipes.—The materials used for making pipes are two, viz., *metal* and *wood*.

The most suitable metal is found to be a mixture of tin and lead in varying proportions—from twenty to fifty per cent. of the former—and forming what is technically known among organ builders as "metal."

Stops of pure tin are now seldom made on account of the expense of the material.

Spotted Metal is known by its mottled or spotted surface, and its bright silvery appearance. It is more valuable than metal, as the spots are evidence of the presence in the mixture of at least one-third of tin. Tin being light and exceedingly ductile, a fair proportion of this is desirable in metal pipes, as, if a more brittle metal be employed, the pipes are apt to become cracked round the top in course of time by the operations of the organ-tuner, and may indeed ultimately become useless.

Zinc is frequently also successfully used for the larger pipes, while in some cases the same material is used for the base or supporting part of the pipe, the body or speaking part being made of better material.

The most commonly used woods are deal or pine and mahogany, while oak was formerly and is still occasionally used.

The *shape* of organ pipes may be generally described as *round*, *triangular*, or *four-sided*.

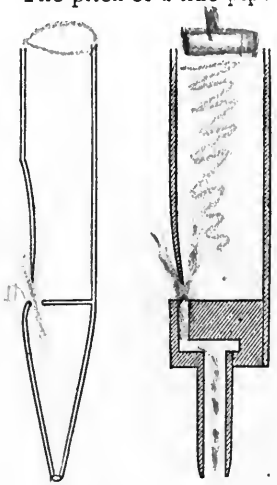
The metal pipes lend themselves most conveniently to the round shape, the material being first run out into a flat sheet, cut to the required size, turned into the cylindrical shape, and the edges soldered up in one join. Metal pipes are also made in the form of a cone, either inverted or uninverted.

Wooden pipes lend themselves more readily to the three- or four-sided formation, the pipe being formed of three or four sides glued together.

Open pipes are those which are open at the top. In stopped pipes, a plug or stopper is inserted in the top of the pipe, the acoustical effect of this being that the pipe speaks an octave lower than it would if the stopper were removed and the pipe left open.

As regards the production of tone, all organ pipes are divisible into two principal classes, viz., *Flue* and *Reed Pipes*.—In the former, the tone is produced by the vibrations at the mouth and the corresponding vibrations which these set up in the body of the pipe, this being the same principle as that of the ordinary whistle. In the latter, the tone emanates from the tongue of metal contained in the reed, the vibrations of which are strengthened and resonated by the corresponding vibrations which they set up in the tube placed above.

The pitch of a flue pipe therefore depends on the length of the pipe, while the pitch of a reed pipe depends on the length of the reed. The tone of the flue pipe is entirely different from that of the reed.



(*a*) (*b*)

FIG. 10.
(*a*) SECTION OF METAL FLUE PIPE.
(*b*) SECTION OF WOODEN FLUE PIPE.

Flue Pipes.—An open metal flue pipe consists of three principal parts—the *body*, extending from the mouth of the pipe upwards; the tapering *foot* or *base*, which serves as the conductor of the wind from the sound-board to the mouth of the pipe, as well as for the pipe to stand on; and the *languid*, a thin plate of metal fixed across the pipe at the mouth, and completely dividing the foot from the body, with the exception of a narrow slit or windway at the front for the wind to pass through. The length of the foot below the mouth does not affect the pitch of the pipe; that is determined by the length of the body of the pipe (see fig. 10).

An open wooden pipe consists of four principal parts—the *body*, generally four-sided and either oblong or square; the *block*, which corresponds to the languid in a metal pipe; the *cap*, which is fitted on in front of the block, leaving, as before, the wind-way between; and the *foot*, which forms the conductor of the wind, and for the pipe to stand on (see fig. 10).

A stopped pipe in addition is furnished with a plug or stopper inserted at the top, the effect of which has been already described. Stopped pipes are most frequently, though not invariably, of wood.

Half-stopped pipes of wood are sometimes met with—these have a hole bored downwards through the stopper. Covered or stopped metal pipes frequently have a chimney inserted in the cap or stopper (French, *Flute a Cheminée*).

The open diapason is the typical example of an open metal flue-pipe, the clarabella of an open wooden pipe, while the stopped diapason is the most familiar example of a stopped wooden pipe.

Triangular pipes were invented by Edmund Schulze of Paulinzelle. A Höhlflote of this description occurs in the organ by this builder at Doncaster. A similar stop is still successfully made on the Schulze scale, by Messrs. Foster & Andrews, Hull, and gives a characteristic quality of tone not obtainable by any other means.

A pyramidal stop, called the Pyramidon, was invented by the late Sir Frederick Ouseley, but has not come into general use. A pipe of this shape, $2\frac{3}{4}$ feet long, gives the note CCC.

The tone of all flue-pipes is influenced by the "scale," or diameter of the pipe in proportion to its length, thickness of metal, &c., a large full-scaled pipe producing a fuller and grander tone than a similarly shaped pipe of smaller scale.

Variety of tone is procured not only by using pipes of different scales, but also by variously

shaped pipes, as the conical or inverted conical in metal, and the triangular or pyramidal shapes in wood.

The conformation of the mouth of a pipe exercises an important influence on the tone; and the art of "voicing," or procuring the same strength and quality of tone from the whole stop, is one of the most delicate and difficult operations of the organ-builder's art.

Reed Stops.—Reed stops are of two kinds, viz., *Free* reeds, and *striking* or *beating* reeds. Examples of the former are so rarely met with in British organs that a detailed description is unnecessary. Suffice it to say, that in principle the free reed is the same as that found in the ordinary harmonium, accordeon, or concertina, and consists of a tongue of brass, vibrating freely, *i.e.*, without touching the edges of the aperture in which it is fixed.

The striking reed may be termed the organ reed proper; and in it the vibrating tongue of metal is slightly larger than the aperture, so that when excited into vibration by the wind passing through, it beats against its edges. The length of the tongue determines the pitch of the note, and this is regulated by means of the tuning wire.

An organ reed pipe consists of the following main parts: the *mouthpiece* containing the reed, the *boot* or *base* into which it is fitted, and the *tube* or *pipe* which surmounts the whole.

The different parts of the mouthpiece are the *block*, *reed*, *tongue*, and *wooden wedge* holding the tongue in position, with the *tuning wire* to regulate the pitch.

The *boot* into which the mouthpiece is fitted corresponding to the foot of a flue pipe, supports the whole weight of the pipe, and forms the channel for the conveyance of the wind up to the reed (see fig. 11).

FIG. 11.
MOUTHPIECE AND BASE OF A REED PIPE.

The *tube* of the reed pipe, as has been already said, does not so much affect the pitch, as the character and strength, of the tone. The size of the tube is, however, an important matter, and the vibrations of the reed must synchronise with those of the tube if a satisfactory tone is to be produced. The shape of the tube also materially affects the quality of the tone, the open inverted cone, as in the trumpet and cornopean stops, producing a full sonorous tone, while the smaller cylindrical tubes of the clarionet produce a lighter tone imitative of the instrument from which it is named.

The reed stops are all imitative of the brass or reed instruments of the orchestra, with the exception of the *Vox humana*.

The tubes of the manual reed stops are metal, although for the pedal reeds (trombone, &c.) wooden pipes made in the form of an inverted pyramid are frequently employed.

Pitch of different Stops.—The pitch of a stop is generally, and always should be, indicated on the stop handle.

If the open diapason be drawn, and the lowest note (CC) on the key-board played, the sound will be produced by a pipe 8 feet long. If the stopped diapason be drawn, and the same note played, the pitch is the same as before; but the note is now produced by a stopped pipe of 4 feet length, though of 8-feet tone.

These and all other stops of similar pitch are known and labelled as 8-feet stops, that being normal or unison pitch, the same as the corresponding notes on the piano or of the voice.

The length of the pipes, of course, decreases in regular ratio as we ascend the key-board, so that, while the lowest pipe is 8 feet long, each octave will be found to have reduced the length by one-half, until the highest will be found to be only a few inches in length.

The scale of the pipe affects to some slight extent the pitch of the note, so that some nominally 8-feet pipes might be rather longer, and others rather shorter in actual length.

It is in accordance with a well-known law in acoustics that if we double the length of a pipe or other sounding body, it will sound an octave lower, hence 16-feet stops sound one octave

and 32-feet stops two octaves lower than 8-feet; while, on the other hand, if we halve the length of the pipe it will sound an octave higher; hence 4-feet stops sound one octave, and 2-feet stops two octaves higher than 8-feet.

It will now be understood why, in the organ, a manual key-board of four and a half octaves is sufficient to produce a more extensive range of musical sounds than is found in a pianoforte of seven octaves, with this important difference, that, whereas in the piano we can only get unison pitch from any one given note, in the organ we can combine sounds of different pitches by the use of 16-feet, 8-feet, 4-feet, or 2-feet stops.

A 32-feet stop is only found in the largest organs, the longest pipe in the majority of church organs being 16-feet. The lowest note produced by a 16-feet stop is identical in pitch with the lowest C on the piano (organ CCC).

In a 32-feet stop, the lowest note would, of course, be CCCC, an octave lower.

As regards pitch, reed stops are conveniently named in the same way as flue stops, not, however, on account of the length either of the reed or pipe, but simply because they are of the same pitch as 32-feet, 16-feet, 8-feet, or 4-feet flue stops, as the case may be. 2-feet reeds are rarely found.

VIII. Classification of Stops according to Pitch.

As regards pitch, all organ stops, whether made of metal or wood, open or stopped, reed or flue, are classified in three groups:—

1. *Foundation*,

   Divided into { Doubles. / Unisons. / Octaves.

2. *Mutation.*
3. *Compound.*

The *foundation* stops, as the name implies, include those on which the weight and body of tone depend, and which speak a sound of the same name with the note which is played.

The *normal* or *unison* pitch of foundation tone on the manuals is 8 feet—the same pitch as the piano—and the number of stops of this pitch should predominate.

Weight is given to 8-feet tone by adding a 16-feet or *double;* while brilliancy and clearness, as well as reinforcement of the ground tone in higher *octaves*, are obtained by the addition of 4-feet and 2-feet stops.

The *normal* foundation tone on the pedal organ is 16-feet, so that a *double* in this department would be a 32-feet stop, and the *octave* an 8-feet stop.

Mutation stops are those which speak a different sound from the note which is played. The most familiar example is the Twelfth.

Compound, or Mixture stops, are those in which to each key there are several ranks of pipes of different pitches controlled by one stop handle, such as the Mixture or Sesquialtera.

Mutation and Compound stops reproduce the most important of the natural harmonics of the foundation tone, viz., twelfth, seventeenth, nineteenth, and twenty-second, or their octaves.

A "break" or "return" (to the pitch of a lower octave) is always found about the middle of a Mixture stop, to enable it to be carried up to the top of the key-board.

The 3-rank Mixture is the most frequently found, and generally consists of the seventeenth, nineteenth, and twenty-second of the 8-feet tone, although other combinations of harmonic intervals may sometimes be met with. The twelfth is generally on a separate slider, and should not be used except along with the fifteenth.

Mutation and compound stops can only be used in combination; and when properly voiced

in proportion to the foundation stops, they give a clear and ringing character to the full organ *fortissimo* tone.

The Tierce, or seventeenth, and Larigot, or nineteenth, were formerly placed on separate sliders, but are now always included in the Mixture work.

GREAT ORGAN

Flue Stops—

Doubles	Double Open Diapason	16 feet length	(metal)
	Double Dulciana	,,	,,
	Contra Gamba	,,	,,
	Bourdon	16 feet tone	(8 feet wood stopped)
Unisons	Large Open Diapason	8 feet length	(metal)
	Small Open Diapason	,,	,,
	Dulciana	,,	,,
	Stopped Diapason	8 feet tone	(4 feet wood stopped)
	Clarabella	8 feet length	(wood)
	Hohlflöte	,,	,,
	Gamba	,,	(metal)
	Viola	,,	,,
Octaves	Principal	4 feet length	(metal)
	Harmonic Flute	4 feet tone	,,
	Claribel Flute	4 feet length	(wood)
	Wald Flute	4 feet length	,,
	Fifteenth	2 feet length	(metal)
Mutation	Quint	$5\frac{1}{3}$ feet length	,,
	Twelfth	$2\frac{2}{3}$ feet length	,,
Compound	Mixture	various ranks	,,
	Sesquialtera	,,	,,

Reed Stops—

Double Trumpet	16 feet.
Trumpet	8 feet.
Clarinet	8 feet.
Clarion	4 feet.

SWELL ORGAN.

Flue Stops—

Doubles	Bourdon	16 feet tone	(8 feet wood stopped)
	Contra Gamba	16 feet length	(metal)
Unisons	Open Diapason	8 feet length	(metal)
	Stopped Diapason	8 feet tone	(4 feet wood stopped)
	Lieblich Gedact	8 feet tone	(4 feet wood stopped)
	Violin Diapason	8 feet length	(metal)
	Salcional	,,	,,
	Rohr Flöte	8 feet tone	(4 feet wood stopped)
	Spitz Flöte	8 feet length	(metal)
	Hohlflöte	,,	(wood)
	Vox Angelica / Voix Celeste / Unda Maris	,,	(metal)

SWELL ORGAN—*continued.*

Octaves	Principal	4 feet length	...	(metal)
	Gemshorn	,,	...	,,
	Salicet Flute	,,	...	,,
	Geigen Principal	,,	...	,,
	Fifteenth	2 feet length	...	,,
	Flageolet	,,	...	,,
	Piccolo	,,	...	,,
Compound	Mixture	various ranks	...	(metal)

Reed Stops—

Double Trumpet	16 feet.
Trumpet	8 feet.
Horn	,,
Cornopean	,,
Oboe	,,
Vox Humana	,,
Clarion	4 feet.

CHOIR ORGAN.

Flue Stops—

Unisons	Dulciana	8 feet length	...	(metal)
	Lieblich Gedact	8 feet tone		(4 feet wood stopped)
	Salcional	8 feet length	...	(metal)
	Gamba	,,	...	,,
	Open Diapason	,,	...	,,
Octaves	Lieblich Flute	4 feet length		(wood or metal)
	Clear Flute	,,	...	(wood)
	Octave Gamba	,,	...	(metal)
	Principal	,,	...	(metal)
	Piccolo	2 feet length		(metal)
	Flageolet	,,	...	,,
	Flautina	,,	...	,,

Reed Stops—

Clarinet	8 feet
Corno di Bassetto	,,
Cor Anglais	,,

SOLO ORGAN.

8 feet tone	Harmonic Flute	Flue
	Tuba	Reed
	Orchestral Oboe	,,
	Vox Humana	,,
4 feet tone	Harmonic Flute	Flue
	Octave Tuba	Reed

PEDAL ORGAN

Flue Stops—

32 feet length or tone	Double Open Diapason	(wood or metal)
	Contra Bourdon or Sub-bass ...	(16 feet wood stopped)
16 feet length or tone	Open Diapason	(wood or metal)
	Violone	(metal)
	Bourdon	(8 feet wood stopped)
$10\frac{2}{3}$ feet length	Quint	(wood or metal)
8 feet length	Principal or Octave	(metal)
	Cello	(metal)
	Bass Flute	(wood)

A Fifteenth (4 feet), Twelfth ($5\frac{1}{3}$ feet), or Mixture, are found only in very large Pedal Organs.

Reed Stops—

32 feet tone	Contra Fagotto.
	Contra Posaune.
16 feet tone	Fagotto.
	Trombone or Posaune.
	Bombard.
8 feet tone	Bassoon.
	Trumpet.

It should be mentioned that no one organ would contain all the above-mentioned stops and no two organs are exactly alike; so that the preceding can only be regarded as a summary of the stops most frequently found, and the particular key-board with which they are generally associated.

If there is no Choir organ, some of the stops given under that heading would most probably be found on the Great organ.

The following proportions of tone are, however, very generally observed on the Manuals:—

One 16 feet to three or four 8-feet stops.
Two 4 feet to „ „
One 2 feet to „ „

A larger proportion of the reed stops is placed on the swell than on the other Manuals, on account of the fine crescendo effect obtainable thereby.

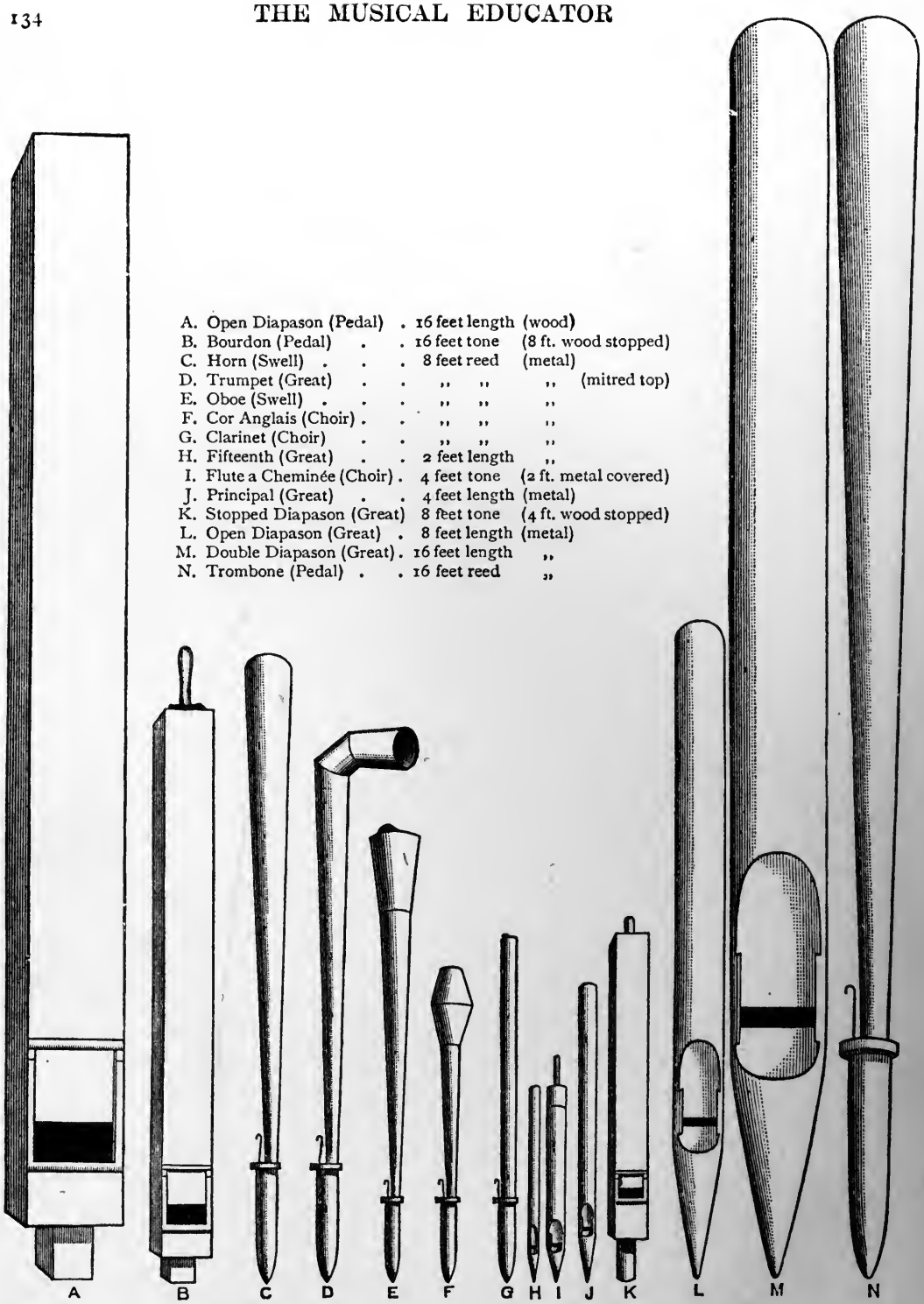


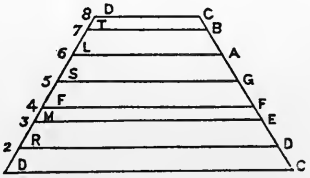
FIG. 12.—SHOWING COMPARATIVE LENGTH OF CC PIPE IN STOPS OF DIFFERENT PITCHES.

[*To be continued.*]

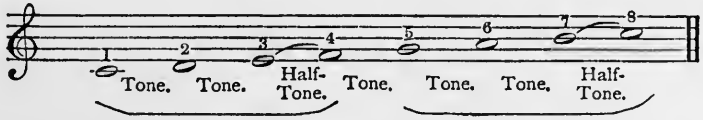
HARMONY.

By JOHN ROBERTSON, Mus. Bac. (Cantab.).

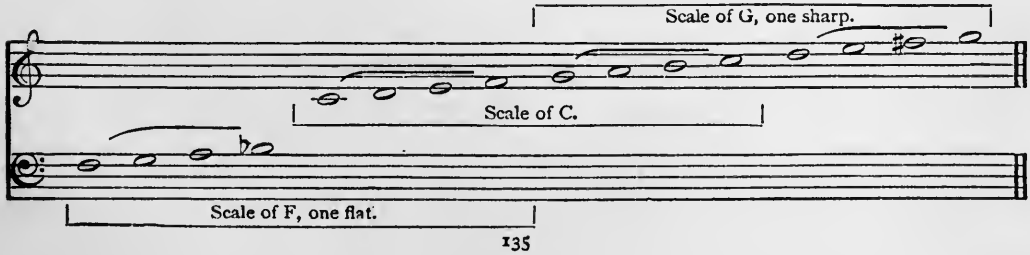
Harmony may be roughly defined as the combination of the various notes of the scale according to certain rules: in other words, Harmony is understood to be two or more sounds heard at the same time, in contradistinction to Melody, which is a succession of single notes. The scale is the most important thing in music, for from it all music is built up. It is a series of sounds starting from any given sound to its octave. The following illustration will show the Major Scale:—



Each step is called an interval, the smaller intervals being between the third and fourth, and seventh and eighth steps. The following is the scale of C in the old notation, showing the smaller intervals with a slur, thus:—



This scale being divided into two groups of four notes each, it is seen that the construction of each group, or tetrachord, as it is called, is identical. It will thus be clear that the upper tetrachord of the scale of C may be the lower tetrachord of a scale beginning on G, if we add four notes of a similar construction above it; and likewise the lower tetrachord of the scale of C may become the upper one of the scale of F, if we add a similarly constructed series of four notes below it. This is shown in the following illustration:—



Intervals.

Intervals are always reckoned upwards; and the number of names of notes they contain is always the number of the interval. Thus from C to E is always a third, because C, D, E, are three letters; C to G is always a fifth, because there are five letters implied, C, D, E, F, G. Every interval from the key-note of the major scale is a major interval, excepting the fourth, fifth, and octave, which are called perfect, thus:—

C to D is a major second.
C to E is a major third.
C to F is a perfect fourth.
C to G is a perfect fifth.
C to A is a major sixth.
C to B is a major seventh.
C to C is a perfect octave.

This holds good of every major scale. In the scale of A—from A to C♯ is a major third, because C♯ is the third letter from A. In the scale of B♭—B♭ to G is a major sixth, because G is the sixth letter from B♭. Intervals one half-tone less than major are called minor, and intervals half a tone less than perfect are called diminished, thus:—

C to D♭ is a minor second.
C to E♭ is a minor third.
C to F♭ is a diminished fourth.
C to G♭ is a diminished fifth.
C to A♭ is a minor sixth.
C to B♭ is a minor seventh.
C to C♭ is a diminished octave.

This applies to all scales. A to C is a minor third, because C is half a tone less than C♯, which is the major third of A. D to A♭ is a diminished fifth, because the perfect fifth would be A.

Intervals one half tone greater than major are called augmented, and intervals one half-tone greater than perfect are also called augmented.

C to D♯ augmented second.
C to E♯ augmented third.
C to F♯ augmented fourth.
C to G♯ augmented fifth.
C to A♯ augmented sixth.
C to B♯ augmented seventh.
C to C♯ augmented octave.

Intervals one half tone less than minor are called diminished: thus C to E♭ is a minor third, C♯ to E♭ or C to E♭♭ would be a diminished third. The rule may be thus shortly stated:—One half-tone less than major makes the interval minor; one half-tone less than minor or perfect makes the interval diminished; one half tone greater than major or perfect makes the interval augmented.

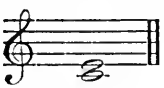
Intervals within the range of the octave are called simple. Intervals which exceed the compass of the octave are called compound. Thus (No. 1) is a compound second or ninth; (No. 2) is a compound fifth or twelfth.

Intervals are said to be inverted when the lower note is raised an octave higher, or when

the upper one is lowered an octave: thus C to E (No. 3) is a third. If we invert it, we have E to C (No. 4) a sixth. A very simple rule for the inversion of intervals is to make up the number 9. Thus C to D is a second: place C uppermost, and we have D to C, a seventh,


No. 1.


No. 2.


No. 3.

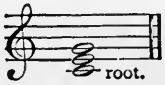

No. 4.

because $2 + 7 = 9$: C to F is a fourth: place C uppermost, and we have F to C, a fifth. because $4 + 5 = 9$.

Major intervals	when	inverted	become	minor.
Minor	,,	,,	,,	major.
Augmented	,,	,,	,,	diminished.
Diminished	,,	,,	,,	augmented.
Perfect	,,	,,	,,	perfect.

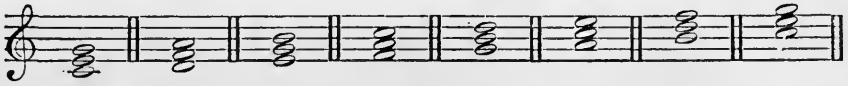
Common Chord in Root Position.

The third is the most important interval in Harmony, because all chords in their root position are built up by a succession of thirds. The common chord consists of two thirds, the lowest note of which is called the root (No. 5). The name "triad" is often given to a chord of three notes.



No. 5.

Let us build up a chord on every note of the scale of C, and then analyse the chords thus built.



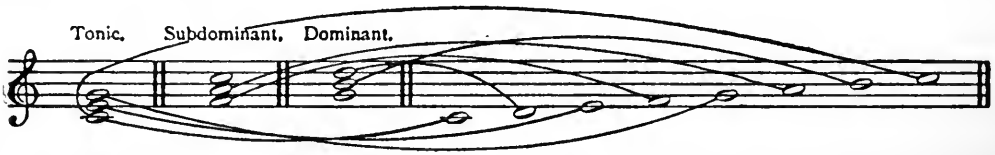
The technical names given to these chords are as follows:—The chord with C for its root is called the tonic. The chord with D for its root is called the supertonic. The next is called the mediant, the next the subdominant, the next the dominant, the next the submediant, the next the chord on the leading note, and lastly the tonic again. These same names are given to the seven notes of the scale on which the chords are built.

Tonic.	Supertonic.	Mediant.	Subdominant.	Dominant.	Submediant.	Leading Note.
C	D	E	F	G	A	B

These examples are given in the scale of C for the sake of simplicity, but they should be written out in all the scales. Let us shortly analyse each of these chords. We find that the chord of C has its first third, C to E, major; its second third, E to G, minor; and its fifth, C to G, perfect. The chord on D has its first third, D to F, minor; its second third, F to A, major; and its fifth, D to A, perfect. The chord on the mediant has the first third, E to G, minor; the second third, G to B, major; and the fifth, E to B, perfect. The chord on the subdominant has the first third, F to A, major; the second third, A to C, minor; and its fifth, F to C, perfect. The chord on the dominant has the first third, G to B, major; the second third, B to D, minor; and the fifth, G to D, perfect. The chord on the submediant has the first third, A to C, minor; the second third, C to E, major; and the fifth, A to E, perfect. The chord on the leading note has the first third, B to D, minor; the second third, D to F, minor; and the fifth, B to F, diminished. These may all be summarised thus:—The triads on the tonic, subdominant, and

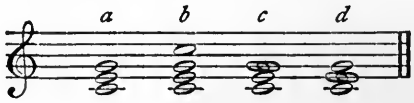
dominant are major; those on the supertonic, mediant, and submediant are minor; and the one on the leading note is called diminished.

Let us now see how the whole scale may be drawn from those three chords, tonic, dominant, and subdominant.

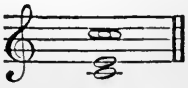


Thus we see that the first, third, and fifth of the scale are drawn from the tonic; the second and seventh from the dominant; and the fourth and sixth from the subdominant.

If we wish the chord to have four parts instead of three, as in the above example, we must double one of the other notes, thus (No. 6) :—



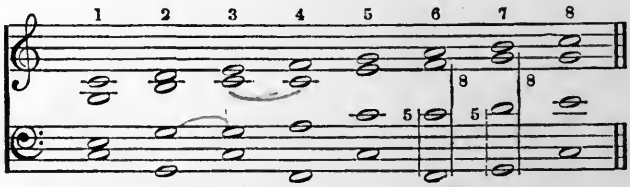
No. 6.



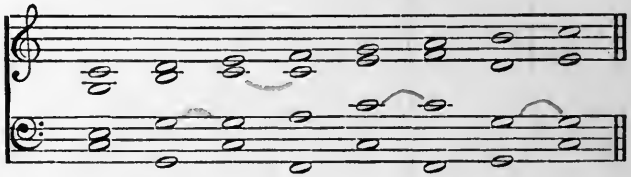
No. 7.

The best note to double in a common chord is the root (fig. *b.*); the next best note to double is the fifth (fig. *c.*); but the third should rarely be doubled (fig. *d.*), the objection being stronger to the doubling of the major third than to the doubling of the minor. It is sometimes necessary to omit the fifth altogether, in which case the root is doubled twice, thus, (No. 7) but the third must never be omitted.

Let us give an example of the scale harmonised in four parts by the three major chords :—



It will be noticed that, between each chord, there is one note common to both chords, except between the chords on the sixth and seventh degrees; and there we find glaring examples of those well-known errors known as consecutive octaves and consecutive fifths, the bugbears of all young musical students. These might be corrected in the following manner :—



It will be clear, that any melody which remains in one scale or key can be harmonised correctly, if not elegantly, by using only the tonic, dominant, and subdominant.

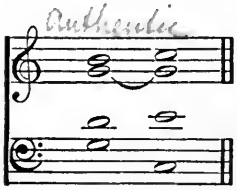
We shall look at the value of these three primary triads in connection with *Cadences.* If we examine the end of an ordinary hymn-tune, we shall see that the last two notes in the bass proceed from the dominant to the tonic. This is called a perfect cadence or full close. This full close will give a valuable example of how to make two common chords succeed each

other. If there be a note common to both chords, keep it on in the same part. Let it be understood, that a chord of four notes is said to be in four parts, the upper part being called treble, the second part alto, the third part tenor, and the fourth part bass. The following illustration will show the perfect cadence (No. 8). Here the note G, in the alto of the first chord, is held on in the alto of the second chord, while the other parts move to the nearest notes of the next chord. When the subdominant chord is followed by the tonic, the progression is called the *Plagal Cadence* (No. 9).

This is the cadence usually sung in churches to the word "Amen" at the end of hymns.

In the middle of a musical sentence, when the dominant follows the tonic, the progression is called the imperfect cadence or half close (No. 10).

Those chords which have a connecting link between them are called conjunct. But between the subdominant and dominant there is no connecting link. These chords are therefore



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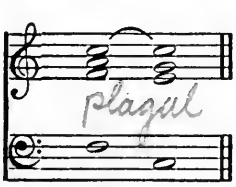
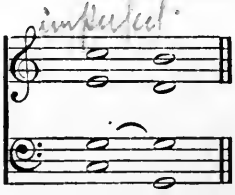
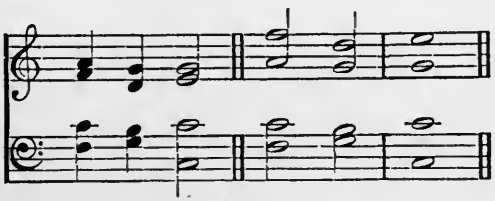


No. 9.

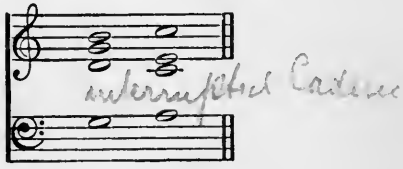


No. 10.

called disjunct, and are always a source of danger and trouble to young students. All chords on adjacent degrees of the scale will always be disjunct. When such chords are employed, the following rule will be a safe guide towards the prevention of faulty consecutives:—Always make the upper parts move in *contrary* motion to the bass, and let them proceed to the nearest note of the chord to which they are going, thus (No. 11). The minor chords upon the supertonic, mediant, and submediant are called secondary triads, and are all available in the major key, along with the primary triads. The chord on the leading note being dissonant is not a common chord, and it is never, or at least very rarely, used in its root position.



No. 11.



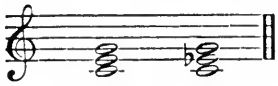
No. 12.

A very good example of the use of a secondary triad occurs in what is called "the interrupted cadence." This cadence is formed when the dominant chord, instead of proceeding to the tonic—which would form the perfect cadence—proceeds to the submediant; thus *interrupting* the expected perfect cadence. The following illustration will show the interrupted cadence (No. 12). It will be noticed that the inner parts (only two of them in this case) go in contrary motion to the bass: had they not done so, there would have occurred the errors of consecutive octaves and fifths, which in music are heresies, and should be most carefully avoided by all students.

Minor Scale.

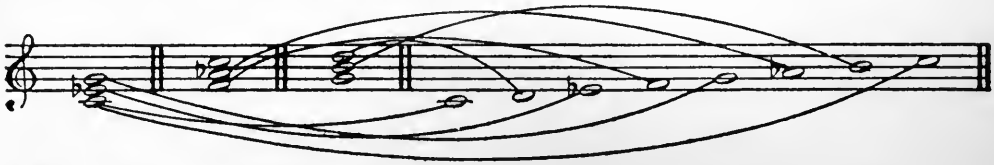
Let us now endeavour to draw out the minor scale, as we have done the major, from the three minor primary chords. We have seen that a major chord is built up with its major third first, and its minor third second. In a minor chord the reverse is the case: the minor

third comes first, and the major third second. Hence it follows, that any major chord can be changed into a minor, simply by lowering the third half a tone, thus:—

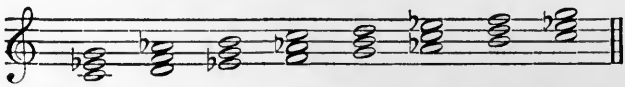


C major. C minor.

We shall now make the tonic and subdominant of the key of C, minor chords, keeping the dominant major; for whether the key be major or minor, the dominant is always major. We find the half tones in this scale occur between the second and third, fifth and sixth, and seventh and eighth; while between the sixth and seventh we have an augmented second, which is half a tone greater than a whole tone.



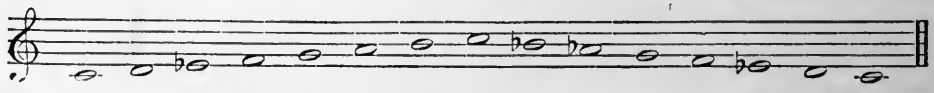
We shall build a chord on each note of the scale, and then analyse these chords.



On the tonic we have a minor chord, consisting of a minor third, a major third, and a perfect fifth. On the supertonic we have a diminished chord, consisting of two minor thirds and a diminished fifth. On the mediant we have an augmented chord, consisting of two major thirds and an augmented fifth. On the subdominant we have a minor chord, consisting of a minor third, a major third, and a perfect fifth. On the dominant we have a major chord, consisting of a major third, a minor third, and a perfect fifth. On the submediant we have a major chord, consisting of a major third, a minor third, and a perfect fifth. And on the leading note we have a diminished chord, consisting of two minor thirds and a diminished fifth.

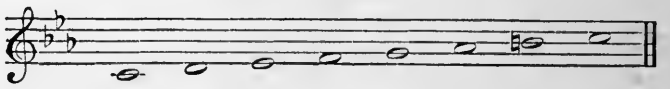
Of these the supertonic, mediant, and leading note are not used in their root position, leaving only the tonic, subdominant, dominant, and submediant for free use.

This scale is called the harmonic minor scale. There is a modification of this scale, called the melodic minor scale, where, in order to prevent the augmented second between the sixth and seventh, the sixth is raised going up, and the seventh is flattened coming down, the flattened sixth of the harmonic minor being also used in the descending scale.



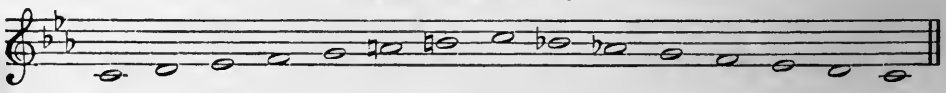
Every minor scale is called the tonic minor of the major scale beginning on the same key-note or tonic; but it is also the *relative* minor of the major scale, whose tonic is on the third degree above, and which is called its relative major, the signature of which major it always takes. Thus, C minor is the tonic minor of C major; but it is also the relative minor of E flat major, whose signature it bears.

Harmonic Minor Scale of C.

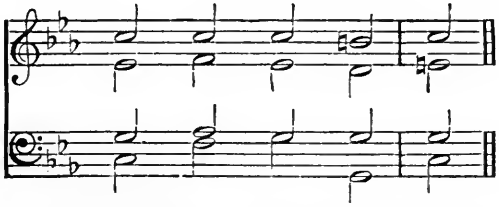


The same descending.

Melodic Minor Scale of C



The harmonic minor scale is the one on which all chords belonging to the minor key are founded. It will be understood that the dominant chord, whether the key be minor or major, is always major, because it contains the leading note of the scale. It not unfrequently happens that the final chord in a minor key is written with a major third. It is then called a "Tierce de Picardie," or Picardy Third.



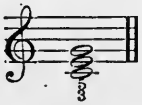
Inversions of Chords.

So far as we have gone, we have shown chords only as their root position, that is, having the note on which they are built placed lowermost. When the root is taken away from its place as the lowest note of a chord, and is placed in one of the upper parts, the chord is then said to be inverted (No. 13).

When the third of the chord is in the bass, the chord is said to be in the first inversion; when the fifth of a chord is in the bass, the chord is said to be in the second inversion. When we speak of the bass note, we always mean the lowest note of a chord, however high or however low the chord may be placed, or whether that chord be in root position or appear as an inversion.

In figuring chords we always reckon each interval from the lowest, thus (No. 14), from C to G is 5, and from C to E is 3; the root position of every chord will therefore be figured $\frac{5}{3}$, the

No. 13.



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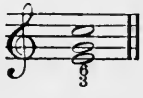

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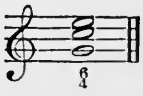
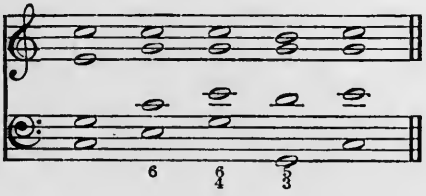


No. 16.

highest number being placed uppermost. In the first inversion (No. 15), from E to C is 6, and from E to G is 3; the first inversion will therefore be figured $\frac{6}{3}$, or more commonly 6, as it is understood that the 6 includes a 3. In the second inversion (No. 16) from G to E is 6, and from G to C is 4; the second inversion will therefore be figured $\frac{6}{4}$. Common chords in their original position, however, are not figured, except when they follow a second inversion on the same bass note or its octave (No. 17). Here it will be seen that the first chord being in the root position is not figured, but that the second last chord, being also in root position, is figured, because it is preceded by a $\frac{6}{4}$ on the lower octave of the same bass note.



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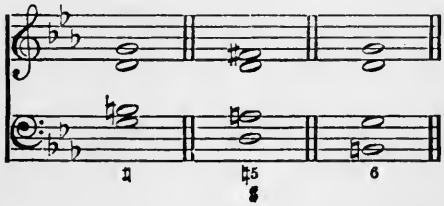


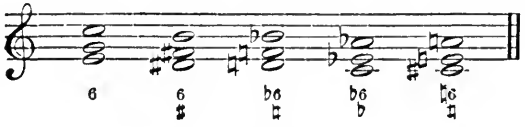
No. 18.

When it is required to alter a note from the signature, an accidental is used, and placed before the figure thus, ♮ 5. When an accidental appears by itself without a figure, it always refers to the third of a chord (No. 18). Sometimes, for the accidental sharpening of a note, a short line is drawn through the top of a figure, thus, 5̸.

Here are several chords of the sixth with accidentals (No. 19).

When a series of several first inversions follows in succession, it is always advisable to keep the *root* of the chord, that is, the sixth from the bass note, uppermost (No. 20).

If the fifth of the chord, that is, the third from the bass note, were placed uppermost, a



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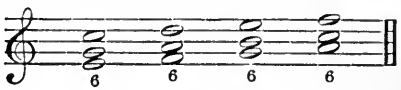
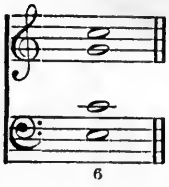


No. 20.

succession of fifths would ensue, which would be very bad (No. 21). When the harmony is in four parts, the best note to double would be the root in all major chords (No 22). It may not, however, always be possible to do this without involving error in the harmony; the next best note to double would therefore be the fifth from the root (No. 23). By changing alternately from the root to the fifth of a chord, we are enabled to harmonise a succession



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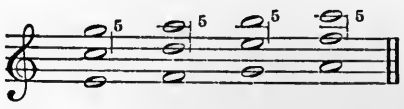

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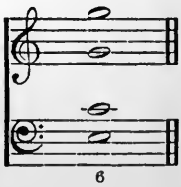
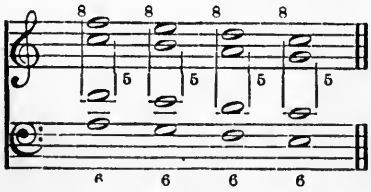


No. 23.

of sixths in four parts both agreeably and correctly (No. 25), which, had we always doubled the root, would have involved consecutive octaves and fifths (No. 24).

Here (No. 24) we see consecutive octaves between the tenor and treble, and consecutive fifths between tenor and alto, caused by doubling the root in every chord. In our next example we see how these can be avoided, by alternately doubling the root and the fifth of the



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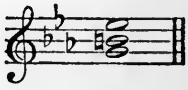

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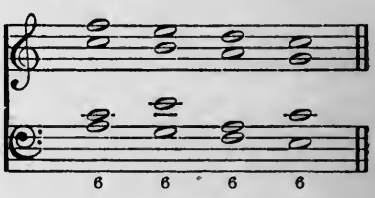
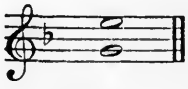


No. 25.

chord (No. 25). In the first chord we have doubled the fifth of the root; in the second chord we have doubled the root itself; in the third chord we have doubled the fifth; and in the fourth chord we have doubled the root, thus preventing all error. Every triad in the minor scale can also be taken in the first inversion; but the first inversion of the mediant, which has the dominant for its bass note, is not so frequently used as the others, owing to the diminished



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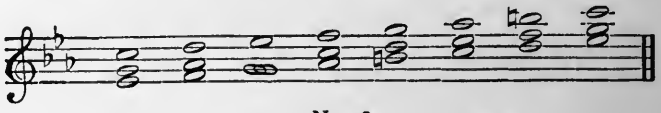
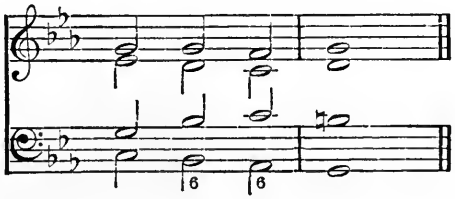


No. 28.

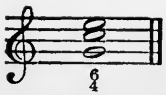
fourth, which occurs between the fifth and the root when the root is placed uppermost (No. 26). On this account the fifth is generally omitted, and the chord appears only with the third and the root, thus (No. 27), either of which may be doubled. The following are the triads of the minor scale in the first inversion (No. 28).

When the bass descends by degrees from the key-note to the minor sixth of the scale, a first inversion can be taken on the minor seventh of the key. This would seem to destroy the leading note by giving the dominant a minor third; but as the bass is coming from, not going to, the upper tonic, it is of no consequence, particularly as the resolution is on the dominant with the major third. This progression goes under the name of the Phrygian Cadence.



Second Inversion of Common Chords.

The second inversion of a chord has the fifth for its bass note, the root and the third of the chord appearing in the upper parts. The root becomes the fourth to the bass part, and the third becomes the sixth. The figuring will therefore be $\frac{6}{4}$ (No. 29). This inversion is principally used on the three primary chords of the tonic, dominant, and subdominant.



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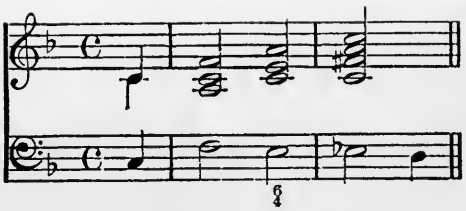
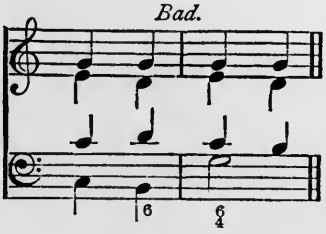


No. 30.

Sometimes it is used on other chords than these; but it will be found when this occurs, that it is generally either in the course of a sequence, or when a modulation is made, causing the other chord to become one of the primary triads of the new key. There are, however, some exceptional uses of the $\frac{6}{4}$; one very rare case will be found in the March from "Athalie," by Mendelssohn, where the $\frac{6}{4}$ chord occurs on the chord of the mediant (No. 30).



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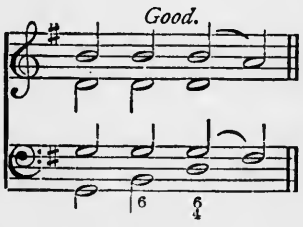
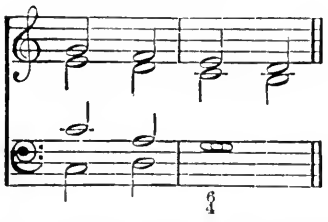


No. 32.

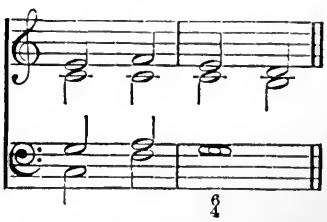
The bass should not approach a second inversion by leap from the inversion of a chord having a different root; but it would be quite right to leap from an inversion of the same chord. Thus, example (No. 31) is wrong; while the succeeding example (No. 32) is correct.

The bass may approach a second inversion either by step or leap from the root of another chord. The following examples are both right :—

By leap from root.

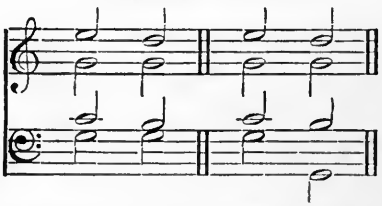


Or by step from root, thus :—

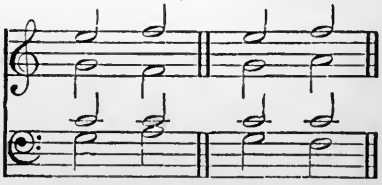


A second inversion, on being quitted, must be followed either by a chord upon the same bass note or its octave, or upon the bass note next above or below it.

On the same note and Octave.

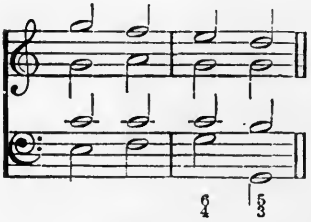


On note above. On note below.



So long as the same harmony continues, the bass of a second inversion may move to another note of the chord, or may have a succession of passing notes; but when the harmony changes to another chord, the bass must come back to the note that had the second inversion, or to the note next above or below it, that is, to the resolution it would have taken had there been no digression. Thus :—

Second inversions should not be used too often; and when they are followed by a chord on the same bass note or its octave, they should always be at a more strongly accented part of the bar than the chord which follows: the 6 should then proceed to 5, and the 4 should proceed to 3, the bass note being doubled. This is always the best note to double in a $\frac{6}{4}$ chord (No. 33).



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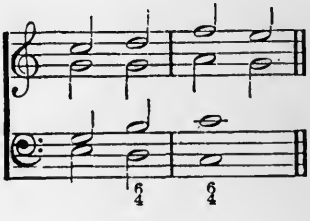

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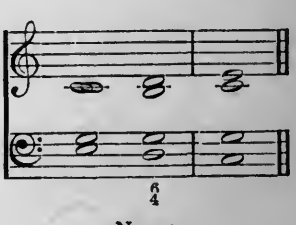


No. 35.

The progression here shown gives a special sweetness to the imperfect cadence or half close. It is sometimes called the Feminine Cadence.

There is only one case where two second inversions may follow each other, and that is,

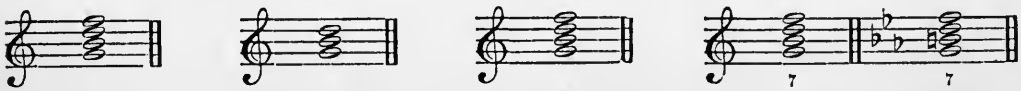
when the second inversion of the dominant chord—the supertonic being the bass note—is followed by the second inversion of the chord of the subdominant, having the tonic for its bass (No. 34).

When a second inversion is followed by a chord on the next note, it may be either at a weaker or stronger part of the bar. The dominant chord when taken in the second inversion is never resolved on a $\frac{5}{3}$, but is used as a passing $\frac{6}{4}$ (No. 35).

Dominant Seventh.

By adding a third to any triad, we get a chord of the seventh, the interval being a seventh from the root or lowest note; but of all the chords of the seventh, none is so familiar to the ear, or so important, as the chord of the seventh on the dominant. It is formed by adding a minor third to the dominant triad; and as this interval forms a minor seventh from its root, it must be classed amongst the discords, although the effect is so beautiful, that some can hardly bring themselves to believe it is a discord (No. 36).

The importance of it to the key in which it occurs is invaluable. It is truly the dominant seventh, because it rules or dominates the key: when the dominant appears with this seventh added, there can be no doubt about the key—it can only belong to one key. Without the seventh, the mere triad may belong to various keys. The triad (No. 37) may be either the tonic of the key of G, or it may be the dominant of the key of C. It may be also the subdominant of the key of D; but whenever the minor seventh is added, it can only belong to one key, and that the key of C (No. 38). It could not belong to the key of G, which is the first sharp key, because the chord has got F natural, and the key of G requires F sharp;



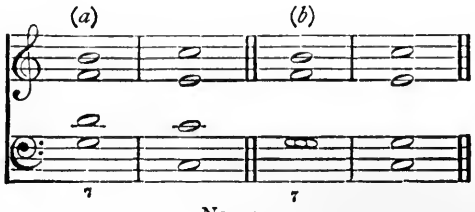
No. 36. No. 37. No. 38. No. 39.

and it could belong to no other of the sharp keys, because they all have F sharp. On the other hand, it could not belong to the key of F, which is the first flat key, because the chord has got B natural, and the key of F requires B flat. To none of the other flat keys could it belong, because they have all got B flat. Therefore it well deserves the name of dominant seventh, because it so thoroughly decides the key.

The intervals of this chord, counted from the root, are major third, perfect fifth, and minor seventh. Although all other chords of the seventh are built up in a similar way by thirds, yet the quality of those sevenths differs so completely from that of the dominant seventh, that it is not possible to confuse them. Whether the key be major or minor, the dominant seventh always has the same notes: it must always have a major third; and in the minor key this interval will require an accidental (No. 39). It is usually figured 7, and in the minor key $\frac{7}{\flat}$, or $\frac{7}{\sharp}$, as the signature may require. The fifth is not usually figured, unless it requires an accidental. Although there is no harshness in the dominant seventh, yet, as in the case of all discords, the ear feels that it requires something to follow it. By itself it has an unfinished effect, and requires a resolution, that is, to proceed or be resolved on another chord. This chord which follows, and which satisfies the ear, is called the resolution of the discord. The principal resolution of the dominant seventh is on the chord of the tonic. The two notes of the dominant chord, the third and the seventh, which decide the key, have always fixed progressions. The third must ascend one degree to the octave of the tonic chord, and the seventh must descend one degree to the third of the tonic chord. In the major key the seventh will descend half a tone, and in the minor key it will descend a whole tone. The fifth may either ascend or descend (No. 40); but it is better to descend, for by

ascending it would double the third of the next chord, whereas by descending it would double the root, which is preferable.

In four-part harmony, when all the notes are in the dominant chord, the chord of resolution must have the fifth omitted, otherwise consecutive fifths would occur; but if the full chord is wanted in the resolution, then the fifth must be left out in the dominant chord, as in No. 40 (*b*). It is clear that neither the seventh nor the third can be doubled; for, as each of these intervals has a fixed progression, consecutive octaves would be brought about.



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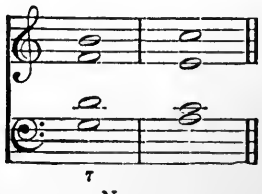
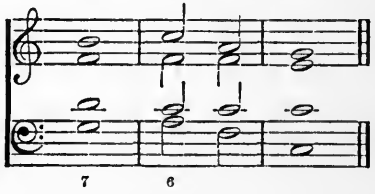


No. 41.

The dominant seventh, instead of being resolved on the chord of the tonic, may be resolved on the chord of the submediant. This resolution of the dominant has been shown before as the interrupted cadence; but it will be noticed that the progressions of the third and seventh are the same as when resolved upon the tonic chord. The seventh falls one degree to the fifth of the new chord, and the third rises to the third of the new chord (No. 41). The third of the submediant chord is doubled to avoid consecutive fifths, which would occur had D of the dominant risen to E of the submediant.

There is another resolution of the dominant seventh chord, which is sometimes used, although more rarely, that is, when it is resolved on the first inversion of the subdominant (No. 42).



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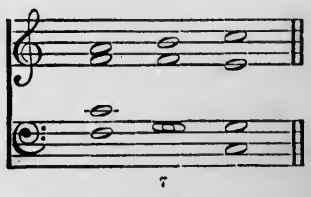
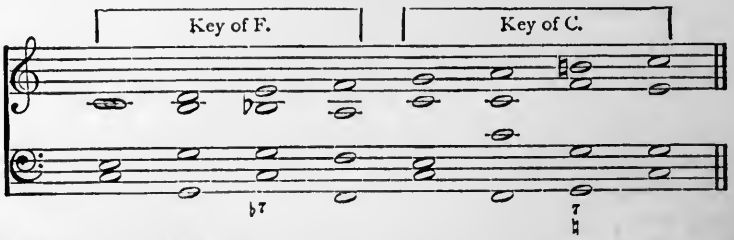


No. 43.

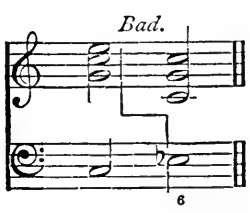
The discord here holds on, and becomes the root of the next chord, finally resolving on the third of the tonic. It is also a valuable connecting link between the subdominant and dominant chords; and in the last three chords of the ascending scale, it makes the progression much more smooth and pleasant. It also gives more definiteness to the perfect cadence (No. 43).

If the first tetrachord of the scale of C be taken as the top tetrachord of key of F, a pleasant modulation can be made to that key, by the use of the dominant seventh chord, the second tetrachord modulating back to key of C, thus—



It will be seen that the B flat added to the chord of C makes it a dominant chord, modulating to the key of F, and that the B natural proceeding to the B flat in the same part, prevents what is called false relation. This error takes place when, in two successive chords,

one part has a natural note, and another part has the same note flattened or sharpened, the effect being worst between triads, and the fault being generally condoned when brought about by passing notes (see page 151), or dominant discords. The following example shows false relation (No. 44). If this note E had been altered to E flat in the same part, there would have been no false relation (No. 45).



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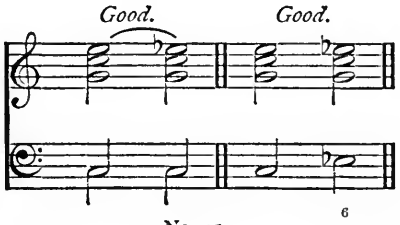
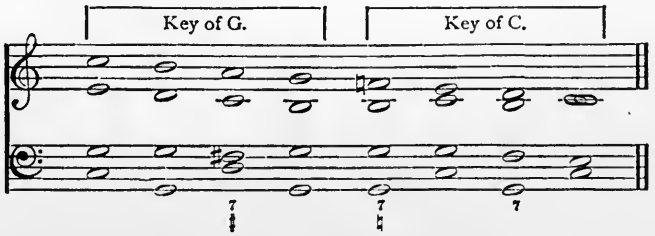


No. 45.

This is considered the simplest method of avoiding the error.

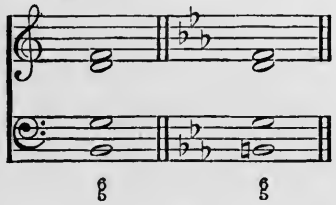
In the descending scale, if we consider the first tetrachord as belonging to the scale of G, by using the dominant seventh on the chord of D, we can get a pleasant modulation to the key of G, the F natural in the second tetrachord, remaining to be the dominant seventh of the chord of G, thus bringing us back again to the key of C—



Although the F natural here occurs in a different part from the F sharp, there is no false relation, because a chord intervenes, and the altered note forms part of a dominant discord.

Inversions of the Dominant Seventh.

As the dominant seventh has three notes besides the root, it has therefore three inversions. The first inversion has the third in the bass, the root appearing in an upper part. The root will then be a sixth from the bass note, and the fifth will be a third. The seventh will also be a fifth above the bass, and the figuring of the chord will then be $\frac{6}{5}$. The figure 3 is usually omitted, except when it requires an accidental (No. 46). This is resolved generally on the root



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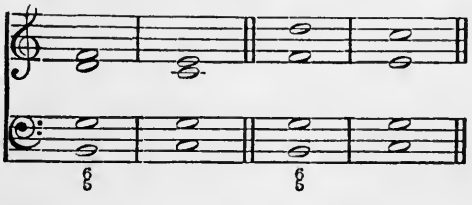


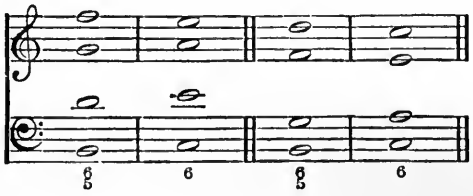
No. 47.

of the tonic chord, the third and seventh following the same rules as when in root position, namely, the third ascending one degree, and the seventh descending one degree (No. 47).

It may also resolve upon the submediant, but in this case it must resolve upon the first inversion, because the leading note in the bass must rise. The fifth may either ascend or descend, but if it be above the root, it must fall, in order to avoid consecutive fifths (No. 48).

There is another resolution which it may have, namely, that upon the second inversion of the subdominant, but it is so very seldom found that it need only be mentioned. It will be seen now that the diminished triad on the leading note is simply the dominant seventh without the root.

The second inversion of the dominant seventh has the fifth in the bass. The root and third will now become the fourth and sixth to the bass, while the seventh will become the third. The figuring will therefore be $\frac{6}{4}{}_{3}$, or more usually $\frac{4}{3}$, except in the minor key, when the full figuring is used; because the leading note bears an accidental (No. 49).



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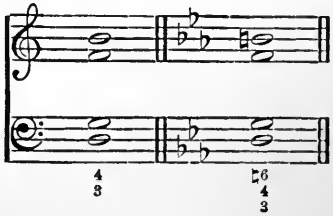
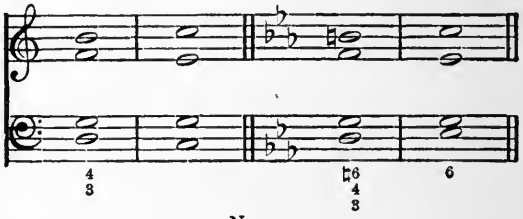


No. 49.

This second inversion is chiefly resolved on the tonic chord, the bass either falling one degree to the root, or rising one degree to the third of the tonic (No. 50).

A curious exception to the rule that the seventh must descend one degree, is allowed when the dominant seventh is in this inversion. The exception may be stated thus: when in the second inversion of the dominant seventh, the bass proceeds to the first inversion of the tonic, the



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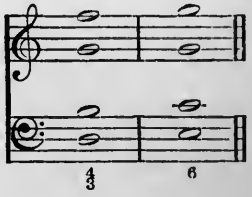
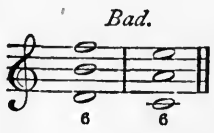


No. 51.

seventh may ascend to the fifth of the tonic, instead of, as usual, descending to the third of the tonic (No. 51).

This resolution is very frequently used, but it is always better when the rising seventh is at the distance of an actual seventh from the root, as in the example just given.

The progression from a diminished fifth to a perfect fifth is not good when both parts descend a second (No. 52). It is very common to use this second inversion without the root,



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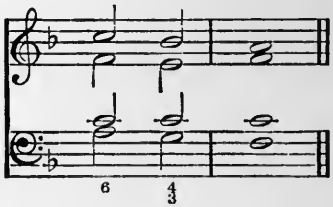

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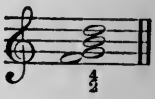


No. 54.

when it then becomes simply the first inversion of the diminished triad. Handel rarely, if ever, introduced the root into this chord.

The second inversion of the dominant seventh may also be resolved on the first inversion of the submediant, or on the second inversion of the subdominant. These resolutions, however, are very rare.

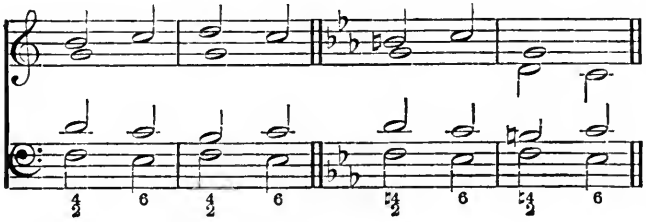
In the example given of the seventh ascending, there seems to be the appearance of two

consecutive fifths between the tenor and treble; but one of them is a diminished fifth, and the other a perfect fifth, which is quite allowable, the objection being only to two *perfect* fifths. The example (No. 53), would also be perfectly correct.

The third and last inversion of the dominant seventh has the seventh in the bass. The root, third, and fifth of the chord, now become the second, fourth, and sixth above the bass note. The figuring of the chord would therefore be $\frac{6}{4}$, usually $\frac{4}{2}$, and sometimes only 2, the sixth being written when an accidental is required (No. 54).

The resolution of this inversion is on the first inversion of the tonic chord (No. 55).

In very rare cases it will be found resolving on the second inversion of the submediant,



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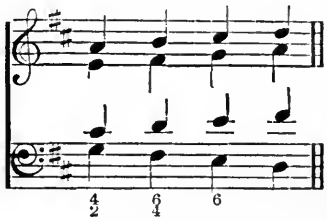
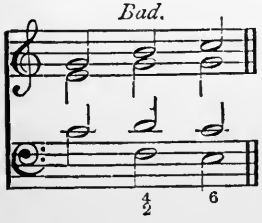


No. 56.

and then the upper parts always move by step of a second in contrary motion, as in the above example from Mendelssohn's "St. Paul" (No. 56).

The root is in this inversion almost invariably present, as it would otherwise give the second inversion of the diminished triad on the leading note. This last inversion of the dominant seventh is a favourite with the great Masters, as it always produces an effect of grandeur or



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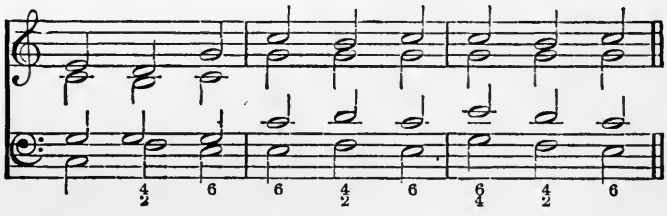
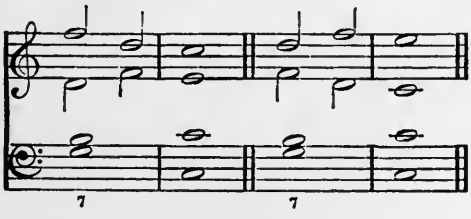


No. 58.

dignity. Their writings abound with examples of its use. The first chord in the Prometheus Overture of Beethoven is this inversion of the dominant seventh. This inversion should not be approached by leap downwards (No. 57). But it can be approached by leap upward or by step of a second downward or upward (No. 58).

One important point in connection with the dominant seventh, and with all other funda-

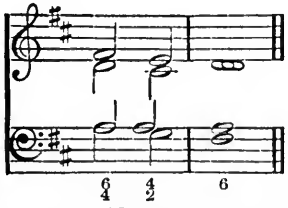


No. 59.

mental discords, is, that they need not be resolved in the part where they were originally sounded, but that they may be transferred from one part of the harmony to another, provided they are properly resolved in the part where they are last heard (No. 59).

In the first example the seventh is transferred from the treble to the alto, and resolved in

that part. In the second example, the seventh is changed from the alto to the treble, and resolved in that part. One case where an upper part may proceed in fourths with the bass is, when the second fourth is part of the last inversion of the dominant seventh (No. 60).



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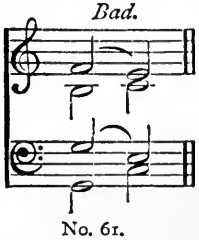
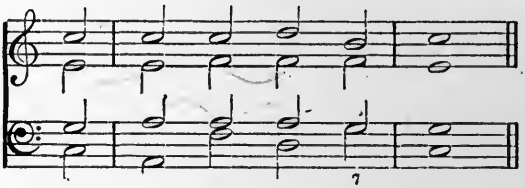


No. 61.

In this last example the fourths occur between the alto and the bass. The same note that resolves the seventh should not be approached by similar motion in any other part (No. 61).

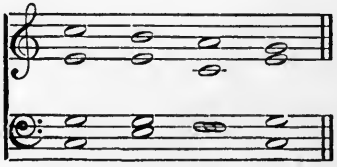
Secondary Triads.

It has been already stated that the chords on the supertonic, submediant, and mediant of the major key, are called secondary triads, and are all minor. Too many secondary triads should not be used consecutively after each other in the major key, owing to the uncertainty they impart to the key, but should always be interspersed with primary triads. Each secondary triad comes most effectively after that primary triad of which it is the relative minor—



Here the chord of C is followed by its relative minor A, and the chord of F is followed by its relative minor D. The reverse of that would rarely have a good effect: that is to say, it is not so good to allow a relative major to follow its relative minor.

The most troublesome of all the secondary chords to use well is the mediant; and some writers are inclined to class it as a dissonant triad because of its harsh effect. It may be, however, used with good effect to harmonise the leading note in the descending major scale (No. 62).



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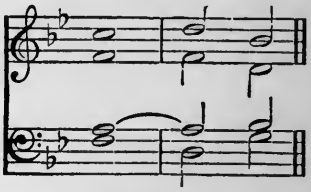


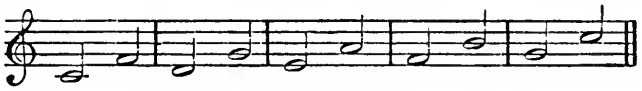
No. 63.

It should, however, generally be used with caution. It is sometimes good to omit the fifth and double the third: it then becomes an ambiguous chord, the fifth not being there to define it.

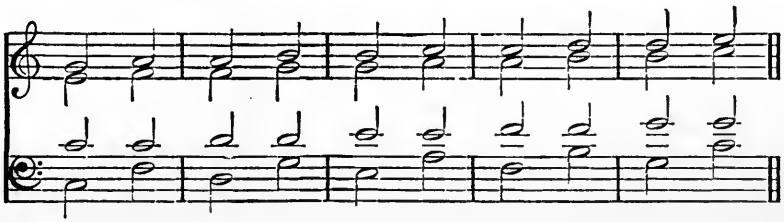
It may also be used by making the fifth move by step away from the tonic, as in previous example, or by step to the tonic. The fifth may also be prepared in previous chord and then go to tonic (No. 63).

It can be used freely in a sequence.

A sequence is the repetition of any short passage of melody or harmony on other notes of the scale, each part moving by the same degrees as the original passage, thus—

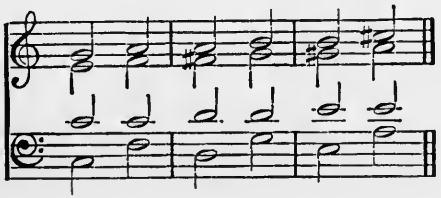


This is a melodic sequence, where the leap of a fourth from C to F is imitated in the second bar one note higher, from D to G, and in the third bar another note higher, and so on in the next two bars. The pattern set for a sequence may be imitated at any interval above or below. If we harmonise the above example, we shall find that all the notes in the second bar are one note higher than in the first; those in the third bar one note higher than in the second; and the same with the remaining bars—



This sequence is called a tonal sequence, because it remains in the same key, and while in the imitation, the name of the interval remains the same, the quality often differs. Thus the first chord in bar one is major, while the first chord in bar two is minor; the first chord in bar three is minor, and the first chord in bar four is major. Thus they differ in almost every bar.

When the imitations are exactly the same in quality as well as name, the sequence is then said to be a real sequence—



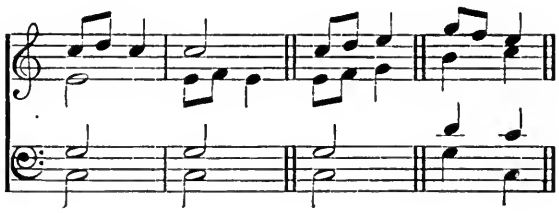
This is a real sequence, because every succeeding interval has the same quality of interval as the one that precedes it. Consequently every repetition of the original phrase will be in a different key from the preceding. When an ascending sequence has many repetitions, it is called a rosalia.

Many chords and progressions of melody are allowed in the course of a sequence which would be totally inadmissible outside of a sequence, and in one of the repetitions, even the leading note may be doubled.

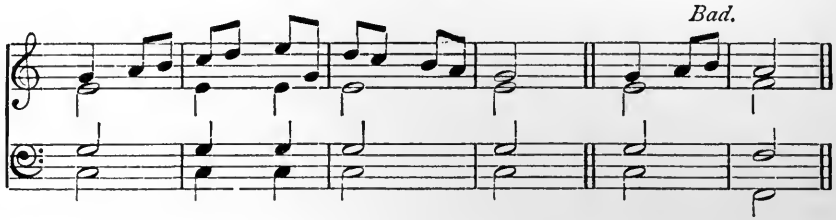
Passing Notes.

Passing notes are notes which do not belong to the chords, and which are not necessary to the harmony. They are used for embellishment or ornamentation, giving smoothness and grace to a passage which, without them, would have to be approached by leap. They are used in one or more parts, and are resolved either upon a note of the chord from which they proceed, or

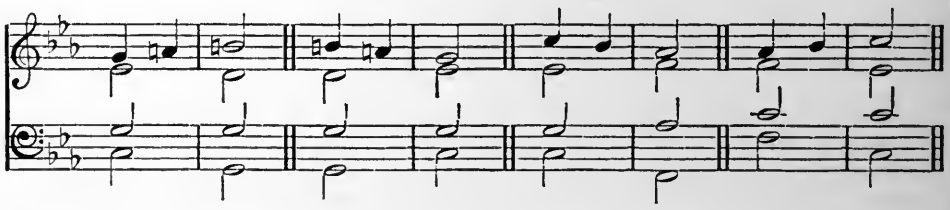
upon a note of another chord. When a passing note returns to the same note from which it starts, it is sometimes called an auxiliary note—



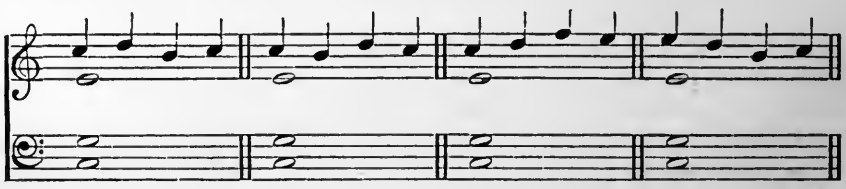
A passing note may be approached either by step of a second or by leap, but must be left by step of a second, and may be used either at the accented or the unaccented part of the bar. If the note to which the passing discord goes be also foreign to the harmony, this second passing note must not return, but must proceed onwards in the same direction until a harmony note is reached—



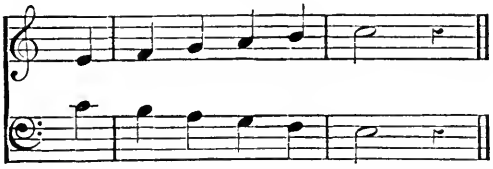
It is customary in the minor key, in order to escape the interval of the augmented second, which occurs between the sixth and seventh degrees of the scale, to use for passing notes the melodic form of the minor scale, with the major sixth ascending, and the minor seventh descending. Thus in going from the dominant to the leading note, or from the leading note to the dominant, we should use the major sixth of the key as a passing note; or if we go from the tonic to the submediant, or from the submediant to the tonic, we should use the minor seventh of the key as a passing note—



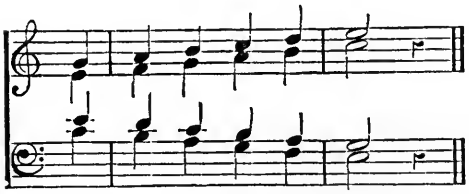
There is one case where a passing note may be quitted by leap of a third instead of by step; but if this leap be taken, it must return to the harmony note between the two. Passing notes used in this manner are called "changing notes"—

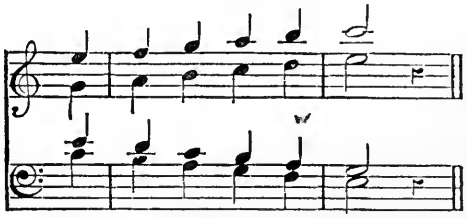


Two parts may proceed by step in contrary motion till a harmony note is reached thus—



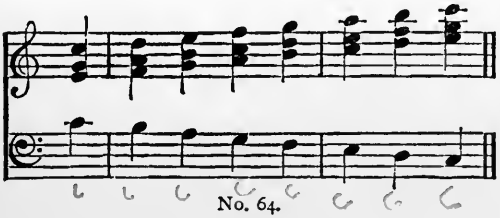
Either or both of these parts going in contrary motion may have another part proceeding in thirds or sixths with it—



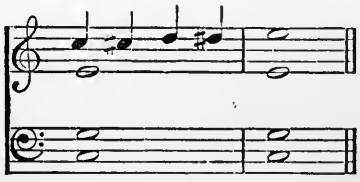


A succession of chords of the sixth may be used against single notes proceeding in a contrary direction, either ascending or descending (No. 64)

Chromatic notes as well as diatonic can be used as passing notes; but wherever a chromatic



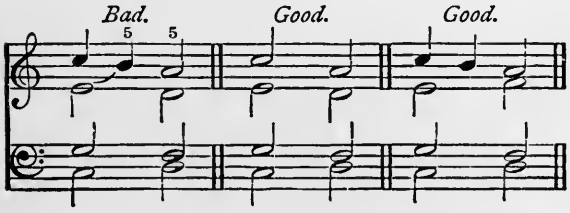
No. 64.



No. 65.

note has been introduced, it must proceed by semitones till a harmony note is reached (No. 65).

A passing note must not be allowed to produce consecutive octaves or fifths with any other part. When this occurs either the passing note must be omitted, or the note of the other part which makes octave or fifth must be altered (No. 66).



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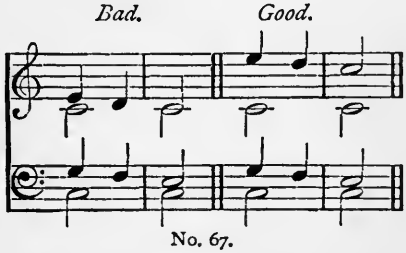
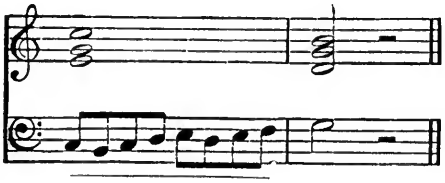


No. 67.

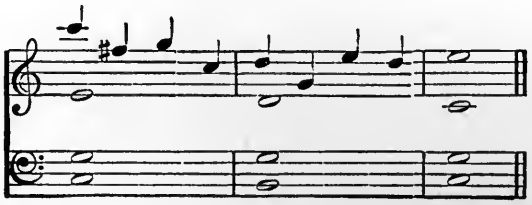
It is not considered good for a passing note to proceed to a unison by oblique motion; but it is quite allowable for it to go to the octave (No. 67).

Passing notes in the upper part are not usually figured. When passing notes are in the bass part, a line of continuation is drawn extending from the first harmony note till a change of

chord occurs. It shows that the same harmony must continue during the whole length of the line—



If a passing note, taken by leap, be resolved *on the note above*, it must be at the interval of a semitone, unless the note on which it resolves be the third of a chord, in which case it may be at the interval either of a tone or a semitone ; but if taken by leap, and resolved *on the note below*, it may either be at the interval of a tone or a semitone, according to its position in the scale—



[*To be continued.*]

COUNTERPOINT.

By JOHN ROBERTSON, Mus. Bac., Cantab.

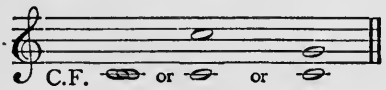
It is not always easy to make it clear to a beginner, what is the difference between counterpoint and harmony. All counterpoint must be in harmony, but all harmony need not necessarily be in counterpoint.

Counterpoint may be said to be the art of combining several melodies together, special regard being paid to the melody of each part; whereas harmony relates more to chord making and chord progression. It is a good rule in harmony, to keep on the same note in the same part; but in counterpoint, the note should generally be changed, as there is not much melody in the repetition of the same note, although there may be very good harmony. Some writer has remarked, that harmony is music considered vertically, counterpoint as music considered horizontally. As notes in olden times were simply points, counterpoint, as its name implies, means setting point against point, or note against note. Simple counterpoint includes five different species or orders, in two, three, four, or more parts. A short passage, generally confined to one key, and usually written in semibreves, is taken for a subject, and called the Canto Fermo, both above and below which the counterpoint is written. This Canto Fermo should always begin with the key note, and the last two notes should be the supertonic and key note. In strict counterpoint, only triads and their first inversions are allowed; all discords must be prepared, except when they are passing notes; and the perfect fourth is always considered a discord, when between the bass and any upper part. The perfect concords are the unison, the octave, and perfect fifth; the imperfect concords are the major and minor third, and the major and minor sixth. The progression of parts should always proceed diatonically. Leaps of a major and a minor third, perfect fourth and fifth, minor sixth and octave, can be freely used. The major sixth can also be taken, but more rarely; while all augmented and diminished intervals (unless the diminished interval return within the leap), and skips of a seventh, should be avoided.

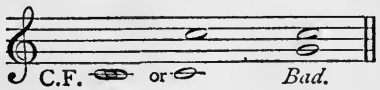
First Species in Two Parts.

When the counterpoint is above the Canto Fermo, the first bar must begin with a perfect concord, that is, either a unison, octave, or perfect fifth (No. 1).

When the counterpoint is below the Canto Fermo, only the unison or octave can be used;



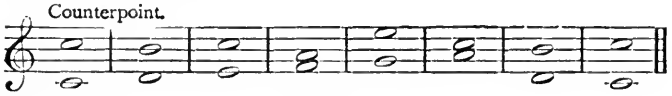
No. 1.



No. 2.

because, if the fifth of the chord were placed below, it would become a fourth, which is a discord when only two parts are employed (No. 2). The last bar must always be either an octave

or unison. All between should consist mainly of thirds and sixths (No. 3). Consecutive octaves and fifths must be carefully avoided. Octaves and fifths approached by similar motion are also to be avoided; they are sometimes called hidden octaves and fifths (No. 4). These approached octaves and fifths are allowed when they occur between tonic and dominant, or tonic and subdominant, when the top part moves by step. Fux uses such a progression as the



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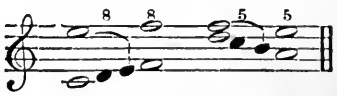
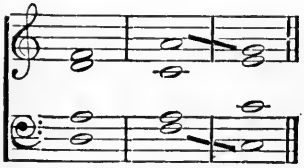


No. 4.

following in four parts (No. 5): but in two parts it is advisable to abstain from using such progressions. Of the three motions—contrary, similar, and oblique—contrary is to be preferred. Oblique should not be used at this stage. In similar motion not more than three sixths or three thirds should be used in succession.

Two major thirds should not follow each other by step of a whole tone (No. 6), when the major thirds of the dominant and subdominant succeed each other; this gives rise to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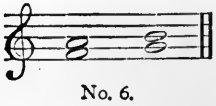
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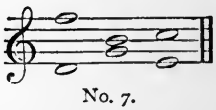
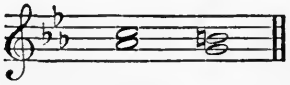

No. 7.


No. 8.

what is called the false relation of the tritone, that is, when the subdominant and leading note occur in different parts of two successive chords. It is best when these two notes appear in the same part (No. 7). When this cannot be done, one of the notes of the first chord should proceed by leap (No. 8).

Two major thirds may succeed each other, provided both go by step of half a tone, as in the case of the submediant of the minor going to the dominant (No. 9).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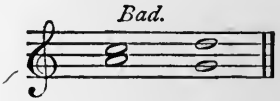

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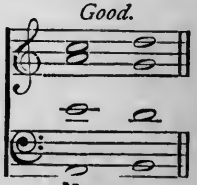
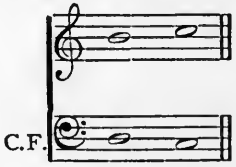


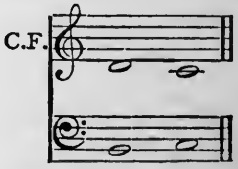
No. 11.

A third should not be followed by a fifth when both parts move by step—when the harmony is in more than two parts there is no bad effect from this progression (Nos. 10 and 11). Here the addition of the other parts entirely takes off the bad effect of this progression.

The under part should not cross the upper part; but the counterpoint ought to remain either under or above the Canto Fermo during all the exercise.

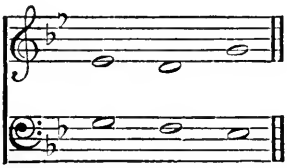
The following are the best cadences or endings in two part exercises:—



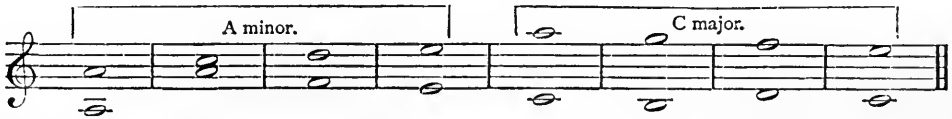


An ending or cadence should only occur at the end, never during the course of an exercise. In all exercises in minor keys, the notes of the harmonic minor scale should be used. The

minor seventh of the scale can only be used in the bass, when that part descends stepwise from the key note to the minor sixth—



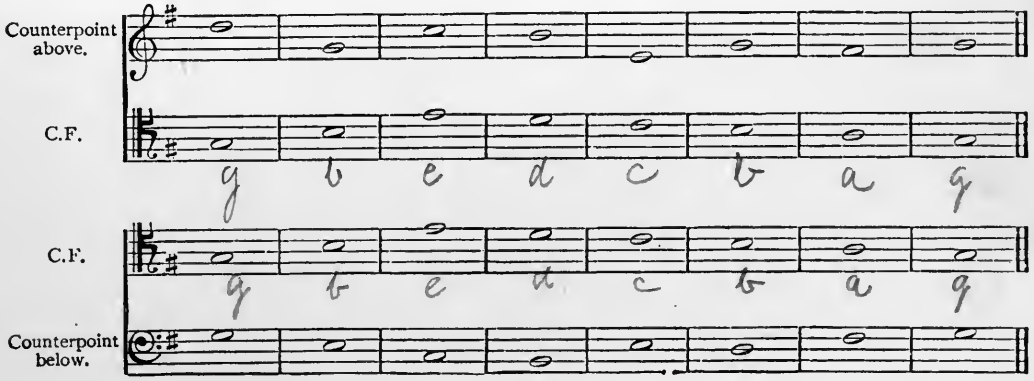
Should the minor seventh occur in an upper part, it must be considered as the dominant of the relative major, and will necessitate a modulation to that key, thus—

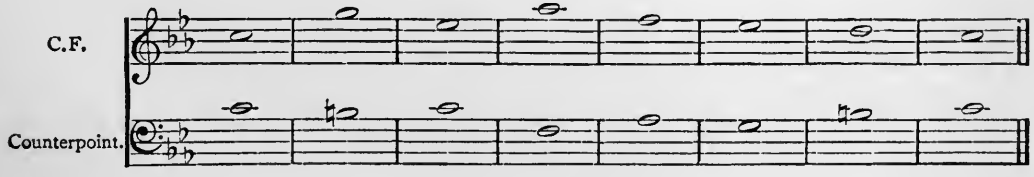


Care must be taken that the key be properly defined.

Several wide skips in the same direction should be avoided. The leading note should ascend to the tonic, in a full close or perfect cadence: in other cases, there is considerable freedom in its treatment. It should not be doubled, except it occur in a succession of passing notes, or in an arpeggio against a sustained note.

The following are a few examples of the first order :—

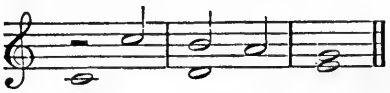




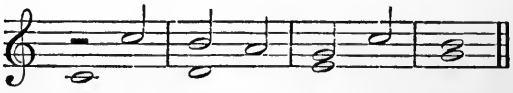
Second Species in Two Parts.

In this species, two notes are written in the counterpoint against every note of the Canto Fermo, either above or below, except in the first and last bars. In the first bar, the counterpoint usually begins upon the second beat of the bar (one beat being reckoned to each note of the counterpoint, No. 12); while in the last bar the notes of Canto Fermo and counterpoint are of the same length.

The first note of the counterpoint must be a perfect concord, whether a rest precedes it or not. The first note in every following bar must be a concord, either perfect or imperfect; but the



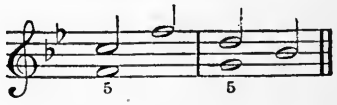
No. 12.

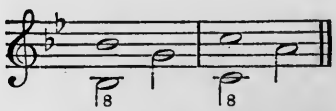


No. 13.

imperfect is preferred. The second note may either be a passing note, or a note belonging to the harmony of the chord (No. 13). When a harmony note is used, it must of necessity leap to another note of the chord, as in bar three of the same example. The unison may be taken on the second beat of the bar. If a passing note be used (which is to be preferred), it must always be approached and quitted by step, as in bar two of previous example.

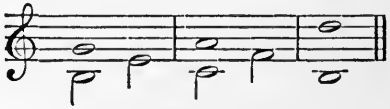
Two successive bars should not *begin* with a fifth or octave; but on the second part of the bar the bad effect is not so apparent. Some writers allow the first of two successive bars to begin with a fifth or octave, provided the second note leap an interval greater than a third, and return by contrary motion, thus—





It is not desirable, however, to use this. One chord only should be used in each bar. The following is a seeming exception to this rule:—When the first note in any bar is a sixth below the Canto Fermo, and it is not possible to get a passing note between it and the first note of the next bar, the bass may leap a fourth upwards or a fifth downwards, returning on the next bar to the note above or below the one from which the leap was made (No. 14).

Sometimes, the second note of the bar going by step, may be consonant with the Canto Fermo, but as it would imply a different chord, and would be dissonant if the first chord were



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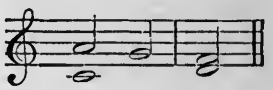
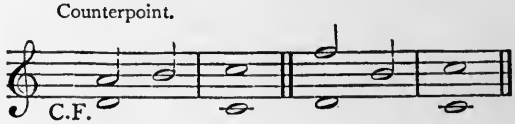


No. 15.

Counterpoint.



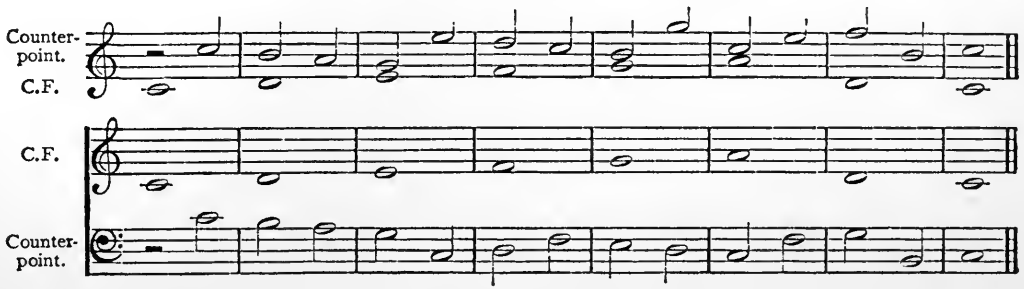
No. 16.

filled up, it must be considered and treated just as if it were a discordant passing note (No. 15). Here the second note G, although consonant with the Canto Fermo C, is dissonant against the chord of A, with which the bar begins, and must pass by step to F.

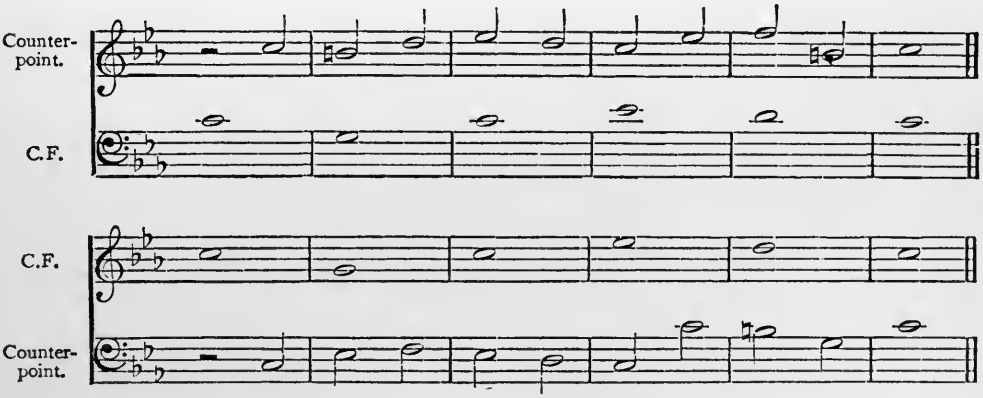
When the counterpoint is above the Canto Fermo, the usual endings or cadences are as in No. 16.

The following example shows the cadences when the counterpoint is below the Canto Fermo :—

The following are examples of this species in the major mode, the Canto Fermo being first shown with a counterpoint written above it, and then with a counterpoint written below it :—



Here are also examples in the minor mode :—



Sometimes the Canto Fermo is written in dotted semibreves. This is a more elaborate form, and the counterpoint then must have three notes in the bar.

A passing note may here be followed by a passing note, but if so, the melody must proceed in the same direction, and not return till a harmony note be reached, thus—

The first example is good, because the passing notes E and F proceed onwards to the harmony note G ; but the second example is bad, because the second passing note B returns to A, before it has reached a harmony note.

A second, should not be resolved upon a unison—

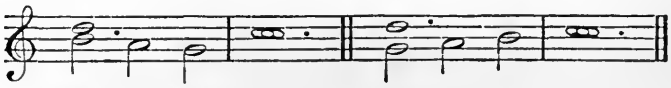
Bad.

The following are the best endings for this form of the second species :—

Counterpoint above C.F.

C.F.

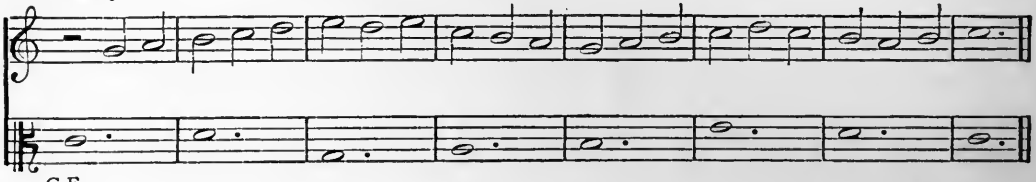
C.F.



Counterpoint below C.F.

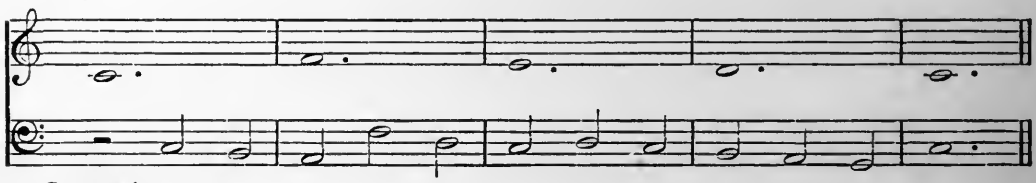
Examples in major and minor are now given :—

Counterpoint.



C.F.

C.F.

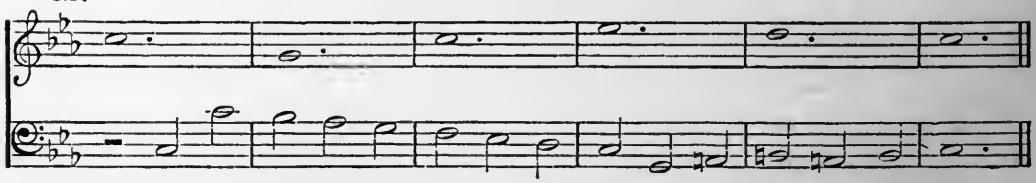


Counterpoint.

Counterpoint.

C.F.

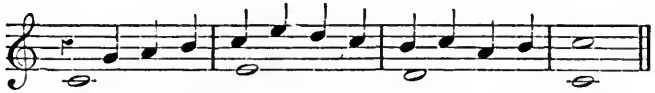
C.F.



Counterpoint.

Third Species in Two Parts.

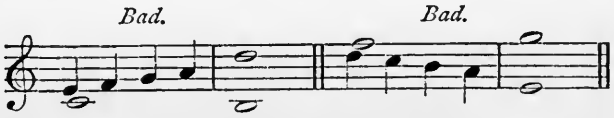
In this order, we have four and sometimes six notes to every one of the Canto Fermo, either above or below. When there are four notes to every one, which is the simpler form of this species, the first begins with a crotchet rest, and the last note must be of equal value to the Canto Fermo thus—



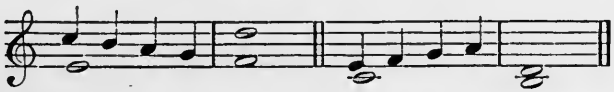
The first note of the counterpoint after the rest must be a perfect concord, and the first note of every following bar must be either a perfect or imperfect concord; but the imperfect is considered better. The other notes in the bar may be either passing notes, which must go by step (except as described under "changing notes," p. 162), or harmony notes, which may leap.

Passing notes are even more to be preferred in this order, than in the second species, because the notes being quicker, a flowing melody is more to be desired. Leaps should therefore as far as possible be avoided.

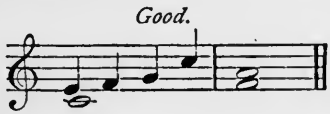
When three or four notes succeed each other alphabetically, a leap, even of a third, to an accented note in *the same direction* should be avoided—



A leap may be taken to an *accented* note after several notes in succession, if it be in contrary motion to that taken by these previous notes—

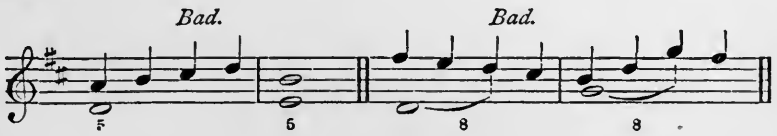


It is good to leap to an *unaccented* note, either in the same, or contrary direction, after three or four notes in alphabetical succession—

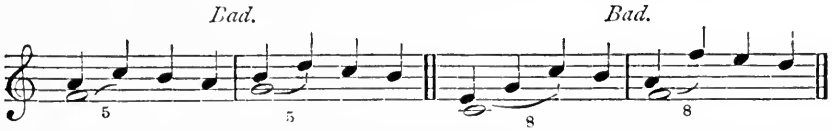


The unison in this species may be more freely used; but care must be taken to use it only at the weak part of the bar, so that it must never occur on the accent.

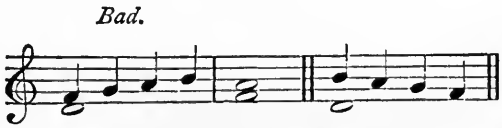
Octaves and fifths should not be written on the accented notes of consecutive bars, that is, on the first or third notes of these bars. On the weak parts of the bar they are not so objectionable—



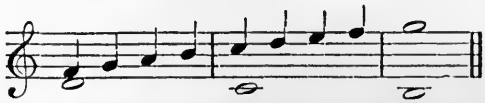
Octaves and fifths should not happen on the highest or lowest notes in two successive bars—



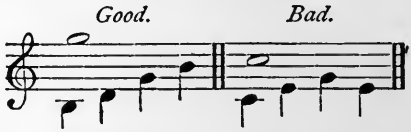
The notes forming the interval of the augmented fourth, or tritone, should not appear as the first and last notes in an ascending or descending passage—



If the passage proceeded onward, so that the notes forming the tritone were not the highest and lowest notes of the series, there would be no objection to them, thus—

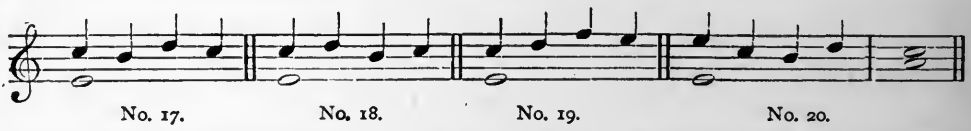


When the counterpoint is in the bass, the fifth of the chord, which is the fourth below the bass, may be taken in the *middle* of an arpeggio, but not as the highest or lowest note of the arpeggio—

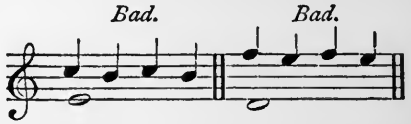


What are called changing notes may be often and freely used. They are formed by leaping the interval of a third from the passing note, to the discord beyond the note on which the passing note is to be resolved, the melody returning to the note within that third,—which is the note of resolution.

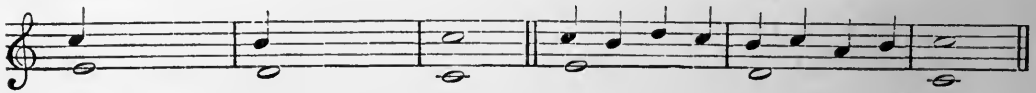
No. 20 shows the same figure so placed as to include the first note of the following bar, which, however, is not so common :—



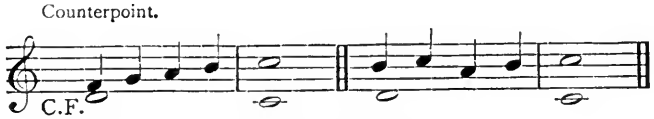
The same two notes repeated after each other, like a slow shake, should be avoided most carefully—



The first note of each bar should be decided before filling in the other notes; and if the interval of a second occur between the first notes of two consecutive bars, then changing notes are very suitable—

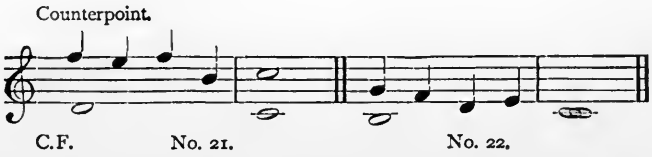


The most effective endings in cadences for this species, are the following above the Canto Fermo :—



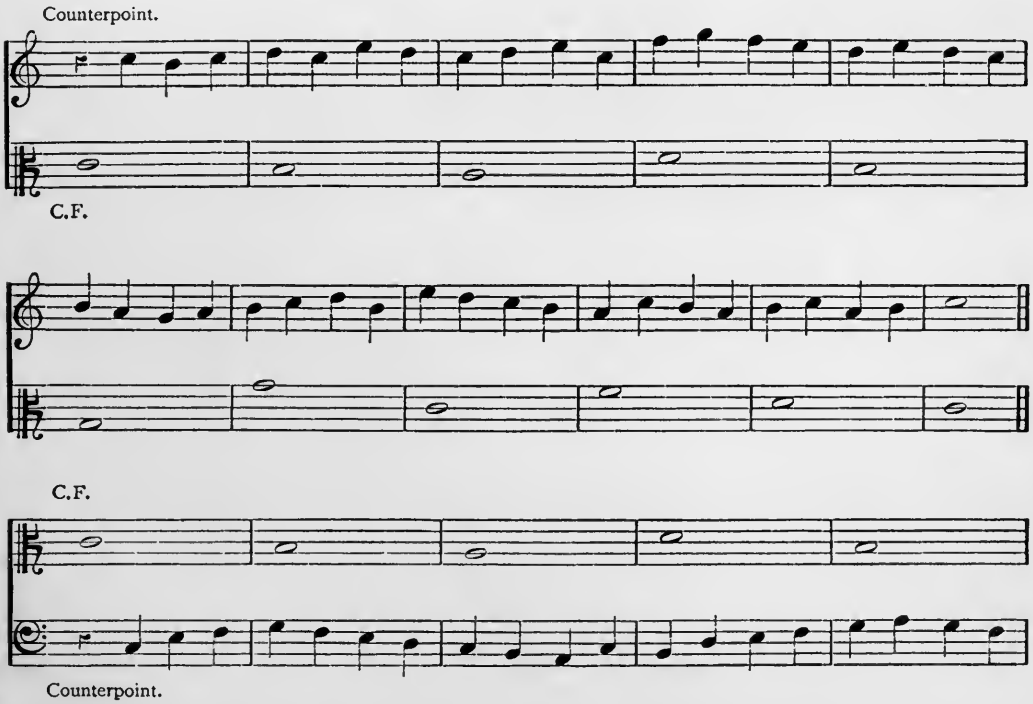
Below the Canto Fermo, the counterpoint is usually as follows :—

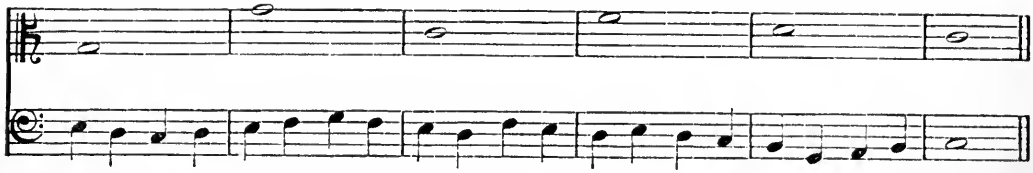
Two other cadences are sometimes used, but they are not considered very good, and should rarely be employed :—



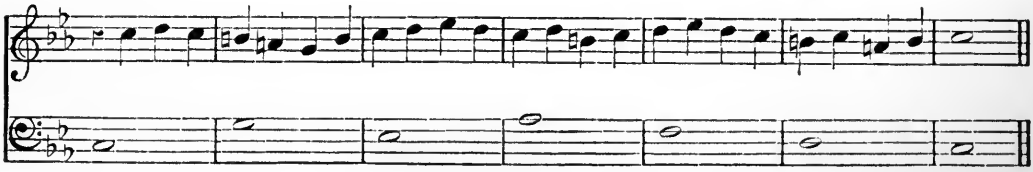
This last example (No. 22) is very rare, as the Canto Fermo here rises to the final note, while in all contrapuntal subjects the Canto Fermo almost invariably goes from supertonic to tonic.

The following are examples of counterpoint in this species :—



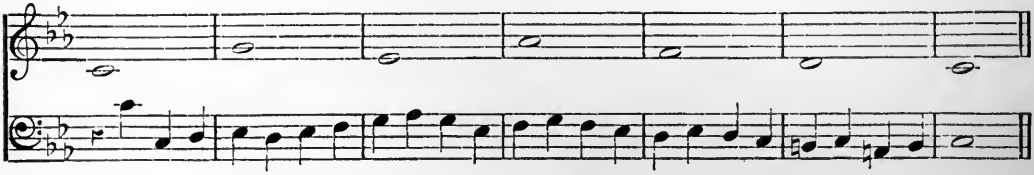


Counterpoint.



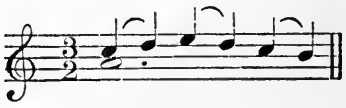
C.F.

C.F.

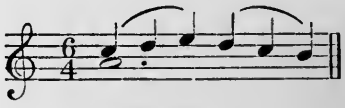


Counterpoint.

The more elaborate form of the third species has six notes in the bar, the Canto Fermo being written in dotted notes. If the time chosen be simple triple time, such as three minims in the bar, the six notes of the counterpoint will be accented in couples (No. 23); but if the



No. 23.



No. 24.

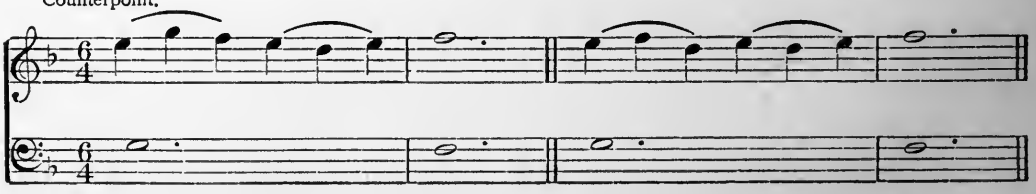
time be compound common, the six notes of the counterpoint will then be accented in triplets. (No. 24).

The best forms of cadences, or endings, for this kind of species are the following :—

Counterpoint.

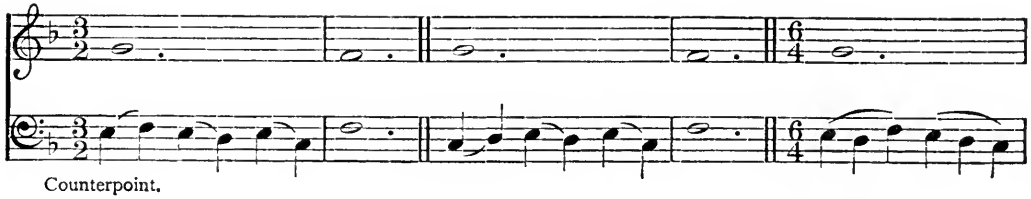
C.F.

Counterpoint.

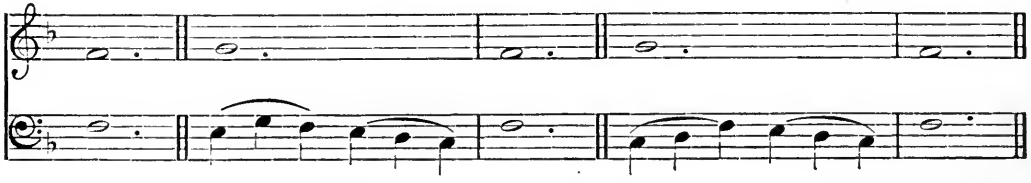


C.F.

C.F.

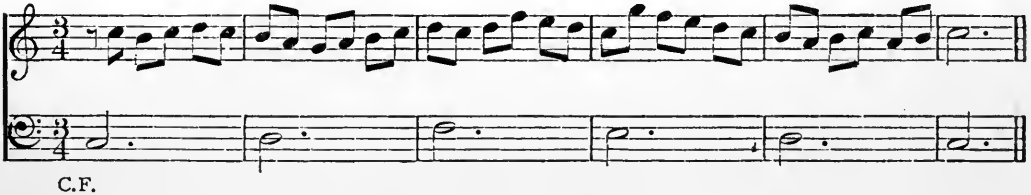


Counterpoint.



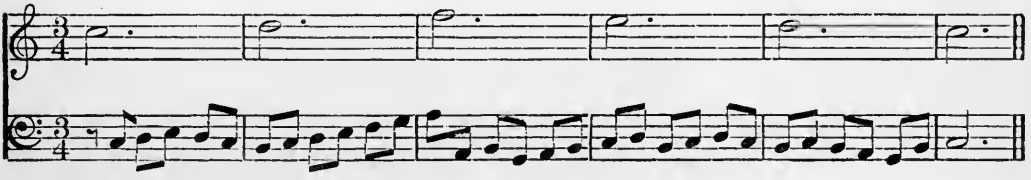
Here follow some examples of this species with six notes in a bar:—

Counterpoint.



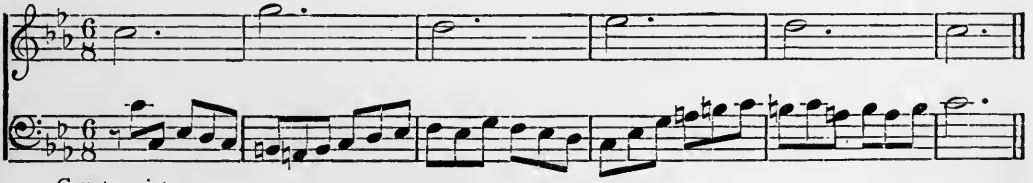
C.F.

C.F.



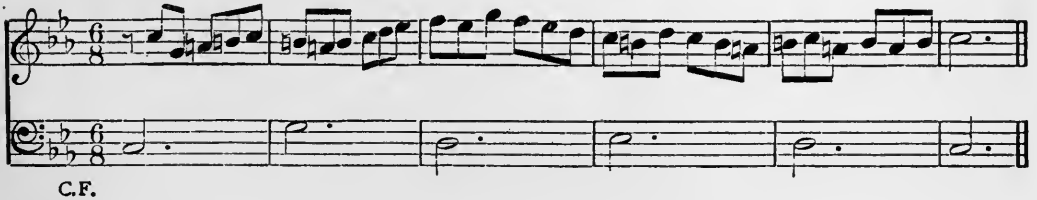
Counterpoint.

C.F.

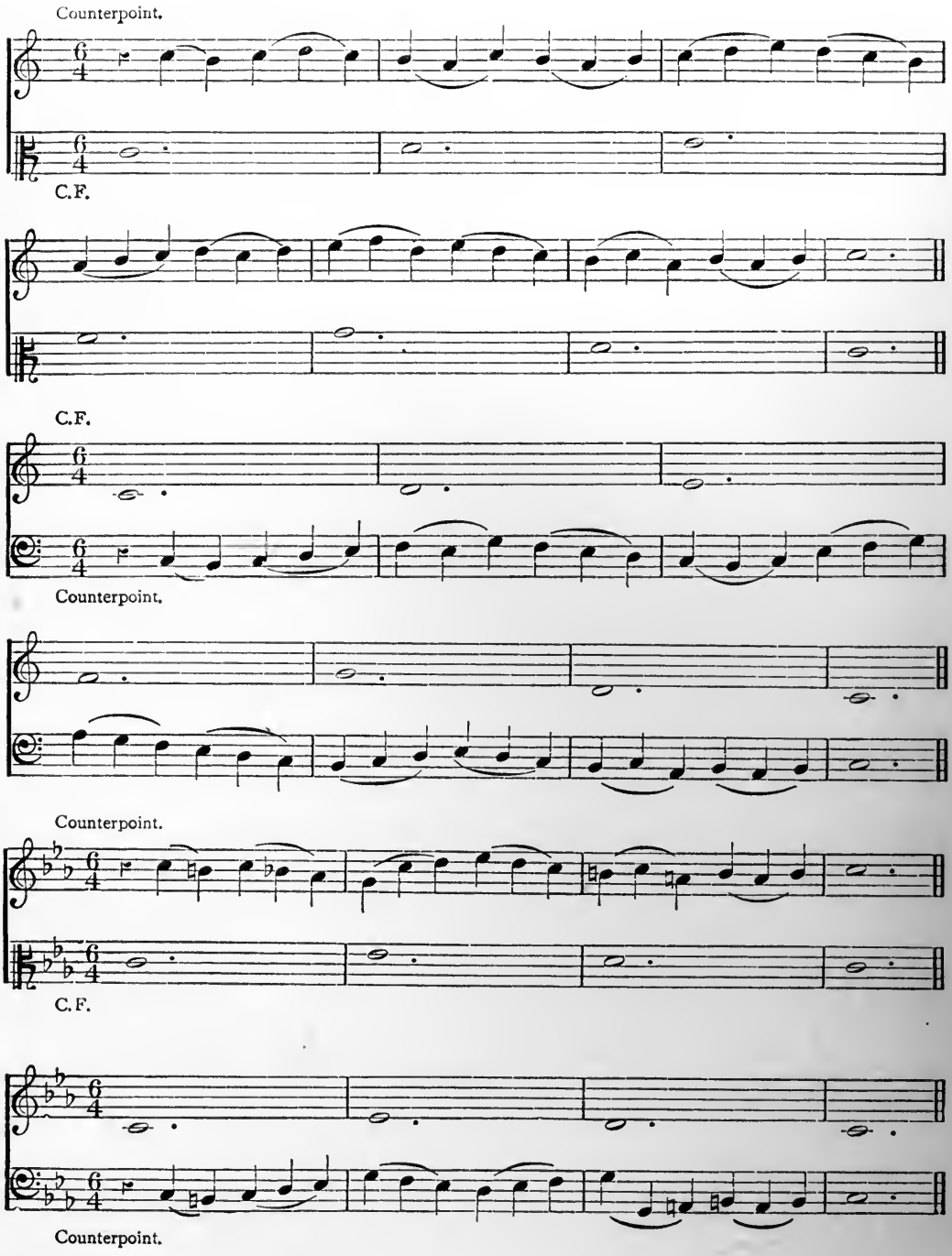


Counterpoint.

Counterpoint.



C.F.



[*To be continued.*]

MUSICAL FORMS.

By JOHN C. GRIEVE, F.E.I.S.

CHAPTER I.

INTRODUCTORY.

Classes, Characters, and Kinds of Music.

If we examine several Hymn Tunes, we shall find that, while each may be completely and distinctly different from the others in key, melody, harmony, rhythm and general effect, nevertheless there is still *something* about them which entitles them to be considered as belonging to the same *class—something* showing that each and all of them were intended for the same common purpose. This conclusion would be arrived at from the broad and dignified character of the music, from its clear and striking divisions into portions of a certain length, and from the well-marked and strong cadences employed. This *something* to which we have alluded is simply the structural design or plan of the music.

If, again, we look at a number of national airs, we shall find that here also, although, as we may say, the tunes are as different from each other as night is from day, yet there is something in their general design which distinguishes them as belonging to the same class; while the scope of the melody, its ornamentation, and its peculiarity of rhythm, combined with its secular or sensuous feeling, make it almost impossible to confound such music with that of the Hymn Tune order—their *characters* being totally different.

We have selected these two varieties of musical composition, because they are the simplest and the best known of sacred and secular tune; at the same time it may be pointed out that the distinction between them is not always so striking as in music of a more elaborate type. It would be rather premature to introduce examples of an advanced or complex nature here; and so, without diverging much from the path of simplicity and popularity, let us say that, in listening to an anthem having a free organ accompaniment,* one would not require much musical education to perceive that it was not a Hymn Tune that was being sung; while an Anglican Chant could never be mistaken for either the one or the other of the two former. The hurried recitation of the Chant, the rhythmical progression of the Hymn Tune, and the varied configurations of the Anthem all indicate unmistakably that they are not all of one *kind*, but are constructed on entirely different plans. There are therefore various orders of musical compositions, exhibiting different structural ideas or designs, which go under the name of *Musical Forms.*

This is not the place for any lengthened argument as to whether there be real necessity for specific forms in musical art or not. Such forms, however, do exist and are largely employed as concrete wholes, according to the recognised principles of structural composition. It is

* Not consisting of the voice parts only, but having an independent design of its own.

quite true that a great deal of music is fashioned after no definite form; indeed in many cases it is entirely without form and void. Nevertheless musical forms of certain recognised types (which have served their cause so well, by giving to music strength and stability, meaning and purpose) must still continue—otherwise the art must shrivel into puerility and inanity.

The Two Classes—Homophonic and Polyphonic.

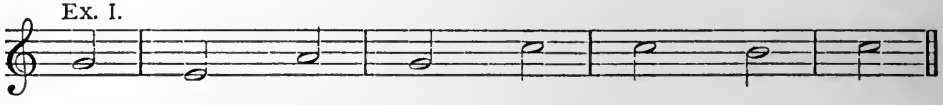
In its structural design music may be divided into two *classes*, namely, *Homophonic* and *Polyphonic.*

Homophonic Composition is that which contains but one principal part. There may be several parts employed in the composition, but one is distinctly predominant beyond the others, either by reason of its striking individuality of construction, or because of the supreme beauty of its melody. The word Homophonic literally means *likeness of sound*, or *sameness of sound;* and in the present case it doubtless applies to the *sameness*, or want of variety, in a composition containing but one principal part, compared with the rich and interesting contrast that exists in a piece where a number of parts are employed in unfolding and developing the musical idea.

Polyphonic Composition is that in which there are several parts, all of equal importance, and all being recognisable portions of the particular design adopted by the composer—all having a responsible share in working out the plan of the composition. The word Polyphonic means *of many sounds;* and its application to a composition having a number of real parts will be perfectly intelligible.

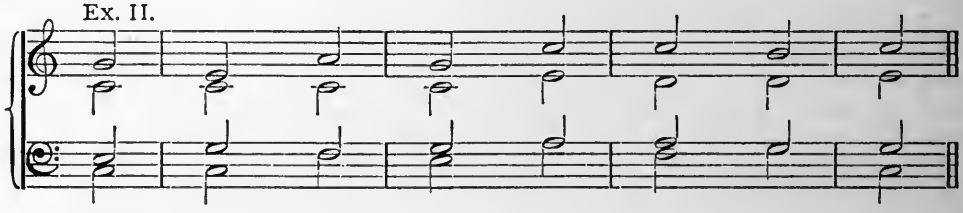
Let us try to illustrate what has just been said by means of a few simple examples. The following (Ex. I.) is a line of a well-known hymn tune:—

Ex. I.



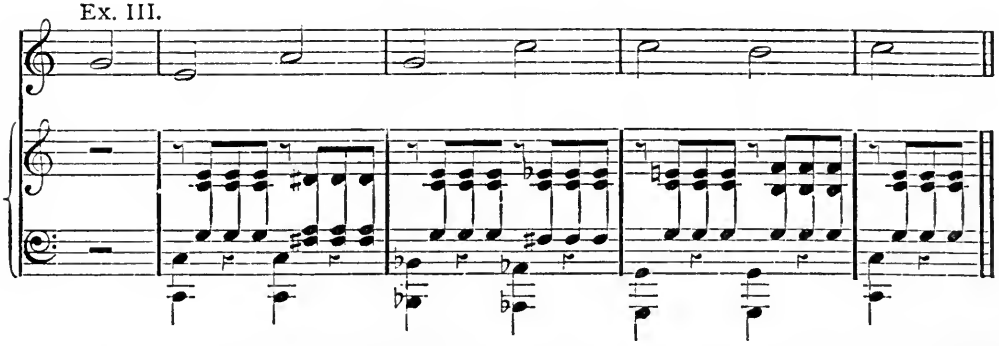
The above (Ex. I.) is a homophonic example. It is a single part, possessing sufficient merit to be considered complete in itself. We might enhance its effect, however, by means of harmony supplied by other voices, as in Ex. II.; but it would remain homophonic—it would still contain but one principal part.

Ex. II.



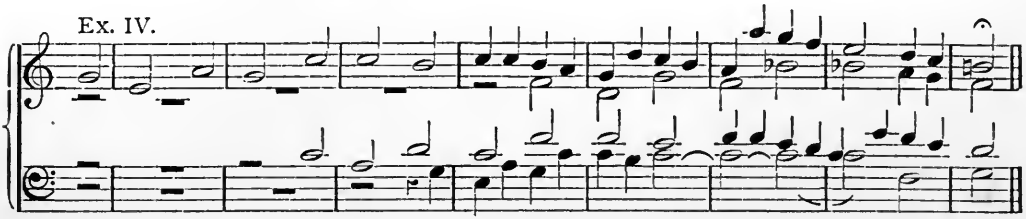
Here (Ex. II.) the treble is still the principal part—the part by which the music may be recognised: the other parts are mere auxiliaries, and could not be separately and independently employed as the treble part can. Again, if we treat the melody to an instrumental accompaniment, as at Ex. III., we still have the one predominant part, which, were it taken away, would leave nothing but a mechanical and meaningless jingle. This example is also homophonic.

Ex. III.



If, however, the music be arranged in such a manner as to make each part employed essentially requisite, and all the parts equally responsible for the completion of the musical effect, then it becomes polyphonic, as in Ex. IV.

Ex. IV.



It is not difficult to discriminate between the two classes of music spoken of, so long as their respective features are clearly defined. It often happens, however, that the homophonic and the polyphonic come into collision and get entangled with each other, as in cases of the following description—songs with pianoforte accompaniment and violin obligato; duets in which the voices sing together only at intervals; modern hymn tunes in which sometimes one part and sometimes another has a struggle for temporary supremacy; national or popular airs harmonised for vocal and instrumental use in which the treble part often takes a subordinate position for a time, while some of the other parts become prominent, and where, by fugal treatment, consequence is given to the different parts; songs of slender construction with elaborate accompaniments. These and other cases render it difficult, and sometimes impossible, to say to which of the classes mentioned the music belongs. We have still a very handy alternative left, however, which will get us over the difficulty—namely this, all music may be classed as *Homophonic*, *Polyphonic* or *Mixed*. This latter classification must only be adopted after careful deliberation.

The Two Characters—Sacred and Secular.

Musical compositions are further characterised as *Sacred* and *Secular*. At the present day, or at least according to the evidence of modern music, it might be difficult to prove that these two characters really exist as separate and essential features of musical composition; for, however great the line of demarcation between the two may have been in the past, there can be no question as to the mixing and the overlapping of the sacred and the secular at the present day. Indeed any barrier that may have existed between them is now so completely broken down, that the music of the sacred hymn written for the church, and the music of the secular song written for the concert room, may safely be exchanged without anybody being a bit the wiser. In fact on more occasions than one has music specially written for the church found its way to the stage, and music composed for the opera has taken a place in the church

service. In one sense it is true that there is secular music to be found in sacred places, and sacred music in secular places. Sir Arthur Sullivan's tune to "Onward Christian Soldiers" is not a bit more sacred than General Reid's "Garb of Old Gaul;" and the popular tune to "We Plough the Fields and Scatter" may reasonably be considered to be quite as secular in its character as "The Men of Harlech" or "God Bless the Prince of Wales." But yet all music that is really good, and which must consequently have a purifying influence, is emphatically *Sacred Music.* The real application of the terms *Sacred* and *Secular* will therefore very largely, if not entirely, depend upon whether the music be used for sacred or secular purposes, or in connection with sacred and secular subjects.

The Three Kinds—Vocal Music, Instrumental Music, and Accompanied Vocal Music.

Independent of *class* and *character*, musical compositions may still be arranged into different *kinds*, namely, *Vocal Music*, *Instrumental Music*, and *Accompanied Vocal Music.*

Vocal Music is written for voices only, and is arranged in such a manner as to produce an effect of completeness and fulness without any instrumental assistance being required. Pure vocal music is not intended to be accompanied; and although, sometimes as a matter of convenience, and sometimes from entirely mistaken motives, instrumental assistance is frequently introduced, yet the practice is to be deprecated—it is seldom beneficial, and very often detrimental to the musical effect.

Instrumental Music is written for and performed by musical instruments only.

Accompanied Vocal Music may be said to include in a general way all music that is intended for performance by voices and instruments together. Of course this rather places the instrumental portion of the music in a subordinate position; whereas, in many instances, especially in modern works, this is not the case—nay, the very reverse is sometimes found. Where both seem to be equally important, or where any dubiety arises the one way or the other, it might be safer to use the term *Combined Vocal and Instrumental Music.*

CHAPTER II.

MUSICAL FORMS IN GENERAL.

We now come to the more direct object of the present article, namely, *Musical Forms* considered as complete and distinct specimens of the various designs or plans employed in musical compositions according to their class, their character, and their kind.

Musical forms are *pieced* together, so to speak, in many different ways, and it is the order in which this *piecing* is accomplished, and not the nature of the *Pieces* themselves, that causes one form to differ from another. The elements or ingredients employed, then, are much the same, in their simple nature, in all musical forms; and it is only when they come to be compounded that the difference arises. The various pieces just referred to go under certain names, such as *Figures*, *Phrases*, *Sections*, *Periods*, *Subjects*, and so forth; all being more or less important, and bearing a certain relationship to each other. It is not our purpose here to describe in detail the different pieces mentioned, nor to explain their individual constitution and their relationship. Such a course belongs more immediately to the study of Composition and to Musical Analysis.* Our duty in the meantime is to treat and to illustrate each musical form as a whole, and to

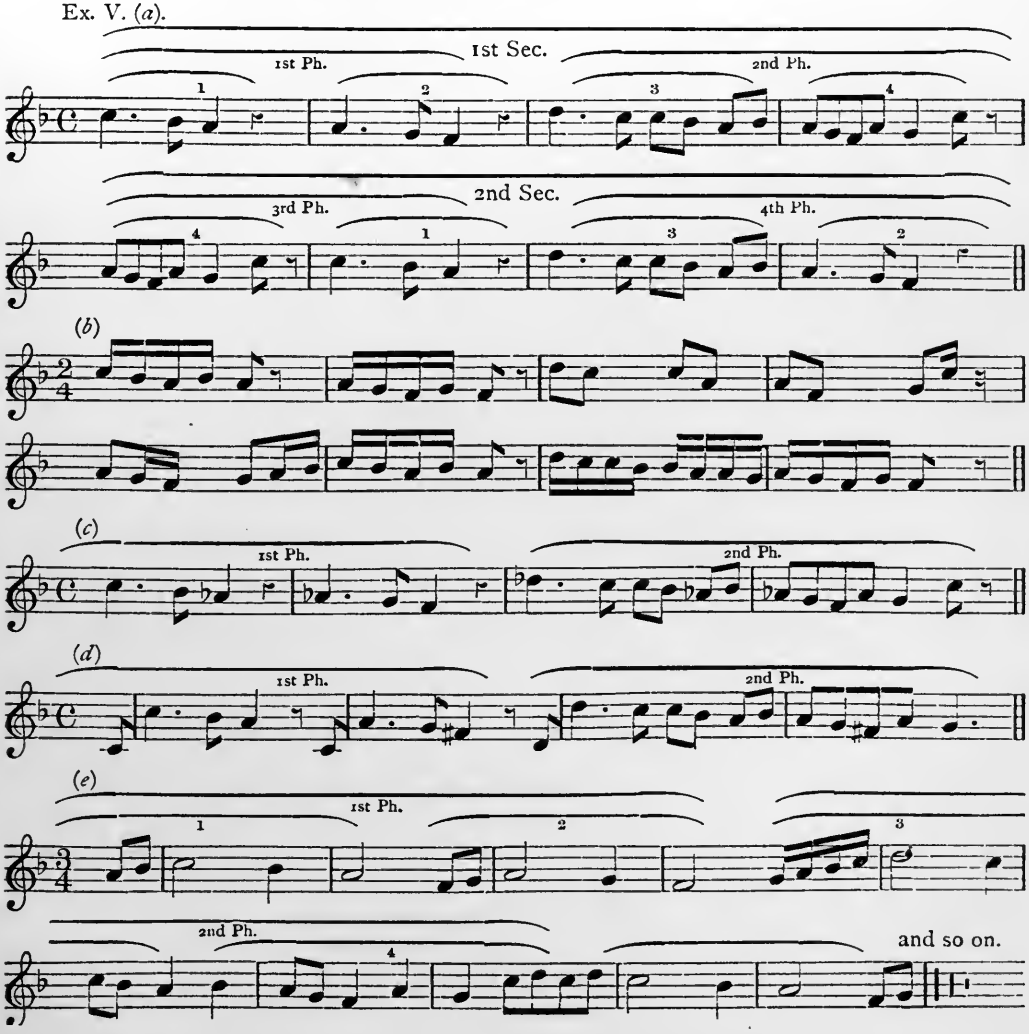
* See the articles on these two subjects in the present work.

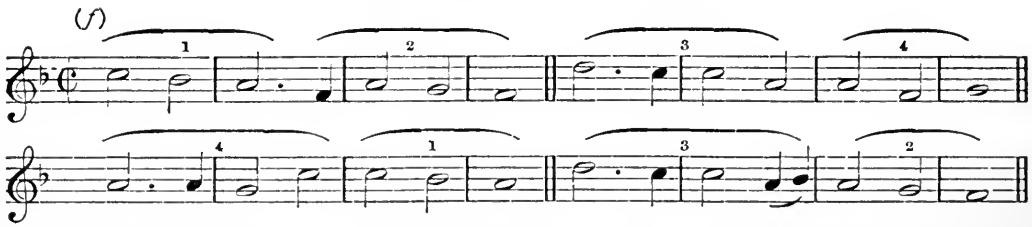
show, as simply as we can, what constitutes the *essential* difference between one form and another. In doing so, any necessary allusion to the simple constituent elements common to all forms will be made with as little encroachment upon the subjects treated elsewhere as may be found consistent with the present case.

Before we come to deal with forms in their concrete state, let us try to prepare the student for the exercise of that perception of *similarity* and of *difference* amongst cognate things, so necessary for the apprehension of the subject in hand. All musical forms have their origin from the same source, namely, from those simple ingredients already mentioned; and so the student will find that, in dealing with different forms, he is dealing pretty much with the same materials. He will have to observe carefully, then, in what respects *they are the same*, and also in what respects *they are different*.

The following illustrations (Ex. V.) are intended to show how a few simple pieces may be united so as to form a more extended portion of the music; and also how those small pieces, by some alteration in their progression, or by some other modification, change their relationship and their influence; so that, while they individually retain their identity, yet the whole passage that comprises them assumes a totally different aspect.

Ex. V. (*a*).





In the foregoing (Ex. V.) at *a*, we have a *Subject*, consisting of eight measures, and divided into two *Sections*. These sections are divided into two *Phrases;* and the phrases are again divided into *Figures*. We may remark in passing that subjects are not always divisible in such simple and regular order. We wish, however, to make our purpose plain, and we have therefore adopted a simple example. It will be observed that the figures are the smallest pieces of division. It will further be noticed that the same four figures used in the first section are used again in the second section in a different order. The result of this re-arrangement of the figures is to change the effect and the purpose of the two sections. The melodies of these two sections are appreciably distinct from each other; and the cadences form in Section 1 what is called a *Half Close*, and in Section 2 a *Full Close*.

At *b* the whole subject given at *a* is, by means of a slight rhythmical alteration in the figures, made to assume a new character. Here again, then, is *difference* and *sameness;* and the elements of both are plainly discernible.

At *c* a change of mode is effected, by means of accidentals, from F major to F minor. The figures and phrases, however, remain exactly the same in their shape and their order as before.

At *d* a modulation to another key (G minor) takes place, and an introductory note is added to the figures. In other respects the matter is the same as at *a*.

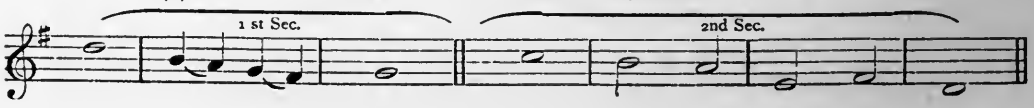
At *e* the time is changed, and the figures are lengthened to two measures; there are also *guides* or *bridges* employed—these are the quaver notes leading to and connecting the figures. A considerable *change* has taken place here on the general nature of the whole section; but there is no difficulty in discovering where the *sameness* exists.

At *f* a radical change is effected. The whole subject is converted into a hymn tune; but the lineaments of the music as originally given at *a* are perfectly recognisable.

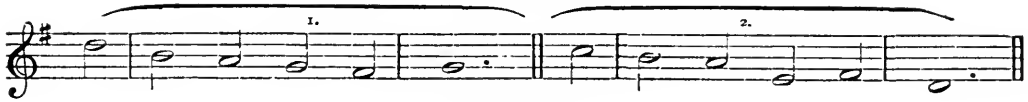
It must not be supposed that we have exhausted the varieties of subject which might be obtained from the four simple *figures* in the first *section*, at *a*. Space will not permit more examples than those we have given; but the varieties are practically exhaustless. This will be obvious, if it be considered that, from four *figures*, twenty-six different *sections* may be arranged. This would afford material for about two hundred and seventy different *subjects*. Then there are the variations of rhythm, which would only be limited by one's powers of invention, not to mention the many other means which may be taken—some of which we have shown—to change the general disposition of the *subject*, without destroying or defacing its constituent elements. Just as this is the case with the smaller *pieces*—the *figures* and the *phrases*—so is it with the larger portions of the music.

And thus we find that the *subjects* and the *periods* are arranged, combined, repeated, interchanged, interwoven, and overlapped, brought into different relationships of key, and mode, and interval, subjected to rhythmical variation, and melodic embellishment, lengthened, curtailed, and otherwise modified, so as to produce the complete *movement* required for this or that particular Musical Form. Ex. VI. gives a few simple illustrations of the varied treatment which a given *subject* may undergo in respect of the particular forms for which it may be employed.

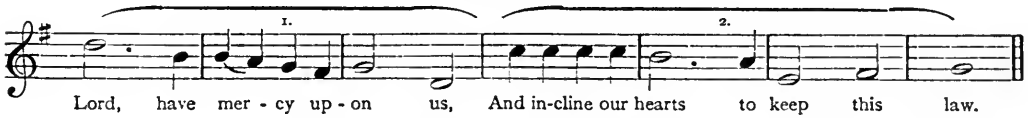
Ex. VI. (*a*). FIRST HALF OF DOUBLE CHANT.



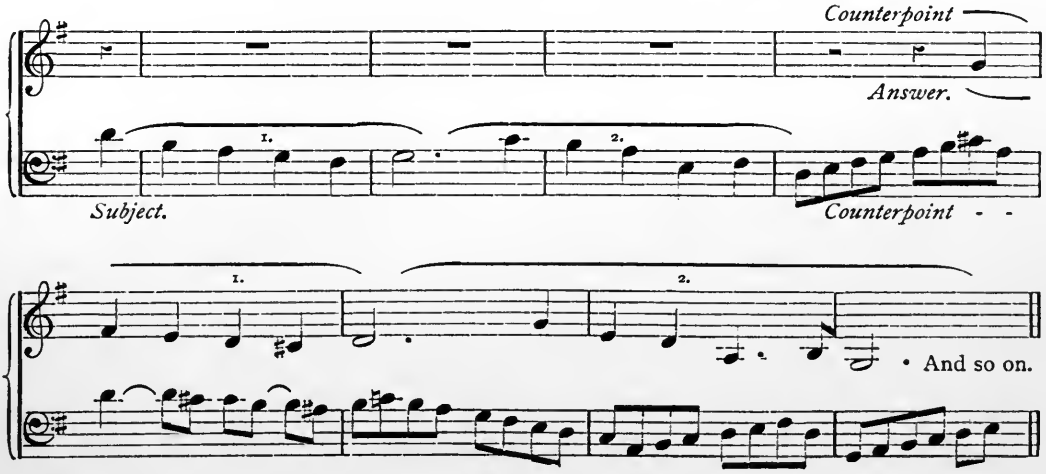
(*b*) FIRST HALF OF A HYMN TUNE.—S.M.



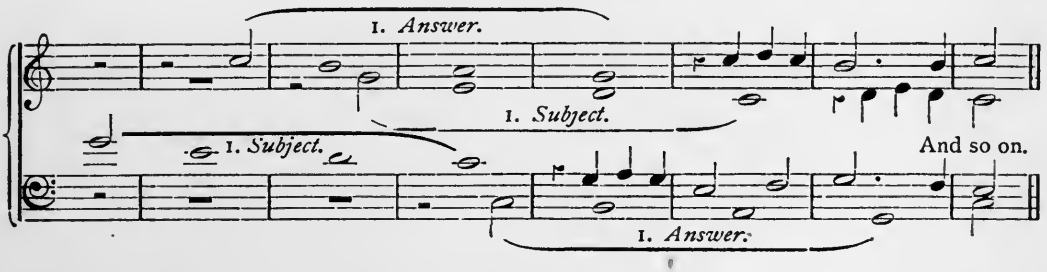
(*c*). RESPONSE.



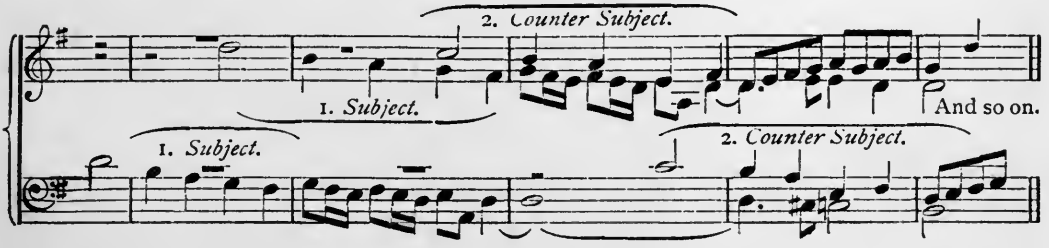
(*d*) EXPOSITION OF A FUGUE—SUBJECT AND ANSWER WITH COUNTERPOINT.



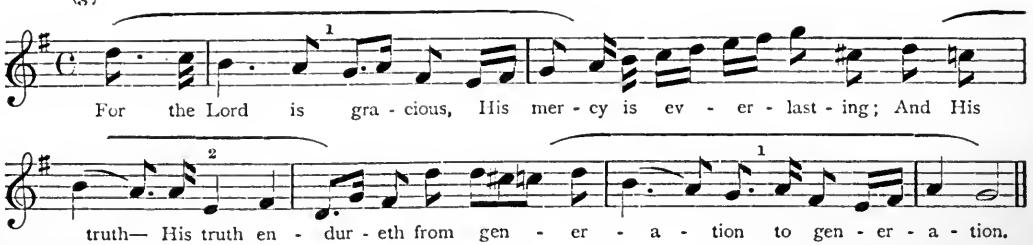
(*e*) STRETTO OF A FUGUE.



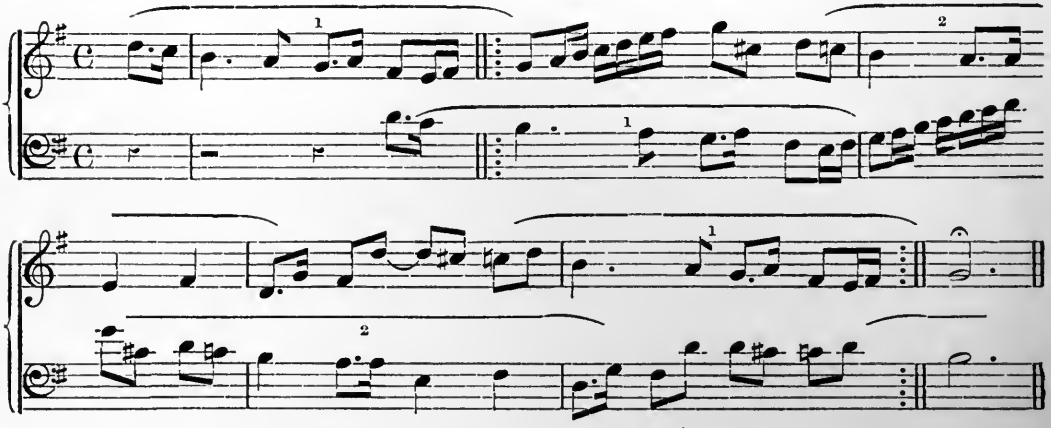
(*f*) STRETTO OF A FUGUE WITH SUBJECT AND COUNTER SUBJECT.



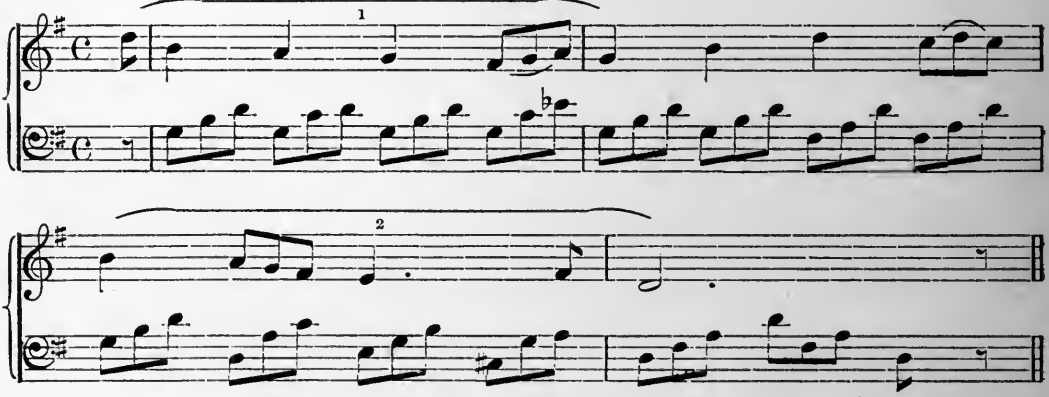
(*g*) SACRED SOLO.



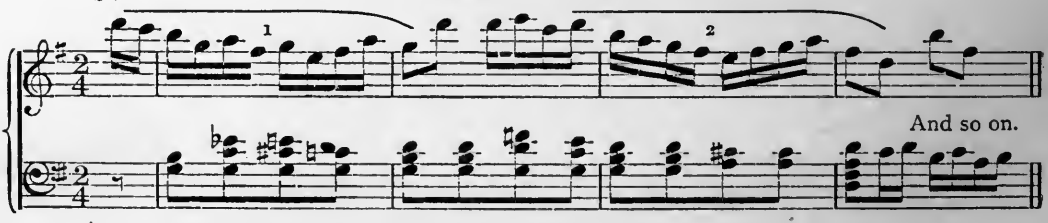
(*h*) AN ENDLESS CANON.



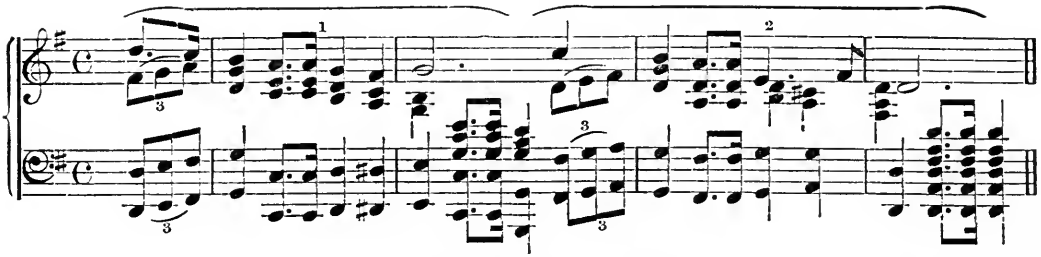
(*i*) THEME OF A SONATA.



(*j*) THEME OF A RONDO.



(*k*) OPENING SUBJECT OF A MARCH.



These illustrations (Ex. VI.) are all portions of various Musical Forms which will be found to be fully explained in the proper place. In the meantime we have only to point out here, that, in the examples before us, there is a most obvious and conspicuous difference, yet, in every case, the same *subject* is used with unmistakable distinctness

At *a* the *subject* is shown as the first half of a Double Chant, ending with a *half close.* It will be noticed that the two *sections*, while both having an equal number of notes, are not alike in actual length.

At *b*, to suit the measure of the hymn, the two *sections* are necessarily made equal.

At *c* there is a breaking up of some of the notes to meet the requirements of the words; and (this being a complete sentence) the second *section* is made to finish with a *full close.*

At *d* the length of the notes, the *time*, has undergone some change, but the *tune* remains substantially the same. The two *sections* comprise what is called the *subject* of the fugue; and their repetition in the key of the Dominant (which takes place at the fifth measure) constitutes what is called the *answer.* The answer may require a slight modification of the subject that precedes it, which it does here.

At *e* the first *section* of the original example only is taken, and even that is a little curtailed. Here the *answer* looks more like the second *section* of the original example; but it is not intended as such—it is the first *section* having its first interval altered from a *third* to a *second*, which is sometimes necessary in the *answer.*

At *f* we have both of the original *sections* introduced, each being worked in double.

At *g* the *subject* is considerably elaborated by melodic embellishment; and at *h* this ornamental arrangement is employed in *canonic* fashion. The student will easily make out the original *sections*, notwithstanding their heavy decoration.

At *i* the same subject appears as the *theme* of a Sonata; at *j* as a Rondo *theme;* and at *k* it is treated in March fashion.

By careful examination of these examples the student will at once admit that, while in every case the *difference* is broadly apparent, yet the element of *sameness* is by no means difficult of apprehension.

Our experience has taught us that, in the vast majority of cases, young students have much less difficulty in discovering the *difference* in two pieces of music than in perceiving the *sameness* that may be found in them. Indeed the similarity that often exists amongst the *figures* and the *phrases* is seldom perceived unless it be made glaringly prominent.

Let the student, then, seek to cultivate *perception of similarity*, which, for this branch of the subject at least, is of supreme importance. In this way he will be enabled to trace elements having *sameness*, under every sort of modification, through all the labyrinth of tangled rhythm and figurated melody, through all the complications of key-changes, and amidst all the ramifications of the various constitutional methods so frequently alluded to in this article.

We have seen, by examples just given, that things which are essentially different may yet contain a strong element of similarity. Without a clear perception of this often half-hidden element, the student can never thoroughly appreciate the intrinsic beauty of the higher Musical Forms.

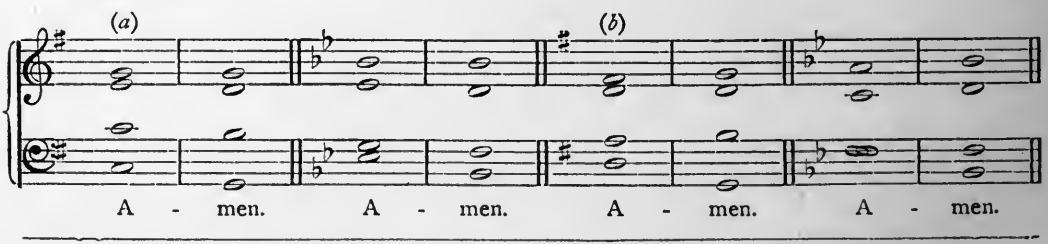
CHAPTER III.

SIMPLE SACRED FORMS—VOCAL OR ACCOMPANIED.

AMEN.

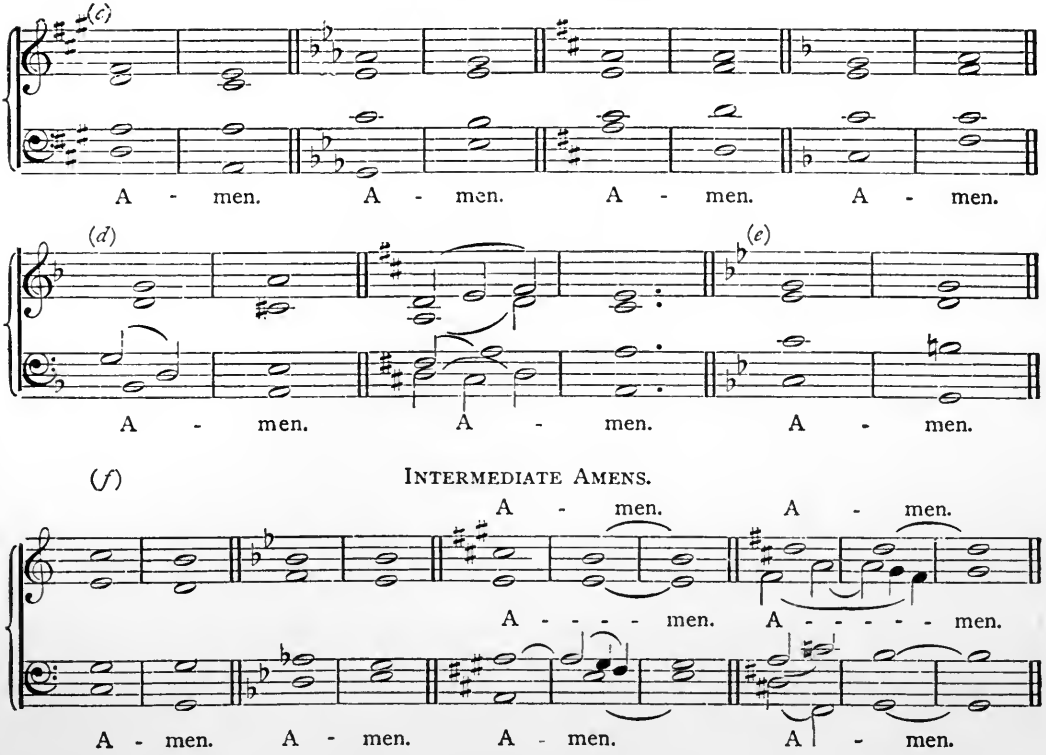
To claim for the *Amen* a place amongst definite Musical Forms may appear to be descending to triviality. Be this as it may, the *Amen* has either an individuality of form, or it has not. If it has not, then it has no real and recognisable existence. But we know that it has such an existence, we are familiar with its effect, we perceive its object, and we can describe its constitution; so, it is really a something—it has an existence of its own. At first sight it may appear that the *Amen* is only useful as a kind of Coda, a sort of not altogether necessary appendage to what has preceded it; nevertheless, it is frequently used by itself after spoken sentences, and there it stands as a solitary musical passage. In this way it assumes a complete Musical Form, of independent existence and recognisable nature. The *Amen* is a mere Cadence. In its most popular treatment it consists of but two chords, those of the Subdominant and Tonic (Ex. VII.-*a*). This progression is called a Plagal Cadence; and it is the favourite device for the *Amen*, beyond all others, because of its peculiarly solemn and soothing character. Another somewhat common progression for the *Amen* is what is called the Authentic Cadence (Ex. VII.-*b*). These are both called Perfect Cadences, and are usually employed as final *Amens* —that is, after the last of a series of prayers, or at the end of a hymn. Less complete varieties of the Perfect Cadences are occasionally employed as final *Amens* with more or less complete effects (Ex. VII.-*c*). Even an Imperfect Cadence is sometimes to be met with as a final *Amen*, especially in the Minor mode (Ex. VII.-*d*). In the Minor it is not uncommon for the *Tierce de Picardie** to be used in the *Amen* (Ex. VII.-*e*). Elsewhere than as final *Amens*, Imperfect Cadences are often employed, as, for instance, for the sake of variety, after prayers other than the last of a series, and also at the end of anthems or choruses that finish with an amen repeated two or three times (Ex. VII.-*f*). Of course, in numerous cases the word Amen is frequently made use of as a peg to hang a deal of music on, so to speak; and in finishing the *Gloria Patri* of a Service,† or at the conclusion of an anthem, it may occupy many measures. The word Amen has been used as the sole verbal theme of very extensive movements, receiving elaborate canonic and fugal treatment, as in Handel's Amen Chorus. All such examples, however, must be considered according to their own special merits, and cannot be included in the present classification. The *Amen*, as a distinguishable *form*, is simply a cadence and nothing more.

Ex. VII.



* Finishing with the Tonic chord having a Major instead of a Minor *third*.

† A Canticle of the Episcopal Church with an elaborate musical setting.



CHANT.

The *Chant* is more or less a combination of measured and unmeasured music: that is to say, while one portion of it must be performed in a certain rhythmical order, another portion is sung without any fixed succession or relation of accent, and is altogether rhythmless.

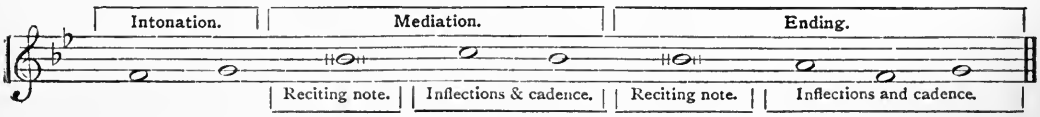
The earliest form of chant is what is called the Gregorian. This chant is almost entirely without rhythm. At all events, if it does possess any rhythmic feeling, it is so vague and so variable, that the Gregorian chant might, without much injustice, be said to be altogether lacking in fixed form. Still it has *parts* or *pieces*, each having its own purpose, and all occupying distinct relative positions in the chant. The Gregorian Chants, called *Tones*,* are eight in number; and each *Tone* has several *endings*, making in all twenty-six chants, all differing from each other, not only in regard to the character of their melody, but also in respect of their length. The only thing of a formal kind, by which similarity may be recognised in the different chants, is the relative positions of their several *pieces* already alluded to. In Ex. VIII. two Gregorian Chants are given. At the time when this kind of music was in its glory, previous to the Reformation, musical notation was very much different from what it is now. It was written on a staff of four lines. Sharps and flats were not employed (excepting an occasional B♭). The notes were—a square black note with a stem at one side; a square black note without a stem; and a diamond-shaped black note. These were the long, the medium, and the short notes in use. There were no bar lines employed. In some churches of certain denominations, where ancient church tunes are held in high esteem and reverence, the Gregorian Tones noted in the old manner are in constant use at the present day. But as

* The word *Tone* as used here must not be confounded with Tone—an interval. It must be held to mean simply a *tune*.

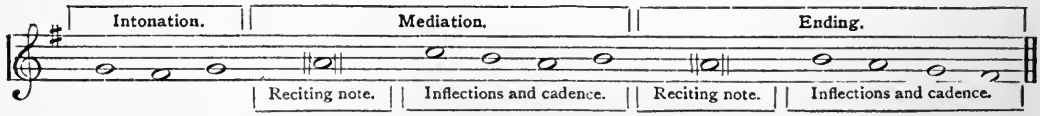
comparatively few could be expected to be familiar with that antiquated method of notation, we have given the illustration (Ex. VIII.) in modern characters.

Ex. VIII.

(*a.*) *2nd Tone.*



(*b.*) *7th Tone, 5th ending.*



From the above (Ex. VIII.), it will be seen that the Gregorian Chant consists of three principal *pieces*—the Intonation, the Mediation, and the Ending. Both of the two latter *pieces* contain a reciting note and inflected * notes, and end with a cadence. We see, however, that as the three characteristic pieces vary considerably in different chants, there cannot possibly be any fixed rhythmical proportion in music of this description. The absence of bar lines may cause some doubt as to where the accent should fall, or as to whether there be any accent at all. There is accent in Gregorian Chants, but of a very irregular character, and depending very much upon the words to which the music is sung. In passing from one part of the chant to another there is always an accent. For example, in passing from the intonation there is an accent on the first syllable of the reciting note: any number of syllables may be sung to this note, according to the length of the verse; and in passing to the first inflected note there is another accent. The inflected notes themselves are accented according to their number, and as the words may demand.

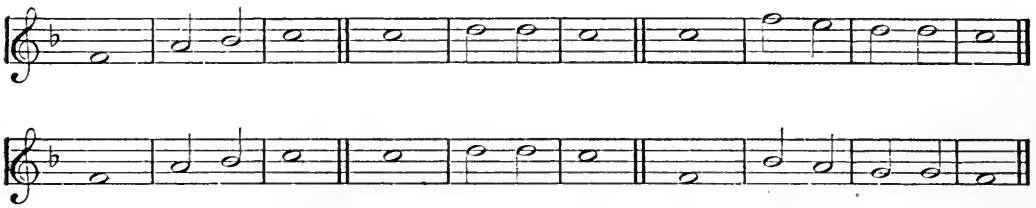
We now come to the more commonly known Anglican Chant. For a considerable time before the Anglican Chant, in its present fixed form, came to be established, there had been a gradual moulding and modifying of some of the Gregorian Tones into a more modern and fixed form. It might be safe to say that the Anglican Chant came into use with the Reformation. It did not, however, supersede the Gregorian Chant for some time after the event mentioned—if indeed, it can be said to have done so entirely yet. At all events, Anglican Chants, or to be more precise, the Anglican Chant form, is now much more extensively employed than the Gregorian, and probably has been for the last two hundred years at least. Its popularity is not to be wondered at, seeing that it is more melodious and pleasing to the ordinary ear than its predecessor, while its fixed and unchanging form makes it much more readily appreciated, and renders it more suitable for congregational purposes. Of course, admirers of the Gregorian Tones hold the very reverse to be the case; and, from their point of view, we are not disposed to quarrel with them. But admirers of the Gregorian Tones are comparatively few, so that the Anglican Chant is of the greater benefit to the larger number.

The Anglican Chant is of two ordinary kinds—the *single chant* and the *double chant;* the only difference between them is that a double chant is just like two single chants joined in succession. A single chant is sung to one verse of the Psalms; a double chant takes in two verses. Quadruple chants have even occasionally been tried (these, of course, will include four successive verses); but their length is apt to lead to some confusion: at all events, they are not popular.

* Inflected simply means rising or falling, in contradistinction to the reciting note which stands still on the one degree of the staff.

It has been supposed that the Anglican Chant took its form from the old Common Measure Psalm Tune which, unlike our C. M. of to-day, consisted of two short lines of *fours*, one of *six*, two of *fours*, and one of *six*, with a long note at the beginning and the end of each line, thus (Ex. IX.):—

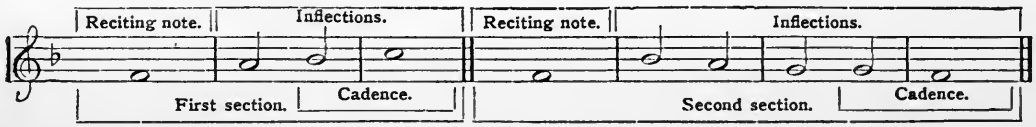
Ex. IX.



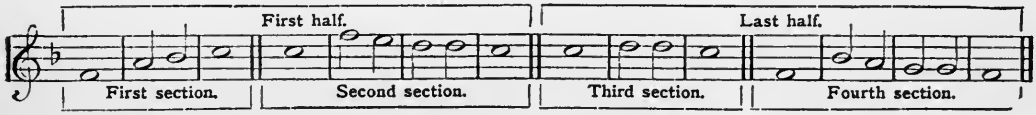
Here, then, is a tune of six sections, of which, if we take the first and the last, we have a single chant (Ex. X.-*a*); or, taking any two short sections, and the two long sections, we have a double chant (Ex. X.-*b*).

Ex. X.

(*a.*) *Anglican chant, single.*



(*b.*) *Anglican chant, double.*



Each section of the chant corresponds to half a verse of the psalm. Each section begins with a reciting note and ends with a cadence. To the reciting note so many syllables are *monotoned* * from one up to any number, according to the length of the half verse. Speaking roughly, the three last syllables in the first half of the verse, and the five last in the second half, are left for the inflected notes. There is frequently, however, an alteration of this arrangement required, according to the sense and the expression of the words.

It will be easily observed that the sections of the chant are not equal—one contains *three* measures and the next *four*. There is thus apparently a want of balance which, it might be thought, would displease the ear. But, in listening to a chant, there is no effect of lopsidedness experienced — the balance of the sections seems to be quite perfect. This is, doubtless, owing to the influence of the reciting notes which, by their being lengthened indefinitely and irregularly, throw the ear out of calculation: or, it may be, that the one reciting note running into the other deceives the listener, and he mentally ekes out the short section with a note from the long one; and that equal balancing of the pieces in a composition for which the mind always craves, is attained.

The chief points of similarity between the Gregorian and the Anglican Chant are—1st, and most distinctly, the reciting note; 2nd, the inflections, which, however, have not fixed succession in the former, while in the latter they have.

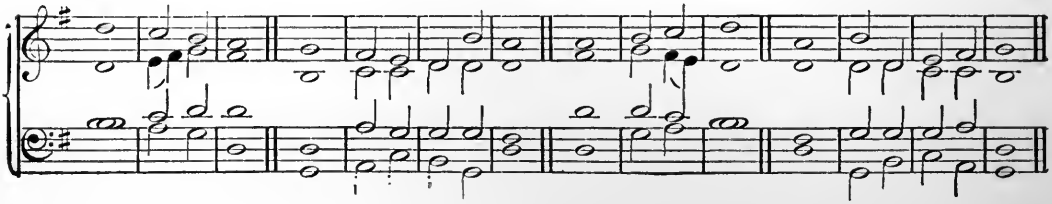
There are other modern chant forms to be met with, namely, what are sometimes called

* Sung on one sound, or one *tone*.

metrical chants. The most familiar of these is, perhaps, Troyte's chant, frequently sung to the hymn "Abide with me." But metrical chanting is something of a misnomer, or a paradox: chanting must contain some element of unmeasured recitation—this is its characteristic feature. In singing a chant to metrical words in which all the verses are alike, there must be pretty much the same recurring measurement in every verse; so that the *varied recitation*, for which a chant is specially intended, cannot take place. A metrical chant then is simply a peculiar form of psalm tune.

Many Anglican Chants display much originality of invention. In this respect the famous double chant of Dr. Crotch claims precedence (see Ex. XI.). The music in the two sections of the first half of this chant is repeated backwards, note for note in all the parts, in the corresponding sections of the last half. This style of composition is termed *per recte et retro*, which simply means that it may be taken through the right way or backwards.

Ex. XI.



[*To be continued.*]

THE HISTORY OF MUSIC.

By WILLIAM DALY, Junr.

CHAPTER I.

THE MUSIC OF THE PRE-CHRISTIAN AGES.

Music, like articulate, connected speech, must be reckoned one of the primary things of human life. It is almost impossible to conceive of the existence of a race of people unpossessed of at least some rudimentary form of music, and certainly no such race has yet been discovered. Wherever explorers have penetrated, they have invariably found a more or less definite national music esteemed and cultivated. In the remotest corners of the world, among the Indian tribes of the Americas, the most barbarous of the African tribes, the least known peoples of the far East, wherever travel and exploration have opened up the recesses of a strange land, it has been found that music existed there, and often in a curiously forward state of development compared with the useful arts of life.

Of the beginning of music we know no more than we do of the beginning of speech. The most primitive nations have each and all their own national music, just as they have each their own national form of speech. Music is thus an immemorial thing; for the sculptures of Nineveh, and the sculptures and paintings of the ancient Egyptians, the oldest records of life and manners extant, represent musicians and musical instruments in such a way as leads one to the conclusion that, even in the period to which these carvings and paintings belong, music had already travelled a long way on the path of development. What the music from which the comparatively finished art of the Assyrians and Egyptians was evolved was like, we may perhaps be best able to judge from a brief survey of the music of various uncivilised nations as existing at the present day.

All the world over, the music of the more primitive of the uncivilised races may be said to move on parallel lines, and it is only as tribes and nations rise somewhat in the scale of nature that their music begins to display any marked degree of differentiation. Down on what might be called the bed-rock of humanity they are all pretty much alike, and in the national music of the most widely removed races the same phenomena present themselves with but trifling modification. Vocal music is common to all the nations of the earth. Man, in an absolutely primitive state, gives expression to the primary emotions and passions by means of the voice as a matter of instinct, just as is done by the brute creation. The first step in advance is taken when the savage becomes conscious, as it were, for the first time, of the sounds which are born of certain circumstances, and endeavours to reproduce these sounds irrespective of the feelings from which they arise. This is the first recognition of sound as possessed of meaning; and from it to early stages of the rhythmical narrative, and to the song, is no inconceivable transition. With the sense of rhythm, which was most probably evolved from the natural cadence of the human footstep, whether in walking or in dancing—for to dance, after his kind, is as natural to

the savage as to walk—comes the first hint of a musical instrument; for, with all races, instruments are rhythmic first, and only genuinely melodic when a higher standard of life has been reached.

Musical instruments are divided into three great classes—instruments of percussion, wind instruments, and stringed instruments. Rude forms of these are known to every tribe on the earth, and in their simplest form may be said to lie ready to the hand of the savage. Thus almost any hard substance will furnish him with an instrument of the drum kind; the wind instrument is merely the stem of a reed or the horn of some animal; and the sonorousness of a cord or fibre in a state of tension could hardly escape observation in any land whose people numbered bows and arrows among their weapons,—and the violin is no more than a surpassing development of the principle that a tightly-stretched cord can be made to produce sound by being set in vibration.

Such, then, are the elemental forces in the production of music—the voice; the stretched cord; the reed-pipe or horn; and the drum, clapper, or rattle, these last being but varying applications of the same principle of percussion. These primary means of producing sound are well known to all the primitive peoples of the world, and by most have been carried to a varying pitch of development. Thus the ideas of solo singer or narrator alternating with a chorus, and of one body of voices alternating with another, are to be met with almost everywhere. The knowledge that varying-sized sonorous bodies produce varying tones is also pretty common to savagedom in general, and many tribes have, from a graduated series of slabs of wood or stone of a specially sonorous quality, devised an instrument of the harmonicon kind. The same principle of combination has also been widely applied to the wind instrument; and pipes of varying size, double-pipes, pandean pipes (the *syrinx* of the ancients), and pipes with finger holes, are to be found in all countries. A further step has been taken in cases where there has been what might be called a cross-application of the fundamental principles of the different species of musical instrument. For instance, the discovery that the volume of sound produced from a stringed instrument can be increased by the addition of some contrivance of the sounding-board order, belongs to an early stage of development; and the Negroes apply this principle to their instruments of the harmonicon kind, using gourds for the purpose. Such are the general types of musical instruments in use among uncivilised races. They are doubtless things of age-long use; but many centuries would appear to have affected their development but little; and in the same way that we are accustomed to regard the races who use them as standing but on the threshold of human life, so we may perhaps, not inaccurately, regard these rude instruments of to-day, and the vague musical systems with which they are allied, as presenting a parallel illustration of the state of matters from which the musical art of the earliest civilisation was evolved.

Thus it is not very difficult to imagine what music may have been like in the earliest ages of the world; but of its history in those times we know nothing; and the earliest records extant give us but brief, disconnected glimpses of an art already of high antiquity. Our oldest sources of information upon the subject of music are to be found in the sculpture work of the Assyrians, the carvings and wall-paintings of the Egyptians, the Old Testament, and Homer. From these four sources we obtain a great amount of information—information, however, which it is impossible to systematise in any certain chronological sequence. All that we can be sure of is, that we behold music as existing among four distinct races, and in each case evidently in a state of high development; but whether the musical systems of the Assyrians, Egyptians, Israelites, and Greeks were developed the one from the other, or whether they were varying developments of a common inheritance derived from some still earlier civilisation, or whether each race had carried on a purely independent process of evolution from the beginning of time, are mysteries. All that we know for certain is, that music undoubtedly existed among these ancient nations, and existed in a state of high development; beyond that we can only deal in guess-work.

The Assyrians.

In the sculptures found in what are conjectured to be the ruins of Nineveh are many representations of musicians and musical instruments. The latter appear to have been of very finished workmanship, and to have reached that stage of development where beauty and essential fitness meet on an equal footing; in fact, within their limits, the instruments of the Assyrians may be said to be artistically perfect.

Most of the sculpture-work discovered at Nineveh is now in the British Museum, and reproductions of it are to be found in almost every book dealing with the history of music. Judging from the nature of the instruments represented, the music of the Assyrians must have been of a light yet somewhat subdued order, with no very pronounced effects of instrumental "colour,"—no blaring of large wind instruments or banging of drums. They also appear to have arrived at some knowledge of a proper combination of voices and instruments. An interesting illustration, not only of the nature of the Assyrian musical instruments, but also of the manner in which these instruments were employed in combination with voices, is afforded by a bas-relief in the British Museum, representing a procession of musicians marching to meet a conqueror returning from battle. In front marches a bearded man playing upon a harp apparently about four feet high and fitted with ten strings. From the fact of his walking alone in front of his fellows, this man was evidently the chief of the musicians. Behind him walk two men, one playing an instrument of the dulcimer kind, and the other a double flute. The dulcimer-player walks with his instrument resting against his breast in a horizontal position; possibly it was secured by a cord or strap passed round the player's neck, but of this no hint is given. The flute-player's instrument is small; allowing him to have been a tall man, each pipe would be about a foot long. Behind the flute and dulcimer-players come two more harpers, with instruments similar to that carried by the leader. Then follow another couple, a harper and a flute-player, followed, in turn, by two other harpers, these last being followed by a harper and a drummer, the drum a very small one and apparently played with the finger-tips. This constitutes the orchestra. The rear of the procession is brought up by six adult and nine juvenile singers; the whole forming a band and chorus of twenty-six instrumentalists and singers divided as follows:—

2 Double flutes.	1 Small drum.
1 Dulcimer.	6 Singing men or women (sex doubtful).
7 Harps.	9 Singing boys.

There is undoubtedly a strong sense of proportion and general fitness exhibited in this combination, so much so, that we can hardly imagine the disposition of this body of musicians to have been purely a matter of chance. The acuter-sounding instruments, the flutes and the dulcimer, are carefully subordinated; and considering the nature of the other instruments, the drum may be said to be sufficiently large and powerful for the purpose it had to serve. The back bone of the band is in the harps; they represent the violins of the modern orchestra. The proportion of singers to instrumentalists, again, although somewhat unequal, according to modern ideas, is curiously like that of Handel's time.

Besides the instruments just described, the Assyrians appear to have also made use of a variety of drums, cymbals, trumpets, bells, tambourines, &c.

The Egyptians.

In the sculptures, wall-paintings, and papyri of the Egyptians, we are furnished with another glimpse into the obscurity of early musical history. Among the ancient Egyptians we find music at a somewhat similar pitch of development to that already observed among

the Assyrians, technically, that is, but imbued with a far loftier spirit; at least so one would imagine by comparing such memorials as exist of the musical life of the two peoples. The Egyptians regarded music as of sacred origin, they employed it largely—instrumental music, for the most part—in the services of their religion, and, together with astronomy, regarded it in a vaguely philosophic way, fluctuating in their conceptions, between the mystical and the scientific. Judging by the size of the instruments depicted on the monuments of ancient Egypt, their music must have been of a more sombre cast than that of the Assyrians. Many of the Egyptian harps were more than twice as large as the largest of those of the Assyrians. An instrument of the flute kind, apparently about four feet long, is also very commonly to be met with in illustrations of the tombs, temples, and obelisks of Egypt. Of the spirit animating the musical art of the Egyptians, we can only judge by inference; but there must have been something fine in the music existing in the days when the priest Taphesumnes wrote this hymn to the setting sun:—

"Gracious be to me, Thou God of the rising sun,
Thou God of the evening sun; Lord of both worlds;
Thou God, who alone in truth dost dwell,
Thou who hast created all,
Revealing Thyself in the eye of the sun.
At eventide I praise Thee,
Peacefully dying to begin new life,
'Midst hymns of praise sinking into the sea,
Where jubilant Thy bark awaits Thee."

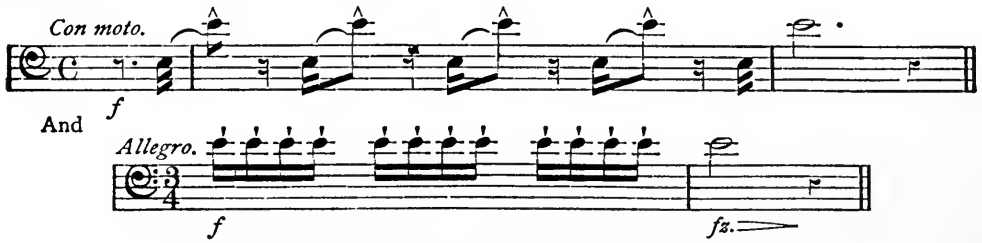
The Israelites.

From the music of the Israelites and the Greeks, widely removed in character from each other as they were, originated the highly-developed musical art of modern times. Culture, and spirituality, using the word in its broadest and most abstract sense, are the guiding stars of music, as of all true art; and of these culture is Greek, and spirituality is Hebrew.

Of the music of the Israelites we possess a wider, although less definite, knowledge than of that of Assyria and Egypt. Beyond doubt the music and musical instruments of Israel must have closely resembled those of Assyria, a land peopled by a closely-allied race; and in the same way it may reasonably be assumed that when the national music of the Israelites departed from the manner of their Assyrian kinsmen, it only the more closely resembled that of the Egyptians, a supposition which a glance at the map will do much to confirm. Proceeding on this hypothesis, the numerous allusions to music and musical instruments contained in the Scriptures may well be translated, as it were, into the pictorial representations of musicians and their instruments to be found in the sculptures of Assyria and Egypt. The same principle of elucidation may also be made use of in the reverse way, the Scriptural allusions to music being employed to illustrate the attitude towards music of the nations outside the borders of the Chosen People. Of the musical system of the Israelites we can only judge by inference; and the only instruments of which authentic representations exist are the silver trumpets, taken from the burning Temple by the Roman soldiery, and the Temple horn, or schofar. The trumpets, as figured on the Arch of Titus at Rome, are long, and perfectly straight; the schofar, as still in use in the synagogues, is curved, and about eighteen inches long. The trumpets were of great size, and were supported upon a frame or rest. They were intended to be used in summoning the entire nation together—"And if they blow but with one trumpet, then the princes, which are the heads of the thousands of Israel, shall gather themselves unto thee. When ye blow an alarm, then the camps that lie on the east parts shall go forward. When ye blow an alarm the second time, then the camps that lie on the south side shall take their journey: they shall blow an

alarm for their journeys. But when the congregation is to be gathered together, ye shall blow, but ye shall not sound an alarm." *

In commemoration of these ordinances the sounding of the schofar forms part of the Jewish ritual. The "alarms" are as follows—



"But when the congregation is to be gathered together, ye shall blow, but ye shall not sound an alarm." In pursuance of this command the following signal is used :—

Hebrew music, presumably but little altered from the usage of Bible times, is still in use in the liturgy of the synagogues, and we cannot avoid being strongly impressed with its essentially *foreign* character. Music has been truly said to be a language common to all the world, but in Hebrew music the accent is unfamiliar, and hints at a life and its surroundings widely removed from our own: ". . . glimpses, glimmering notions of the patriarchal wanderings, with palm-trees hovering in the horizon . . . the riches of Solomon's Temple."

Our greatest inheritance from the Israelites in connection with music is, without doubt, the perception of its exalted nature. Music and poetry covered the entire field of Israelitish artistic aspiration, if, indeed, the Israelites can be said to have had any great artistic bias at all; for music and poetry, the only arts in which they arrived at any great degree of excellence, were things consecrated to the service of the Almighty; and of art for the sake of art, and a philosophy of æsthetics, it is probable that they knew little and thought less. It is, however, to their intensely, one might almost say fiercely, earnest realisation of the sanctity and elevation of music, tempered with the beauty-worshipping spirit of the Greeks, that the noblest conceptions of musical art owe their existence.

The Greeks.

The musical history of the Greeks may be divided into two great periods, the mythological, and the historical. The first period covers the entire range of traditions and legends, and extends up to the time when the Greeks began to reckon by Olympiads, or periods of four years, the date of the first Olympiad being 776 B.C. From 776 B.C. to 161 A.D. is the historical period.

To the first period belong the stories of Orpheus and Eurydice, perhaps the noblest and most beautiful of all the fairy-tales of art; the building of Thebes and Cadmea by Amphion, who by his playing caused the rocks and stones to move spontaneously; the contest between Apollo and Marsyas; the myth of the Sirens, and numberless other stories and traditions with which the Hellenic mind loved to surround, as with many garlands, the art of music.

* Numbers x. 1–10.

Homer provides us with a link between the traditional and historical periods; and in the "Iliad" and the "Odyssey" are to be found both legend and exact information.

Coming to the historical period proper of Greek music, we cannot fail to be impressed with the broadly *moral* significance which music possessed for the Greeks. Among the Assyrians, it is to be imagined, music was more or less sensuous in character; among the Egyptians it apparently partook of the nature of an occult philosophy; among the Israelites music was primarily an act of worship; and it is, therefore, to the Greeks that the credit of being the first to recognise the educative value of music is due. Although not yet an independent art, music probably gained very nearly as much as it lost in this respect, by being made an essential part in the grandest manifestations of the literary and dramatic genius of Greece. Thus the Greek play resembled more an opera than a play, the word being used in its modern acceptation—an opera or music-drama, however, with the music strictly subordinated to the dramatic interest. Perhaps the simplest way of making clear the musical aspect of the Greek drama would be to say that a Greek play was like an opera of which the composer wrote the libretto and the librettist wrote the music. Sometimes the Greek dramatist, as in the case of Œschylus, composed the music to his own tragedies. Sophocles also accompanied the performance of one of his plays upon the cithara.*

Beyond certain fragments, which it would be unwise to unhesitatingly accept as authentic, there are no musical compositions of the ancient Greeks now known to be in existence. There has been preserved, however, a considerable body of Greek literature upon the subject of music, including the theoretical writings of Aristoxenus (B.C. 300), Euclid (B.C. 277), Nichomachus (A.D. 60), Alypius (A.D. 115), Bacchius (A.D. 140), Aristides Quintilianus (A.D. 110), and others.

Of these Aristoxenus wrote upon the Elements of Harmonics, Euclid wrote an Introduction to Harmonics, Nichomachus an Introduction to Harmony, Alypius a work on musical notation, Bacchius, supposed to have been tutor to the Emperor Antoninus, was the author of a short Introduction to Music, in dialogue form. Aristides Quintilianus wrote a treatise, "De Musica," in three books. These writers, and others, have perpetuated the theoretical systems of the Greeks, although they give us little or no hint of the practical application of the same; and it is upon their works that the earliest theorists of Europe based their further efforts towards the construction of a musical system at once logical, scientific, and capable of allowing the emotional side of man's musical nature free play.

The Romans.

Of original musical genius the Romans had little or none, and they were content to take their music, like every other artistic adjunct of their national life, from the Greeks. The Greek was the child of nature, refined and educated through his own innate sense of beauty and fitness; the Roman was a barbarian civilised with the civilisation of the barrack-yard and the camp. Thus it is that the music of the Romans is but the music of the Greeks transplanted in new and not very favourable surroundings. To the Greek, Art of any kind was something great and almost holy. To the Roman, Art of any shape or kind was merely a relaxation, or at most a mere handmaid to display and vain glory. Roman music is thus simply Greek music in a decadent and corrupted condition, a thing of no artistic value, and an object of contempt to the very people among whom it was domiciled. The only personal influence exerted upon music by the Romans was in the development of wind instruments. A race of fighting-men, the Romans regarded military music more seriously than any other branch of the art; essentially practical men, they could readily appreciate its usefulness; and, in this respect, they remind one of the elderly warrior who opined that music was all very well on parade, but should not be

* An instrument of the harp kind.

allowed to interfere with conversation. In the Roman armies trumpets of various kinds were used, some of them being of immense proportions. All the military musical instruments were of brass, and comprised the *tuba*, a straight trumpet something like a modern post-horn in shape; the *cornu*, or horn, bent nearly in the form of a circle; the *lituus*, or clarion, slightly bent at the end; and the *buccina*, shaped like the horn, but of much greater size, the tube being about twelve feet long. Of these the *tuba* was used by the infantry, the *lituus* by the cavalry.

The most interesting feature in connection with Roman musical life is the first appearance of that cosmopolitanism, which has ever since remained such a prominent characteristic of musical art. Into Rome drained all the wealth, knowledge, and luxury of the known world. Greek philosophers and artists, Egyptian priests, men of all races from across the Alps, Jewish converts to Christianity, fleeing from persecution in their own country, all gravitated towards the great city; and it was among these warring influences that the infant Christian Church, preserver and regenerator of music, was quietly growing in power and influence; and, with the coming of Christianity, music is no longer of this country or that, but of the whole world.

CHAPTER II.

MUSIC FROM THE INSTITUTION OF THE AMBROSIAN CHANT TO THE TIME OF PALESTRINA.

Church Music to the Time of Palestrina.

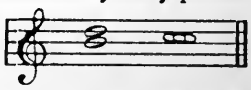
THE first important event in the musical history of the Christian Era was the institution, by St. Ambrose, Bishop of Milan, of a uniform version of Church music. Prior to his time, the melodies in use in the Church had been transmitted from generation to generation by mere oral tradition. Under even the most favourable circumstances, it would have been almost impossible to preserve the ancient melodies of the Church in their original purity with this hap-hazard method of perpetuation; and when it is remembered that the Church itself only passed from the direct dangers of the persecutions, to the almost as great, if less obvious, dangers of imperial favour, it will be readily understood that Church music, in its original form at any rate, ran a considerable risk of perishing altogether.

With a view to removing such corruptions as already existed, and preventing the possibility of others arising in the future, St. Ambrose, about the year 384, made a general collection of the tones or tunes to which the Psalms were then sung, and setting forth each in the purest form possible. This formed the orthodox music of the Church for more than two hundred years, and in St. Ambrose's old diocese of Milan it continues in use to this day.

Two centuries later the uniformity introduced by Ambrose had become very much relaxed; the Ambrosian chant was still in use throughout the Church at large, but with two hundred years use had come many modifications, and the modifications of one country differed materially from those of another. The necessity for a remodelling of the music of the Church was consequently very apparent. To this task Gregory the Great, who became Pope in 590, gave his earnest attention; and the system of Plain Chant which he arranged, broader in conception than that of Ambrose, and designed to meet the liturgical requirements of the entire year, under the title *Gregorian*, remains in use to the present time. Gregory also revised the Office of the Mass and gave it that form which still remains unchanged, and upon which some of the grandest musical conceptions of the human mind have been based.

Not until long after the time of Gregory, was any serious attempt made to devise some system of musical notation superior to that of the ancient Greeks, who made use of the letters of the Alphabet. The first improvement was the adoption of the Neume notation, in its simplest form merely a number of accents placed upon different syllables or words, and showing where the voice should rise or fall. A great improvement to this system was the adoption of the use of a coloured line. If the line was red, F was the tonic, and the melody began and ended on F. If the line was yellow, C was the tonic. In the eleventh century both lines were employed, thus giving two fixed points in the scale. Guido of Arezzo carried the improvement of the Neume system to a higher pitch of development, making use not only of the lines but also of the intervening spaces, thus dimly foreshadowing the modern stave.

To the eleventh century also belongs the rise of part-singing. From a very early period it had been customary to close a chant with a simple cadence formed by the addition of a minor third to the penultimate note thus—

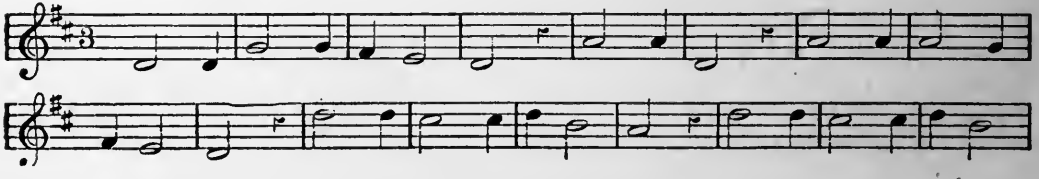


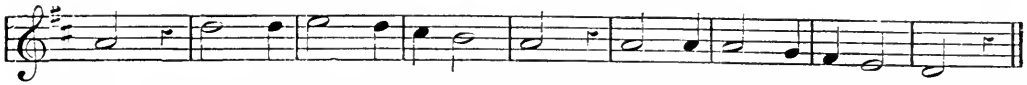
The next step in advance was the addition of a second part to the Chant, moving on certain fixed intervals—this was called an *Organum*. The infancy of true part-writing dates from the eleventh century; and, in its earlier manifestations, a sufficiently unlovely infancy it was. Crude, however, as the earlier efforts in part-writing undoubtedly were, yet the recognition of the principle of Harmony, or Polyphony—the idea that from a varying combination of parts a completely beautiful whole could be evolved — formed the starting-point for a vast and wide-spread development of musical energy.

In time there sprang from the growing flexibility of harmony and counterpoint, the introduction of the *Mensural* system in music, and the ever-increasing recognition of "form," those various "Schools" of writers, of which the greatest was the Flemish School. Among the Flemings, painstaking, ingenious, and matter-of-fact, the *constructive* element in music was first appreciated at its true worth. The founder of the Flemish School was Guilielmus Dufay, who died, at an advanced age, in 1432. Other of the most distinguished composers belonging at different periods to the same body of writers were Joannes Okenheim, who died at Tours in 1512; Josquin des Prés, a disciple of Okenheim's, the most brilliant of the Netherland composers; Archadelt (1490–1575), a great Madrigal writer; Adrian Willaert (1490–1562), who became Chapel-Master of St. Mark's at Venice, and founded the Venetian School; Roland de Lattre, more generally known as Orlando di Lasso (1520–1594). These masters wrote Masses, Motets, and Madrigals. With the Madrigal they achieved special distinction; and the Madrigal form, as perfected by Adrian Willaert, has, in the main, served as a model for all succeeding Madrigal writers.

Many of the Netherland masters settled, or resided for a time, in Italy; and, for a considerable period, there was a constant succession of Flemish chapel-masters and singers in the Papal choir. Among these were Claude Gondimel (15——1572) and Jacques Archadelt. These men taught, and were centres of musical influence; and under the tuition of Goudimel, grew up one of the greatest geniuses music has ever known—Giovanni Pier-Luigi Sante (1515–1594), commonly called Palestrina, from his birthplace, the town of that name.

Palestrina became known at a period when Church-music had, as it were, come to a cross-road. For very many years it had been the custom to write Church-music on secular melodies, among the melodies employed in this way being one entitled *L'Homme Armé*, which enjoyed an immense vogue—





This air is a good example of the popular melodies which composers were wont to employ as *Canto Fermo;* and as such it is inserted here in its entirety. Used with ordinary discretion there need have been no absolute harm in the employment of secular melodies in the Church service. Discretion, however, was too often altogether disregarded, and it frequently happened that, amid the learned writing of a Mass, the ears of the faithful detected the strain of some melody whose mundane associations were infinitely more amusing than edifying. In short, the thing became a crying scandal, and had to be put a stop to somehow. The question of the reform of Church-music was remitted to a commission of eight Cardinals. Cardinal Borromeo strongly opposed a return to the ancient plain chant, and requested Palestrina to compose a Mass which should be at once reverent and artistic. Palestrina, already a musician of some eminence, wrote not one Mass but three, and of these, each admirable in its own way, the *Missa Papæ Marcelli* was enthusiastically hailed as the great type of all that a Mass should be; and to this day it remains a model for composers of ecclesiastical music.

Secular Music.

When Europe emerged from the turmoil, throat-cutting, and intellectual barrenness of the centuries immediately succeeding the fall of the Roman Empire, music presented itself in a twofold aspect, which might be typified in two representative figures—the Minstrel or Gleeman, and the Monk. The Monk living and working amid a scene of quiet industry behind the strong walls of his monastery, the Minstrel leading a gay, grasshopper-like existence, wandering over the land, the plaything of fortune, a man mixing familiarly with all classes of society, the friend and favourite of every one, utterly destitute of all *status*, and a man whom it was scarcely a crime to defraud or kill. In a word, the letter of music dwelt in the monasteries, the spirit swaggered in rags by the roadside.

The outcast, wayfaring class, typified by the Minstrel, and which, comprising Minstrels, Jugglers, Acrobats, Mountebanks, Quacks, &c., held such an important place in the social economy of the Middle Ages, is supposed to have been a direct survival of the gladiatorial caste of Imperial Rome. And it is probable that the adverse attitude of the Christian Church at large, towards those whose business in life is the providing of amusement for others, was also an inheritance from the days of the decadent Empire.

With more peaceful times arose an art more entitled to the name of Minstrelsy than the rude efforts of the strollers who gave entertainments before castle gates and in market-places. For a long period Provençe was the most peaceful land in Europe: it appears to have lain out of the track of warfare and misery, and in that sunny land Minstrelsy was undisturbedly cultivated by high and low. From the eleventh century the Troubadours were treated with honour and respect.

The history of the Troubadour as existing in Provençe, in the days prior to the Albigensian Crusade, forms one of the most striking and unique episodes in literary and musical history. The social position of the Troubadours was a curious one. Recruited, as was the order, from all ranks of society, the Troubadour might be the son of a knight, as was Guillem de Cabestanh; or he might belong to the trading classes, as did Peire Vidal, the son of a furrier at Toulouse. In any sphere of life, however, the fact of being a Troubadour at once placed a man on a sort of equality with the greatest; for a Troubadour was essentially a privileged person. To the qualifications of the minstrel, the man with whom at first sight he would appear to have most in common, he added the caustic tongue of the jester, something of the inviolability of the herald and the Churchman, and, as often as not, the lance and shield of the knight. Roughly, he

combined in his person the elements of those two modern institutions, Public Opinion and the Press. Like the minstrel at large, he was a kind of peripatetic newspaper, for his compositions found their way through the land more quickly than the last news from the Crusades. Woe betide the unlucky noble who was ridiculed or denounced by a Troubadour! In the first instance he might feel assured that ere long every court and castle in Southern Europe would be laughing at him, and in the second, he might consider himself fortunate if he was not compelled to turn out and defend his life and property against the steel-clad paladins of a hostile neighbour, as had the Lord of Rossilho when Alfonso of Aragon laid waste his territories, as vengeance for the death of the Troubadour Guillem de Cabestanh.

To the Troubadours we owe the existence of various art-forms common to music and poetry, such as the "Pastorela," or "Pastorelā"—the shepherd's song, whence the modern Pastoral or *Pastorale;* the "Alba"—song of the morning, whence the *Ambade;* the "Serena"—song of the evening, whence the Serenade; the "Ballada"—a song to accompany the dance, from which comes the Ballad.

In Northern France the Trouvères, and in Germany the Minnesingers, followed in the footsteps of the Provençal poet-singers, although with modifications of the Provençal aims and methods born of their different surroundings.

More interesting were the Meistersingers of Germany, burgher-minstrels, than the courtly Minnesingers and Trouvères. The first Meistersingers belonged to Mayence, and from there the Meistersong spread throughout the length and breadth of Germany. Strasburg, Augsburg, Munich, and Nuremburg, all attained celebrity as centres of the Meistersong. The Meistersinger, with whose name the general public are most familiar, Hans Sachs, was a native of Nuremburg. The Meistersong arose in the fourteenth century, about the time of the decay of the Minnesong, and flourished for nearly four centuries.

It was eminently characteristic of the feudal age that, whereas the Troubadours, Trouvères, and Minnesingers, for the most part people of gentle birth, apparently felt no necessity for any definite union among themselves, the Meistersingers, citizens and traders, living in safety behind the strong walls of their towns, should have fenced round their pursuit of art with the strong wall of guildery; and, going several steps lower in the social scale than the Meistersingers, we find the wayfaring musicians, as early as the thirteenth century, seeking such protection and increase of dignity as was to be gained by the formation of guilds. One of the earliest of these was formed in Vienna in 1288, under the title of the Brotherhood of St. Nicholas. Another was the "Confrerie de St. Julien des Ménestriers," established at Paris in 1330. The members of these guilds were generally known as town-pipers; and although it is probable that their acquirements, taken on an average, were little above those of the itinerant musician of the present day, yet their services to the cause of music, albeit rendered unconsciously, can scarcely be overrated. In ages when all knowledge was so much of an ecclesiastical monopoly, that the most secular composition perforce acquired an ecclesiastical complexion through the mere process of being written down; and the only instrumentalist who was regarded as a respectable member of society was the organist, generally a cloister-bred man; these strollers were preserving among themselves the germs from which were to spring the secular music and instrumental playing of a time when knowledge would be more evenly distributed.

Music in the British Isles.

Music in this country prior to the seventeenth century, or at any rate the latter part of the sixteenth, presents itself under very much the same aspects as on the Continent—on the one hand Church music, on the other Minstrelsy; and latterly, the rise of a secular art, secular in spirit but hampered with ecclesiastical traditions. English Church music of the pre-Reformation period necessarily moved on the same lines as that of the Continent, although probably

existing in a far less advanced stage of cultivation. Minstrelsy, however, was greatly esteemed among English, Scotch, Irish, and Welsh; and among the Irish and Welsh the bardic caste enjoyed a degree of power and influence probably unknown in any other country of the world. Thus in Ireland the three grades of minstrels or bards of the legendary period—the *Oblansh-Re-Dan*, or Filidhe, the poets; the *Breithanhain*, or Brehons, promulgators of the law; and the *Seanachaidhe*, the historians and genealogists—exerted a tremendous influence among the princes and chiefs of Ireland. A similar, although lesser, measure of power and influence was enjoyed by the Welsh bards.

Unswayed by the imperfectly understood system of the Greek theorists, which, thanks to Boethius, were perpetuating a species of artistic cramp among Church composers, the folk-music of this country, governed solely by man's natural sense of fitness, made astonishing progress.

Giraldus Cambrensis, who lived in the twelfth century, in his *Cambriæ Descriptio* says—

"In the northern parts of Britain, beyond the Humber and on the borders of Yorkshire, the people there inhabiting, make use of a kind of symphoniac harmony in singing, but with only two differences or varieties of tones or voices. In this kind of modulation, one person (*submurmurante*) sings the under part in a low voice, while another sings the upper in a voice equally soft and pleasing. This they do not so much by art as by a habit, which long practice has rendered almost natural; and this method of singing is become so prevalent amongst these people, that hardly any melody is accustomed to be uttered simply, or otherwise than variously, or in this twofold manner."

With this should be combined another extract from the same writer, as illustrating the wide-spread taste for music in the British Islands at that early period. In 1171 Giraldus Cambrensis, or Gerald Barry, Bishop of St. David's, to give him his proper name and title in English, visited Ireland in the suite of Henry the Second; and in his *Topographia Hibernia* there are the following impressions of the National Music of the Irish:—

"The attention of this people to musical instruments I find worthy of commendation, in which their skill is beyond comparison superior to that of any nation I have seen; for in these the modulation is not slow and solemn, as in the instruments of Britain, to which we are accustomed, but the sounds are rapid and precipitate, yet at the same time sweet and pleasing. It is wonderful how, in such rapidity of the fingers, the musical proportions are preserved, and by their art, faultless throughout, in the midst of their complicated modulations, and most intricate arrangement of notes, by a rapidity so sweet, a regularity so irregular, a concord so discordant, the melody is rendered harmonious and perfect, whether the chords of the Diatesseron, or Diapente, are struck together; yet they always begin in a soft mood, and end in the same, that all may be perfected in the sweetness of delicious sound. They enter on, and again leave their modulations with so much subtility, and the tinglings of the small strings sport with so much freedom under the deep notes of the bass, delight with so much delicacy, and soothe so softly, that the excellence of their art seems to lie in concealing it."

English literature of the Middle Ages is full of references to minstrels and minstrelsy, and abounds in quaint and curious details of their life and manners; and for the present-day reader, desirous of information concerning the early music of this country, no better authority exists than Chappell's entertaining "Popular Music of the Olden Time."

More distinguished in the Middle Ages for the cultivation of folk-music than that of the Church, Mediæval England yet produced a very respectable body of theoretical writers, and to England belongs the credit of possessing the oldest piece of polyphonic and canonic composition known to be in existence; the old Northumbrian round, "Sumer is icumen in," which was transcribed by a monk of Reading called John of Fornsete, in the early years of the thirteenth century.

The earliest English writer on music was Walter Odyngton, an Evesham monk, who was born somewhere about 1180. He wrote a treatise, "De Speculatione Musicæ," of which the

only known copy is now in the library of Christ's College, Cambridge. Other writers were Simon Tunstede, of Norwich, born about 1310; Robert de Handlo; John Dunstable; John Hamboys, the first to hold the degree of Doctor of Music; and John Hothby, a Carmelite monk, who, however, lived principally on the Continent, and died at Florence about the year 1480. With the coming of the Tudors, a new day began for English music, a day whose brightness was to culminate in the splendour of the Elizabethan Age.

[*To be continued.*]

MUSICAL TERMS.

By W. DALY, Junr.

MUSICAL TERMS IN COMMON USE.

A (*It.*), (*ăh*), At, by, for, &c.; *a tempo*, in time; *a piacere*, at pleasure.

A (*Fr.*), (*ā*), By, with, for, &c.; *à deux mains*, for two hands.

A Ballata (*It.*), (*āh băl-ātā*). In the ballad style.

Abandonamente (*It.*), (*āh-băn-on-ā-men-tay*)
Abbandono, con (*It.*), (*āh-băn-ō-nō*)
Abandon (*Fr.*),
} With self-abandonment; despondingly.

A Battuta (*It.*), (*băt-ūt-a*). In strict time.

Abbreviare (*It.*), (*a-brĕvī-ār-ay*). To shorten.

Abendglocke (*Ger.*), (*a-bend-glock-e*). The curfew.

Abendlied (*Ger.*), (*ā-bend-leed*). An evening song.

A bene placito (*It.*), (*baynay plac-eetō*). At pleasure.

Abgestossen (*Ger.*), (*ab-ges-tossen*). Staccato.

Ab initio (*Lat.*). From the beginning.

Abnehmend (*Ger.*), (*ăbnē-mĕnd*). Diminuendo.

Absatz (*Ger.*), (*ăb-săts*). Cadence.

A cappella (*It.*), (*capp-ella*). In the Church style, vocal pieces when unaccompanied.

A capriccio (*It.*), (*ah ca-pree-tche-o*). At will.

Accarezzevole (*It.*), (*ah-car-ets-ay-vol-ay*). Caressingly.

Accelerando } (*It.*), { (*ā-tchĕler-ăn-dō*) } Gradually increasing the pace.
Accelerato } { (*ā-tchĕl-er-ātō*) }

Accent. The emphasis placed on certain notes recurring at regular intervals of time. A recurring succession of accents produces rhythm.

Acciacatura (*It.*), (*a-chi-ak-a-tūra*). A short grace note with a cross line drawn through it.

Accidentals. Sharps, flats, or naturals, employed in a composition beyond those marked in the signature.

Accolade (*Fr.*). The bracket { used for combining music-staves.

Accompaniment. A subordinate vocal or instrumental part, or combination of parts, supporting solo voices or instruments.

Achromatic. Not chromatic.

Achtelnote (*Ger.*). The eighth part of a semibreve; a quaver

Acoustics. The science treating of the nature of sound.

Action. The mechanism of an organ or piano.

Adagio (*It.*), (*adajio*). Slowly.

Adagio assai
„ **di molto** } Very slowly.
„ **cantabile.** Slowly, and as if singing.
„ **patetico.** Slowly and pathetically
„ **pesante.** Slowly and massively.
„ **sostenuto.** Slow and sustained.

Addolorato (*It.*), (*ad-ol-or-ahto*). Sorrowfully.

A deux (*Fr.*), (*du*) } For two voices or instru-
A due (*It.*), (*du-ē*) } ments.

A due corde (*It.*), (*ah du-ay cord-ay*). On two strings.

A deux mains (*Fr.*), (*a du mang*). For two hands.

Ad libitum (*Lat.*). At will.

Affabile (*It.*), (*a-fa-beel-ay*). In a kindly manner.

Affettuoso (*It.*), (*affet-tu-oso*). Affectionately.

Affrettando (*It.*), (*ā-frĕt-ănd-o*). Hastening the time.

Agitato (*It.*), (*aj-it-āt-ō*). An agitated style in playing or singing.

A Grand Orchestre (*Fr.*), (*a gran' orkestr'*). For the full orchestra.

Air. A melody.

Albumblätter (*Ger.*), (*album-blaeter*). Album leaves.

All' 8va alta (*It.*), (*ăl ottāva altă*). In the octave above.

All' 8va bassa (*It.*), (*ăl ottāva băssa*). In the octave below.

Alla breve (*It.*). The time in which there are two minims in a bar, marked $\frac{2}{2}$ or ¢

Alla zoppa (*It.*). Syncopated.

Allargando (*It.*), (*ăl-ār-gando*). With breadth.

Allegretto (*It.*), (*al-ay-gr-ĕtto*). Slower than Allegro.

Allegro (*It.*), (*al-āy-gro*). Joyful, quick. The word Allegro is used in conjunction with a variety of others which serve to modify, or to invest it with a certain desired shade of meaning, as—Allegro con fuoco, quickly, and with fire; Allegro ma non tanto, quickly, but not too much so; &c. &c. In common with many other musical terms, Allegro is very often used as a convenient name for some composition otherwise without a title.

Alleluia (*Lat.*). Hallelujah (*Hebrew*), Praise ye the Lord.

Allemande (*Fr.*), (*ăl-i-mand*). A dance-tune. Originally peculiar to Germany and Switzerland.

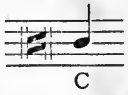
Allegramente (*It.*), (*al-ēgr-amen-ty*). Cheerfully.

Al Segno (*It.*), (*ăl sayn-yo*). To the sign. This, or the character 𝄋, indicates that the performer must return to a similar figure in the course of the movement, and play from that place to the *Fine*.

Alt (*It.*). The notes in the octave beginning with G above the treble stave are said to be *in alt*.

Alta (*It.*). High or higher—8va *alta*, an octave higher.

Altgeige (*Ger.*), (*alt-gij-e*). The viola.

Alto clef. Originally the clef in which alto parts were written  Now used for the viola and the alto trombone.

Alto voice. The deepest tone of voice among women and boys, the highest among men.

Amabile (*It.*), (*ama-beel-ay*). Lovely, tender.

A monocorde (*Fr.*). On one string.

Amore, con (*It.*), (*con amor-ay*). With tenderness.

Amoroso (*It.*). Lovingly.

Andante (*It.*), (*ăn-dănt-ay*). Lit., Walking, slow, distinct, and peaceful. Like **Allegro**, Andante is frequently used coupled with other words, as, *Andante con moto*.

Andantino (*It.*), (*ăn-dănt-īno*). Slower than Andante.

Anglaise (*Fr.*). The English country-dance.

Anima, con (*It.*). With animation.

Animato (*It.*), (*anim-ahto*). Lively.

Animo, con (*It.*). With spirit.

Anthem. A sacred composition for voices, with or without accompaniment.

Antiphon. The alternate singing of choirs.

A piacere (*It.*), (*a pia-cher-ay*). At pleasure.

A poco a poco (*It.*). Little by little. (Increase of time or expression.)

A poco più lento (*It.*). A little slower.

A poco più mosso (*It.*). A little faster.

Appassionato (*It.*). With feeling.

Appoggiatura (*It.*). A grace note.

A punta d'arco (*It.*), (*ă poonta d'arko*). With the point of the bow.

A quatre mains (*Fr.*), (*a katr mang*). For four hands, as a pianoforte duet.

Archet (*Fr.*), (*ar-shay*). The bow with which stringed instruments are played.

Arco (*It.*), (*arko*). The bow.

Aria (*It.*), (*a-ree-a*). An air.

Arietta (*It.*) } A short air.
Ariette (*Fr.*) }

Arioso (*It.*). In the style of an air.

Arpeggio (*It.*), (*ar-pej-io*). In the style of harp-music.

Assai (*It.*). Very. *Allegro assai*—very quick.

A tempo (*It.*). In time.

Attacca (*It.*), (*attack-ah*). Commence at once.

Attack. A vigorous entry of voices or instruments at the commencement of a piece or portion of a piece.

Aubade (*Fr.*), (*o-bad*). A morning song, as opposed to an evening song (Serenade).

Audace (*It.*), (*oud-a-tchay*). Bold, audacious.

A una corda (*It.*). With one string; in pianoforte music a direction to use the soft pedal.

Ausgabe (Ger.), (*ows-gab-e*). Edition.

Bagatelles (*Fr.*). Short pieces.

Bagpipe. A wind instrument: formerly known to nearly every nation in the world.

Baguettes (*Fr.*). Drumsticks.

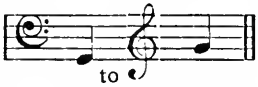
Ballad. A popular song. Primarily of a narrative kind.

Band (*Ger.*). A part or volume.

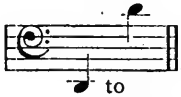
Bar. A line drawn through the stave to mark the division of the time in music. The space *between* two such lines.

Barcarole. A melody imitated from the songs of the Venetian gondoliers.

Baritone. A voice in character midway between a bass and a tenor. Compass:



Bass, Basso. Low, as bass voice, bass trombone. Bass voice, lowest register of human voice. Compass:



Basset-horn. An instrument of the clarinet kind.

Bassoon. A reed wind instrument. Ordinarily forms the bass among wood wind instruments.

Bâton (*Fr.*). A stick used in beating time.

Beat. The portion of a bar occupied by one motion of the bâton.

Begleitung (*Ger.*), (*beg-leit-ūng*). Accompaniment.

Becken (*Ger.*). A cymbal.

Ben (*It.*). Well—*Ben marcato*, well marked.

Berceuse (*Fr.*). A cradle-song.

Binary form. The form of a movement founded on two principal themes.

Bind. A sign ⁀ or ⌐¬ placed over two or more notes, and indicating that these notes are to be sustained as one.

Bis (*Lat.*). Twice. Indicates that a passage is to be performed twice.

Bolero (*Span.*). A Spanish dance in triple measure.

Bombardon (*Fr. and Ger.*). A brass instrument which plays the bass in a military band.

Bourrée (*Fr.*), (*bour-ray*). A dance-tune in common time. Supposed to have originated in Auvergne.

Bratsche (*Ger.*), (*brat-she*). The viola.

Breve. The longest note now in use. Written 𝅜, 𝅜‖, or 𝅜𝅜.

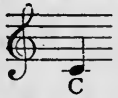
Brillante (*It. and Fr.*), (*Italian—bril-ant-ay*). Brilliant.

Brindisi (*It.*). A drinking-song.

Brio con (*It.*), (*breeo*). With spirit and vigour.

Buffa, *fem.* } (*It.*). Comic.
Buffo, *masc.* }

Bugle. A hunting horn. A military wind instrument.

C clef. The clef showing the position of the note  in the stave as adapted for different voices. (Principally in old music).

Cadence. The end of a phrase—a close.

Cadenza (*It.*), (*cā-dent-sa*). An embellished and elaborated close to a song or instrumental movement.

Calando (*It.*), (*cā-lan-do*). Becoming slower and softer.

Calore, con (*It.*), (*cal-or-ây*). With warmth.

Camera, musica di (*It.*), (*mus-eeka di camera*). Chamber music.

Campanology. The science of the construction and use of bells.

Canon. A vocal composition in two or more parts, in which the voices continually imitate each other.

Cantabile (*It.*), (*can-ta-belay*). In a *singing* style.

Cantata. A short musical work in oratorio form.

Cantatrice (*It.*), (*can-ta-tree-tchay*). A female singer.

Canticle. A hymn.

Cantor. Precentor.

Cantus firmus (*Lat.*). A subject intended to be treated contrapuntally.

Canzona (*It.*). An old song-form.

Canzonetta }
Canzonet } Diminutives of Canzona.

Capellmeister (*Ger.*), (*ca-pel-my-ster*). Musical director of a church.

Cappella, alla (*It.*). See "A cappella."

Capriccio (*It.*), (*ca-pree-tche-o*). A fantasia.

Capriccioso (*It.*), (*ca-pree-tche-os-o*). Fanciful.

Carillon (*Fr.*). Melody for chimes.

Carillons (*Fr.*). Chimes.

Carol. An old-time ditty sung at Christmastide.

Castanets. Wooden instruments of the clapper kind, used to accompany dance tunes in Spain, &c.

Catch. A humorous vocal piece in several parts.

Cavatina (*It.*), (*ca-va-teen-a*). A simple air.

Celli (*tchel-li*). } Abbreviations of violoncello
Cello (*tchel-lo*). } and violoncelli.

Chacona (*Span.*), (*shak-o-na*) }
Chaconne (*Fr.*), (*shak-onn*) } A slow dance in ¾ time. Sometimes introduced into sonatas in the olden time.
Ciaccona (*It.*), (*tchi-a-kona*) }

Chamber Music. Compositions suitable for performance in a *chamber* or room: instrumental trios and quartets, part-songs, &c.

Chanson (*Fr.*), (*shahn-song*). A song.

Chant. A short musical composition to which the daily psalms are sung in cathedrals.

Chanterelle (*Fr.*), (*shahn-ter-el*). The highest string on instruments played with a bow.

Choragus (*Lat.*), (*kor-agus*). Leader of the chorus in the ancient Greek drama. Title of a musical official at Oxford.

Clarinet. A wood wind instrument.

Col, **Coll'**, **Colla** (*It.*). With the. *Coll' arco*—With the bow.

Col legno (*It.*), (*col layn-yo*). Lit. "with the wood;" a direction to strike the strings of a violin with the back of the bow.

Come (*It.*), (*co-may*). As *Come sopra*—"As above."

Con (*It.*). With.

Concerto (*It.*), (*con-tchair-to*). A composition designed for the display of the resources of one instrument, and with an orchestral accompaniment.

Concert-Stuck (*Ger.*). Concert-piece—A concerto.

Contra-Basso (*It.*), (*con-tra-bahs-so*). The double-bass.

Contra-Fagotto (*It.*), (*fah-got-to*). Double bassoon.

Cor anglais (*Fr.*). English horn. A reed instrument of the oboe kind.

Counterpoint. The combination of parts of voices.

Courante. Coranto. An old dance-tune.

Cracovienne (*Fr.*), (*cra-co-vi-en*). A dance, originally peculiar to Cracow.

Crescendo (*It.*), (*kreshen-do*). Increasing.

Crooks. Short movable tubes by which the register of brass instruments is raised or lowered.

Csardas. Czardas. A Hungarian national dance.

Cue. The last words or notes of a preceding part inserted as a guide.

Da capo, *or* D.C. (*It.*), (*dah kahpo*). From the beginning. An indication that the performer is to return to the beginning of the piece, and repeat to the word *Fine*.

Da capo al segno. Repeat from the sign 𝄋.

Das selbe tempo (*Ger.*), (*—selb-e—*). The same time.

Decani (*Lat.*). A term in cathedral music signifying the singers on the dean's, or south side of the choir, as opposed to "cantoris," the cantor's or precentor's side.

Decrescendo (*It.*), (*dekreshen-do*). Decreasing.

Delicato (*It.*), (*deli-kato*). Delicately.

Diminuendo (*It.*). Decreasing.

Divertimento (*It.*), (*divertimen-to*). A light, pleasing composition.

Divisi (*It.*), (*divees-i*). Divided.

Dolce (*It.*), (*dol-tchay*). Sweetly.

Dominant. The fifth note or degree of the scale.

Doppio (*It.*), (*dop-pi-o*). Double. *Doppio movimento.* At twice the former speed—double-quick.

Dot. A point added to a note or rest, which increases the value of the note or rest by one half. A second dot increases the value of the previous *dot* by a half. Dots placed over notes signify that they are to be *detached*. *Slurred* notes with dots are to be played *staccato*. Used in connection with double bars, dots signify a *repeat*.

Double-bass. The largest instrument of the violin kind.

Double chorus. Two distinct choirs, singing separately or together. Music written for a double choir.

Double concerto. A concerto for two solo instruments and orchestra.

Double stopping. Playing two notes simultaneously. Applied to stringed instruments.

Due corde (*It.*), (*du-ay corday*). Two strings. A direction for a note to be played on two strings. An indication that the soft pedal of the pianoforte is to be raised.

Dur (*Ger.*), (*dour*). Major.

Durchführung (*Ger.*), (*dourch-feer-ung*). Working-out. Development. Applied to the second portion of the Sonata form.

Edel (*Ger.*). Noble.

Einfach (*Ger.*). Simple.

Elegante (*It.*), (*elegan-te*). Elegant.

Enharmonic. On keyed instruments, means similar in pitch although differing in name. G♯ enharmonic equivalent to A♭.

Ensemble (*Fr.*). Together. *Ensemble playing*, concerted playing.

Episode. Part of a movement, partaking of the character of a digression.

Etude (*Fr.*). Study, exercise, lesson.

Etwas (*Ger.*), (*et-vas*). Somewhat.—*Etwas langsam*, rather slow.

Expression. The art of bringing out the full significance of a composition.

Extemporise. To create melody and harmony on the inspiration of the moment.

F clef. The bass clef 

Facile (*Fr.*), (*fas-eel*). Easy.

Fagotto (*It.*), (*fagot-to*). Bassoon.

Falsetto (*It.*), (*falset-to*). The artificial, or *false* tones of the voice as opposed to the natural, or chest tones.

Fandango. A Spanish dance in $\frac{3}{4}$ or $\frac{6}{8}$ time.

Fanfare (*Fr.*), (*fan-far*). A flourish of trumpets.

Fantasia (*It.*), (*fantazee-a*). A composition in a free, fanciful style.

Fermata / **Fermato** (*It.*), (*ferma-ta*) / (*ferma-to*). A pause, 𝄐

Figured bass. A bass of single notes with the accompanying chords indicated by means of *figures*.

Fine (*It.*), (*feen-ay*). The end.

Fingering. The art of using the fingers properly in playing a musical instrument.

Fiorituri (*It.*), (*feeori-toori*). Ornaments in melody or accompaniment.

Flageolet. A small pipe, somewhat akin to the oboe.

Flauto (*It.*), (*flow-to*). Flute.

Flourish. The English equivalent for Fanfare.

Fly. The hinged cover of a pianoforte or organ key-board.

Fois (*Fr.*), (*fu-a*). Time.—*Primiere fois*, first time.

Form. The manner in which musical ideas are set forth.

Fort (*Fr.*) (*for*) / **Forte** (*It.*) (*for-te*). Loud, *f*.

Fortissimo (*It.*), (*fortis-simo*). Very loud, *f f*

Fortississimo (*It.*), (*fortis-is-simo*). As loud as possible, *f f f*

Forza, con (*It.*), (*fort-tsa*). With force.

Forzando (*It.*), (*fort-tsando*). Emphatic.

Fuga (*Lat.*). A fugue. (*See* article, **Fugue**).

Fugato (*It.*), (*fug-ato*). In the style of a fugue.

Funèbre (*Fr.*), (*foon-aib*). Funereal; *Marche funèbre*, a funeral march.

G clef. The treble clef, 

Galliard. An old-fashioned dance.

Galop. A lively dance in $\frac{2}{4}$ time.

Gamut. The scale.

Gauche (*Fr.*), (*gaush*). Left. Left hand.

Gavot / **Gavote** / **Gavotta** / **Gavotte**. A dance-tune of French origin. Said to have been originally peculiar to the Gavots, or inhabitants of Gap, in France.

Genus (*Lat.*). Sort or class. Used with reference to scales; *diatonic genus*, *chromatic genus*.

Gigue (*Fr.*), (*jeeg*). Jig.

Giocoso (*It.*), (*jeo-co-so*). Humorous.

Giojoso, (*It.*), (*jeo-jo-so*). Joyously.

Giusto (*It.*), (*jeoo-sto*). In equal, steady time.

Glee. A composition for voices.

Glissade (*Fr.*), (*glees-sahd*). Gliding.

Gondelied (*Ger.*), (*gon-del-leed*). A gondolier song.

Gracieux (*Fr.*), (*grah-se-u*). Graceful.

Grandioso (*It.*), (*grahn-de-o-so*). Grand, magnificent.

Grave (*It.*), (*grah-vay*). Slow, solemn, and dignified.

Gravemente (*It.*), (*grah-vay-men-tay*). With gravity.

Grazioso (*It.*), (*grah-tche-oh-so*). In a graceful style.

Ground-bass. A bass passage, four or eight bars long, constantly repeated as the foundation for new melodies and harmonies.

Hand-horn. The French horn, without valves or pistons.

Harpsichord. A stringed instrument with a key-board, similar in appearance to a modern grand pianoforte.

Hautboy. Another form of the word "Oboe."

Head-voice. Falsetto.

Hell (*Ger.*). Clear, bright.

Hochzeitsmarsch (*Ger.*). A wedding-march.

Hornpipe. A dance of English origin. So called from the instrument at one time used to furnish the music.

Hurry. A piece of music used in a theatre for accompanying or leading up to a "Tableau."

Il (*It.*), (*eel*). The.

Il doppio movimento (*It.*). Double time.

Imitation. The repetition of a given subject, on a different degree of the scale, or in a different part from that in which it first appears.

Impressario (*It.*), (*impre-sahr-io*). A conductor or manager of an opera or concert party.

Impromptu. A piece of music in the style of an improvisation.

Improvisatore (*It.*), (*improv-vees-sa-toray*). One who has the gift of improvising.

In partito (*It.*), (*in-part-teeto*). In score.

Instrumentation. The art of writing for the orchestra.

Intermezzo (*It.*), (*intermet-so*). A short movement coming between two of a more important character. A short piece played between the acts of a drama or opera.

Interval. The difference of pitch between one note and another—literally the space between them.

Intoning. Reciting words to musical notes in the Church Service.

Intrada (*It.*), (*intrâh-da*). Prelude.

Introit. An anthem preceding the service of the Roman Church.

Istesso tempo, l' (*It.*), (*listes-so-tem-po*). The same time, or rate. Used for indicating that the *beat* is to have the same duration although the time signature has been changed.

Jägerchor (*Ger.*), (*Yaeger-kor*). Hunting-chorus.

Jodl (*Ger.*), (*Yod-el*). A manner of singing peculiar to the Swiss and Tyrolese, in which curious effects are produced by the rapid alternation of the natural and falsetto tones of the voice.

Jota. A Spanish dance.

Kapellmeister. See Capellmeister.

Keeners. Singers hired to lament at Irish funerals.

Kettle-drums. Drums of a caldron or *kettle* shape. The ordinary orchestral drums: used also in cavalry bands.

Key. A term somewhat loosely applied to scales and signatures. A piece having the signature of the scale of A major is said to be in the *key* of A major, and A is the *key-note* of the scale of A major.

Khalil. Hebrew flute or oboe.

Kinnor. One of the most ancient string instruments of the Hebrews.

Kit. A small violin used by dancing-masters.

Klavierauszug (*Ger.*), (*kla-veer-ows-tsoog*). A pianoforte score.

Kraft (*Ger.*). Vigour. *Mit kraft*, with vigour.

Lacrimoso (*It.*), (*lakri-moz-o*). Tearful.

Lancers. A form of square dance.

Ländler (*Ger.*), (*layndler*). A simple waltz-tune in moderate time: originally peculiar to South Germany and Austria.

Langsam (*Ger*). Slow.

Largamente (*It.*), (*larg-a-men-tay*). Broadly.

Larghetto (*It.*), (*lar-get-to*). Rather broadly—rather slowly, but not quite so slow as Largo.

Largo (*It.*). Slow.

Lead. An entry or passage to be given out by one particular voice or instrument.

Leading-note. The seventh degree of the scale. So called because of its tendency to induce the ear to expect the tonic or key-note immediately afterwards.

Lebhaft (*Ger.*), (*layb-haft*). Lively.

Legato (*It.*), (*legaht-o*). Smooth.

Leger lines. Short lines drawn above or below the stave.

Leggiere (*It.*), (*ledjayr-ay*). Very lightly.

Leggiero (*It.*), (*ledjayr-o*). Light.

Legno (*It.*), (*layn-yo*). Wood.

Leitmotiv (*Ger.*), (*lite-motiv*). A theme typifying some person or sentiment in an opera.

Lento (*It.*). Slow.

Libretto. The book or text upon which an opera, oratorio, &c., is based.

Lied (*Ger.*), (*leed*). A simple song.

Liedertafel (*Ger.*). (*leeder-tafel*). A male choir.

L'istesso (*It.*), (*listes-so*). The same.

Madrigal. An unaccompanied part-song.

Maestoso (*It.*), (*may-es-tos-o*). With dignity, grandly.

Ma non troppo (*It.*). "But not too much so."

Marcato (*It.*), (*mark-ah-to*). Marked—Accented.

Meno (*It.*), (*mayn-o*). Less.

Menuet. Minuet.

Mesto (*It.*). Sad, pensive.

Metronome. An instrument for measuring the relative length or duration of notes in music.

Mezzo (*It.*), (*met-tso*). Half or medium. *Mezzo forte*, moderately loud. *Mezzo soprano*, a soprano voice of medium register; coming midway between pure soprano and alto.

Minor. Less, smaller. Intervals containing a semitone less than major intervals are called minor. A scale with a minor third and sixth is a minor scale.

Minuet. A dance in triple time, supposed to have originated in Poitou in the seventeenth century.

Miserere. The 51st Psalm as sung in the Roman Church.

Misterioso (*It.*), (*mis-ter-i-os-o*). Mysterious.

Mit (*Ger.*). With. *Mit Begleitung*—with accompaniment.

Mode. A scale, a species of scale, as *major mode*, *minor mode*.

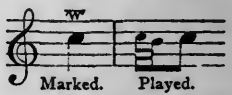
Moderato (*It.*), (*moderah-to*). Moderate.

Modulation. Change of key.

Molto (*It.*). Much, very, *Molto allegro*, very quick.

Morceau (*Fr.*), (*morè-so*). A small composition.

Mordent. A grace note



Morendo (*It.*), (*moren-do*). "Dying away."

Mosso (*It.*), (*mos-so*). Quick. *Più mosso*—quicker.

Motet. A composition for voices, generally on a sacred subject.

Moto (*It.*), (*mo-to*). Motion, movement.

Movement. A division of an extended composition, as *first movement, slow movement, &c.*

Musette (*Fr.*). A melody written in imitation of a bagpipe tune.

Nachtstücke (*Ger.*). Night-pieces. Four pianoforte compositions by Schumann.

Nobile (*It.*), (*nob-il-ay*). Noble.

Nocturne. A composition of a quiet, gentle character.

Non (*It.*). Not.

O (*It.*). Or.

Obbligato. An instrumental part or accompaniment of special importance.

Oboe. A wood wind instrument with a double reed.

Oboe d'amore. A small oboe.

Octet. A composition in eight parts.

Octave. The interval of an eighth.

Opera. A dramatic entertainment in which the dialogue and words generally are set to music, and the action of the piece is also accompanied and illustrated by music.

Oratorio. A composition for voices and instruments based upon some sacred subject.

Orchestra. The place where the band, or band and chorus, are placed in a theatre or concert-room. The band itself.

Overture. The instrumental prelude to an opera, oratorio, &c. A "Concert Overture" is an independent composition constructed in the form of an overture.

Parlando (*It.*), (*parlan-do*). Declamatory.

Partition (*Fr.*) / **Partitur** (*Ger.*) } A full score.

Part-song. A choral composition for two or more "parts" or voices.

Passacaglia / **Passacaglio** } (*It.*), { (*passakal-ya*) / (*passakal-yo*) } Originally a dance in ¾ time. Frequently introduced into organ, harpsichord, or violin sonatas in the 18th century.

Passecaille (*Fr.*), (*pa-sa-kahee*) } Originally a dance in ¾ time. Frequently introduced into organ, harpsichord, or violin sonatas in the 18th century.

Passing notes. Notes which do not belong to the harmony accompanying them.

Passionato (*It.*). In an impassioned manner.

Pastoral. A simple melody in $\frac{6}{8}$ time in a rustic style. A cantata founded on incidents of country life.

Ped. Abbreviation of pedal. In pianoforte music an indication for the performer to press down the pedal which raises the dampers: commonly called the "loud" pedal.

Pedal-point. A long sustained note.

Perdendosi (*It.*), (*per-den-do-si*). Diminution both of volume of tone and speed.

Pezzi (*It.*), (*ped-tsi*). Pieces.

Phrase. An appreciable part of a musical sentence.

Phrasing. The intelligent rendering of music, due emphasis being given, not only to the actual notes, but to every indication accompanying them.

Piacere, a (*It.*), (*pee-ah-tchay-ray*).

Piacevole (*It.*), (*pee-ah-tchay-vol-ay*). Lightly, pleasantly.

Pianissimo (*It.*). Very soft, *pp*

Pianississimo (*It.*). As softly as possible, *ppp*

Piano (*It.*). Softly, *p*

Pibroch (*Gael.*). Literally pipe music. The martial music of the Scottish Highlands.

Pitch. The position of a sound according to the number of vibrations which produces it.

Pitch-pipe. A pipe for determining the pitch.

Più (*It.*). More. *Più allegro*—faster.

Plain-song. The most ancient species of Church music.

Poco (*It.*). A little. *Poco a poco*—little by little.

Polacca (*It.*), (*polak-ka*). Polish. A melody written in imitation of Polish dance-tunes.

Polyphony. Music in many parts.

Pomposo (*It.*), (*pom-po-zo*). Pompously.

Postlude / **Postludium** } (*Lat.*). A concluding voluntary.

Prelude / **Preludio** (*It.*), / **Preludium** (*Lat.*), } An introduction to a musical work or performance.

Prestissimo (*It.*). Very fast.

Presto (*It.*). Fast.

Quartet / **Quartett** (*Ger.*), / **Quartetto** (*It.*), } A composition, vocal or instrumental, in four parts.

Quick-step. A quick march.

Quintet. A composition in five parts.

Quodlibet. A fantasia.

Rallentando (*It.*). Becoming gradually slower.

Ranz des vaches (*Fr.*), (*rants da vash*). A tune played by Swiss herdsmen.

Rebec. A three-stringed instrument played with a bow. Of Arabian origin.

Recitative. Musical declamation.

Reel. A lively rustic dance.

Refrain. Chorus.

Rests. Signs indicating durations of silence as notes indicate durations of sound.

Rhapsody. A composition in a free style; somewhat akin to the Fantasia.

Rigadocn. An old-fashioned dance.

Ritardo } (*It.*). Holding back the pace.
Ritenuto }

Ritornello (*It.*). An interlude.

Robusto (*It.*). Strong, powerful.

Rondo. A composition with, as a rule, two subjects, in which the principal subject is repeated again and again.

Root. The ground-note of a chord.

Roulade (*Fr.*), (*rool-ad*). A flourish.

Round. A vocal composition in canon-form.

Roundelay } A poem, or song, in which certain
Roundel } lines are repeated at intervals.

Rubato (*It.*). Literally, "stolen." *Tempo rubato* is a breaking up of the regular time, so that one note receives more than its strict proportion of time, and another less.

Run. A rapid succession of notes. Generally applied to scale passages sung to one syllable.

Sackbut. A kind of harp, mentioned in the Bible. Old English sackbut, a kind of bass trumpet, with a slide like the trombone.

Saltarello (*It.*), (*salta-rel-lo*). A dance in triple time.

Sans (*Fr.*). Without.

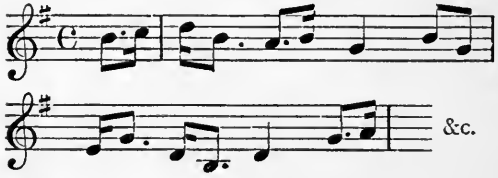
Sax-horns. Cylinder horns invented by Antoine Sax.

Scenario (*It.*). The plot of an opera or drama.

Scherzo (*It.*), (*skert-so*). An instrumental movement of a lively, playful character.

Score. A copy of a musical work in which all the component parts are displayed.

"Scotch snap." A long unaccented note preceded by a short accented one, common in *Scotch* music, whence the name.



Segno (*It.*), (*sayn-yo*). The sign 𝄋 [*Al segno*].

Segue (*It.*), (*say-gue*). "Follows."

Sehr (*Ger.*). Very. *Sehr lebhaft*, very quick.

Sempre (*It.*), (*sem-pre*). Always.

Senza (*It.*), (*sent-sa*). Without.

Septet. A composition for seven voices or instruments.

Serenade. Originally something to be sung or played out of doors, and at night.

Sforzando } (*It.*), { (*sfort-san-do* } Forcing.
Sforzato } { (*sfort-sa-to* }

Shake. Quick alternations of a principal note with that a tone or semitone higher.

Slur. The curved line ⌒ over notes, to indicate that they are to be played smoothly.

Sonata. An instrumental composition in several distinct "movements."

Sonatina. A little sonata.

Sordino (*It.*). A mute.

Sostenuto (*It.*), (*sos-ten-oot-o*). Sustained.

Ständchen (*Ger.*), (*stend-tchen*). A serenade.

Stave. The group of lines upon which music is written.

Stretto (*It.*). Compressed.

Suite. A succession of pieces or movements.

Suspension. The prolongation of a note belonging to one chord into another, and thus forming a discord.

Symphonic. After the manner of a symphony.

Symphony. A composition on a large scale for orchestra. Written more or less in the form of a Sonata.

Syncopation. A series of cross accents.

Tacet (*Lat.*). Literally, "It is silent."—A direction enjoining silence.

Tedesca, alla (*It.*), (*ted-eska*). In the German style.

Tema (*It.*), (*tay-ma*). Theme; subject.

Tempo (*It.*). Time or measure. *Tempo Primo* —First time.

Tenor. The highest male chest voice. The viola.

Tenuto (*It.*), (*ten-ooto*). Sustained.

Thorough-bass. Figured bass.

Tie. A curved line ⌒ placed over two or more notes to show that they are to be played as one.

Tranquillo (*It.*), (*tran-kuil-lo*). Tranquil.

Transcription. Rewriting a composition for instrument or voices other than the original ones.

Transposing Instruments. Instruments which produce other than the exact notes written for them. The B♭ clarinet, on which the *written* note C *sounds* B♭, is a transposing instrument.

Tremolo (*It.*). Trembling. A shake.

Triad. A chord of three notes.

Trichord. Having three, or triple, strings.

Trill. A shake.

Trio. A composition for *three* voices or instruments. The second part of a minuet, march, &c., said to have been originally written in three parts or for three instruments—hence the name.

Triplet. A group of three notes performed in the time of two.
Trombone. The largest instrument of the trumpet kind.

Una corda (*It.*). With the soft pedal.
Ungarisch (*Ger.*), (*un-garish*). Hungarian.
Up beat. The upward motion of the conductor's baton indicating the unaccented, or weak beat.

Valse (*Fr.*). Waltz.
Variationen (*Ger.*), **Variazioni** (*It.*), **Variations**. Modifications of time, tune, and harmony, of a theme originally set forth in a simple form.
Veloce (*It.*), (*ve-lo-che*). Swift.
Ventil (*Ger.*). A valve. *Ventil-horn*, valve-horn.
Vigore, con (*It.*), (*con-vig-or-e*). With vigour.
Vilanella (*It.*). A rustic dance of a lively character, accompanied with singing.
Viol. An old-time stringed instrument, a little larger than the violin. It had six strings.
Virtuoso (*It.*). An especially skilled performer on some instrument.
Vivace (*It.*), (*viva-che*). Lively, vivacious.
Vivo (*It.*), (*vee-vo*). Brisk.
Volkslied (*Ger.*) Folk-song.
Volta (*It.*). Turn, or time. *Una volta*—once. *Prima volta*—first time.
Volti (*It.*). Turn. *Volti subito*—turn quickly.
Vorspiel (*Ger.*). Prelude.

Waits. Bands of singers and players who perform carols at night in the streets of English towns about Christmas-time.
Waltz. A dance in triple time supposed to have originated in Bohemia.
Wehmuth (*Ger.*). Sadness.

Xylophone. A musical instrument composed of a graduated series of blocks of resonant wood. It is played with two small hammers.

Zart (*Ger.*). Soft, delicate.
Zingaresca. A gipsy song or dance.

TERMS USED IN CONNECTION WITH THE ORGAN.

Accessory-stops. Stops acting simply on the mechanism of the organ.
Acuta. A stop of shrill tone.
Anemometer. An instrument for indicating the pressure of wind in an organ.
Barem. A stop consisting of closed flue-pipes of 8 ft. or 16 ft. pitch.
Bell diapason. A stop consisting of open metal pipes with bell mouths.
Bell gamba. A stop having conical pipes surmounted by a bell.
Bifara. A stop with two pipes to each note, producing a tremulant effect. (Vox Angelica).
Bourdon. A stop, consisting of stopped wooden pipes, generally of 16 ft. tone.

Clarabella. A stop of open wood pipes. Has a soft, sweet quality of tone.
Combination pedals. A modern invention for controlling the wind-supply apart from the stops.
Composition pedal. A pedal which pulls in or out certain groups of registers.
Contraposaune. "Double trombone." A 16 ft. or 32 ft. stop.
Coupler. A stop which brings one "organ" into connection with another.
Cremona. As used in connection with the organ, is a corruption of Cromonne or Krummhorn, an old-fashioned kind of reed wind-instrument.

Diapason. The principal foundation stops of the organ.
Doppio pedale (*It.*), (*dop-pi-o pedal-e*). Pedal part in octaves.
Dulciana. A stop consisting of very small flue-pipes.

Fach (*Ger.*). A rank of pipes.

Great organ. The organ within the organ having the most stops and the greatest fulness of tone.

Hydraulic organ. An organ in which the bellows are moved by hydraulic power.

Labial. Organ pipes with lips. Flue pipes.

Mixture. A stop consisting of several ranks of pipes.
Mutation stops. Stops by which a note is produced of different pitch from that nominally belonging to the key pressed down.

Nasard. A stop sounding a twelfth above the foundation-stops.

Open diapason. The chief open foundation-stop.

Open pipe. An organ pipe open at the top.

Pair of organs. An organ with a complete set of pipes.

Pedal } The key-board played on by the feet. The
Pedals } contrivance by which stops are moved in and out by the feet.

Pedal-coupler. An accessory stop, by means of which the pedal keys draw down the manual keys.

Pieno (*It.*), (*piay-no*). Full.

Portunal-flute. A stop with wooden pipes, open and larger at the top than at the mouth.

Principal (*Ger.*), (*print-si-pal*). Diapason.

Pyramidon. A stop of 16 or 32 ft. tone. The pipes are closed at the top, and pyramid-shaped, the top being more than four times the width of the mouth.

Quint. A stop giving the fifth above the foundation stops.

Rank of pipes. Set of pipes belonging to one stop.

Registers. Stops.

Sound-board. The place where the lower ends of the pipes are inserted.

Stop. A rank of pipes brought into play by one draw-stop. Common abbreviation of *draw-stop*.

Stopped pipes. Pipes closed at the top.

Swell, Swell-organ. A contrivance for producing *crescendo* and *diminuendo* effects. The set of pipes which can be acted upon by this contrivance.

Tell-tale. A movable piece of metal or bone attached to the bellows of an organ. Indicates the quantity of wind which they contain.

Voluntary. A piece of organ-music introduced into the Church Service.

Vox angelica. A stop of two ranks of pipes, one being tuned a little sharper than the other to produce a tremulous effect.

Vox humana. A reed stop somewhat resembling the human voice.

ABBREVIATIONS.

A. Alto.
Accel. Accelerando.
Ad lib. Ad libitum.
B. Bass.
Brill. Brillante.
Cad. Cadenza.
Cal. Calando.
Con esp. Con espressione.
Cres. cresc. Crescendo.
D. C. Da Capo.
Decres. Decrescendo.
Dim. Diminuendo.
D. S. Dal Segno.
Espres. Espressivo.
f. Forte.
ff. Fortissimo.
F. O. Full organ.
G. O. Great organ.
fz. Forzato.
Intro. Introduction.
Leg. Legato.
M. Manual.
Mag. Maggiore.
Marc. Marcato.
mf. Mezzo-forte.
M. M. Maelzel's Metronome.
Mor. Morendo.
p. Piano.
Ped. Pedal.
Perd. Perdendosi.
P.F. Pianoforte.
p. f. Più forte.
Pizz. Pizzicato.
p.p. Pianissimo.
Rall. Rallentando.
Recit. Recitative.
Rit. Ritenuto.
Ritard. Ritardando.
S. Senza.
Scherz. Scherzando.
Semp. Sempre.
Smorz. Smorzando.
Sost. Sostenuto.
Stacc. Staccato.
Temp. Tempo.
Ten. Tenuto.
tr. Trill.
Trem. Tremolando.
Unis. Unison.
Var. Variation.
Viv. Vivace.
V. S. Volti subito.

Ima. Prima.
8va. Octave.

THE ENGLISH NAMES FOR NOTES,

With their French, German, and Italian Equivalents:—

English.	Italian.	French.	German.
C.	Do.	Ut.	C.
C flat.	Do bemolle.	Ut bémol	Ces.
C sharp.	Do diesis.	Ut dièse.	Cis.
D.	Re.	Re.	D.
D flat.	Re bemolle.	Re bémol.	Des.
D sharp.	Re diesis.	Re dièse.	Dis.
E.	Mi.	Mi.	E.
E flat.	Mi bemolle.	Mi bémol.	Es.
E sharp.	Mi diesis.	Mi dièse.	Eis.
F.	Fa.	Fa.	F.
F flat.	Fa bemolle.	Fa bémol.	Fes.
F sharp.	Fa diesis.	Fa dièse.	Fis.
G.	Sol.	Sol.	G.
G flat.	Sol bemolle.	Sol bèmol.	Ges.
G sharp.	Sol diesis.	Sol dièse.	Gis.
A.	La.	La.	A.
A flat.	La bemolle.	La bèmol.	As.
A sharp.	La diesis.	La dièse.	Ais.
B.	Si.	Si.	H.
B flat.	Si bemolle.	Si bèmol.	B.
B sharp.	Si diesis.	Si dièse.	His.

CHOIR TRAINING AND CONDUCTING.

By HENRY HARTLEY and JOHN HARTLEY.

Before entering on the subject proper, let it be understood that the following article applies more particularly to a choir composed of men and boys. By this it is not intended to be inferred that there is nothing in the matter useful to a mixed choir, *i.e.*, a choir composed of male and female voices—on the contrary, most of the matter will be found to be as useful to the one body as to the other; but for the sake of space, it is left to individuals to select those parts which relate most nearly to their own particular circumstances.

Not being a Manual, the following remarks will consist of general information and advice as to the best method of procedure in forming a choir out of raw material.

This entails a start from the very beginning, and in order to treat the subject clearly and concisely, it has been divided into the following parts, viz., Formation, Proportions, Tuition of First Principles, Breathing, Pronunciation, &c., &c.

Formation.—Previous to forming the choir, great care should be exercised by the precentor, or conductor, in the selection of individual members, especially the boys. How often are heard complaints as to the behaviour of the choir during divine service—complaints, alas, which are too often well merited. The general character of each boy should be carefully ascertained before he is included in the choir, as also his habits, disposition, &c., &c. The inclusion of even one member inclined to levity or sulkiness, is a leaven more than sufficient to affect the personality of the whole mass. If by any chance such characteristics are observed in any member, the sooner such a one is dispensed with the better. These remarks apply just as strongly to behaviour at choir-practice as to that at divine service; the same discipline of behaviour should obtain at the one equally as much as at the other.

The conductor is warned against any laxity in the discipline of the choir, as the effect will certainly be to the detriment of his future command. He should aim at a course of conduct for himself, which, while possessing those attributes enjoining strictness, should at the same time secure for him the respect and confidence of the whole body of his singers. As the proper governing of the choir continually engages the attention of the conductor, it follows that a careful selection of his future members will amply repay him for any trouble the task may cost.

The selection of the voices is a matter of considerable difficulty, when the assumption is remembered that these voices have never been cultivated musically. In the case of boys this is generally so; but the fact is submitted that a boy of tender years will and does produce his voice with more ease, and more according to accepted laws, than an adult. Probably this is caused by the efforts of the adult to produce what in his own opinion is a good singing tone, while all the time he is spoiling the quality by the committal of faults of production, over which the youth, with his usual abandon, successfully triumphs. There is nothing to guide the conductor, then, in his selection except the quality; but this will prove an infallible guide, if trouble is taken to get at the natural voice of the subject; it may involve some time and patience, but

the result will always be definite. If the selection of the voices be judiciously made, the result of their combination, when trained, will be to form one harmonious whole. Necessarily all the voices will not be good, and cannot be expected to be so, as good voices are scarce; but they should all possess that particular kind of quality which will enable them to blend together satisfactorily. The inclusion of one thin, hard, or metallic voice is quite sufficient to mar the best efforts of a whole choir; the *timbre* or quality of its tone brings it out into sharp relief against the remaining volume of sound, thereby rendering all attempts at perfect choral singing impossible. This thin, wiry, hard, or metallic quality must consequently be carefully shunned. The quality which is most to be desired is that which possesses what is known popularly amongst musicians as a diapason tone; the possession of such a quality does not mean that the vocal organ will necessarily be a fine one, but it certainly does guarantee satisfaction when the organ possessing it is included in a choir. After sufficient material has been sought and found, it remains yet to be determined how many of each part should be included, that is to say, what proportions the choir should assume. This, again, will have to be left in a great measure to the good sense of the conductor, as it is absolutely impossible to settle the question by any arbitrary rule. If voices could be procured, all of which possessed a standard power, the matter would resolve itself into a rule of great simplicity; since this is not possible, we can have no arbitrary rule. The nature and power of the voices at the command of the conductor will have to decide this point.

A table of proportions is added merely as a guide to primary selection; but it is not for a moment contended that these proportions will always give satisfaction. If, certain proportions being selected, one part is considerably weaker in volume than the others, nothing remains but to add to the numbers in that part. If the choir is arranged for antiphonal singing, as is almost always the case, another difficulty creeps in—the balance of power must not only be correct as to the whole choir, but it must also be correct on each side of the choir, which in itself is a whole. There are then three choirs to balance—a task which may present no inconsiderable difficulties, but which will certainly be overcome by care and judgment.

The difficulties in balancing a mixed choir are not nearly so considerable. In the case of the male choir there are generally as many boys (trebles) as there are voices in all the rest of the parts added together; if the same proportions obtained in a mixed choir, the effect would be absurd, as the trebles would overweigh the other parts. It is possible to form a mixed choir of which each part shall have equal numbers, possessing at the same time a capital balance of tone. This possibility arises from the difference in the power of boys' voices and ladies' voices when taken individually: the former possess a certain amount of penetration, and always freshness, but they lack a vast amount of the body of sound contained by the latter.

The same judgment in balancing a mixed choir must, however, be necessarily exhibited, as was advised in the case of the male choir: wherever there is weakness, voices must be added until the desired end is attained.

Table of Male Choir.

Trebles.	Altos.	Tenors.	Basses
6 or 8	2	2	2
14 to 18	4	4	6
20 to 24	6	6	8

Table of Mixed Choir.

Trebles.	Altos.	Tenors.	Basses.
4 or 5	4	4	4 or 5

This one table will serve as a sufficient guide when the numbers are increased.

Tuition of First Principles.

The body of singers selected being satisfactorily balanced, the next step will be the imparting of the rudimentary elements of the art. This may be done by the staff system or by the sol-fa system. While not coming within the province of this article to determine which is the superior system of the two, the conductor is advised to consider seriously which system will be the better for his choir, in his and its special circumstances. Space unfortunately does not permit the enumeration of the advantages possessed by either the one or the other system, nor indeed is such a proceeding necessary, as even an ordinary musician of the present day is generally well informed in both systems. If the conductor should possess a knowledge of only one system, there can be no choice; but where the contrary is the case, a serious consideration of his material and circumstances will result in the choice of that system which will prove more useful to himself, and will be more likely to prove of greater benefit to the members of his choir in the future.

For the actual rudiments of either system, the reader is advised to consult other portions of this work, or any standard manual.

To procure satisfactory results, the necessity that every member of the choir has the rudiments at his finger-ends is absolutely essential; this fact cannot be pressed too strongly: until the conductor is convinced that every member of his choir has the rudiments at absolute command, further progress, while not impossible, would be dangerous; every symbol must be explained again and again until all are thoroughly assimilated; every individual member should be plied with questions until no trace of doubt exists that each one is competent so far; one might as well be expected to be able to read without a knowledge of the alphabet, as to perform music without a thorough knowledge of the symbols. If great stress has been laid on the thorough acquirement of the symbols, still greater stress must be laid on the injunction that the knowledge when acquired is to be applied. It is by no means an uncommon thing to meet young students, and others who consider themselves much more proficient than students, who, while able to explain the meaning and function of any symbol, in performance ignore everything but the actual pitch of the sounds; for instance, semibreves are treated as crotchets, quavers as minims, and rests are utterly ignored, except in so far as they coincide with the comfort of the performer. Again, for example, one may hear only too often a minim sung as a crotchet; the mistake is made in this manner, if the minim comes on the first beat of a bar, it is certainly kept on until the second beat is counted, but then it is immediately discontinued, the fact being overlooked that one beat cannot conclude until the next one commences—in other words, that the minim should exist until the third beat is actually about to commence. These are all faults of a little nature and easily made, yet there can be no doubt but that much of the ragged choir-singing which one hears so often, can be traced to the neglect of those rudimentary rules; whereas if the knowledge possessed *had been applied*, the performance in most cases would at least have been note perfect.

The conductor when teaching the rudiments will find it necessary in most cases to meet his boys twice as often as the men. The fact is not denied that the boys learn more quickly, yet experience teaches that they also forget more quickly: they often commit facts to memory without having any comprehension as to their use, which is tantamount to absolute ignorance; whereas in regard to the men, the comprehension is the only safeguard to the memory.

Little tact is necessary to find out how the individual members are progressing during the course of this instruction; and if any backward ones are found, the only course is to go over the same ground again and again, until all are equally well informed. Accuracy in details is a

sine quâ non in part-singing; and this can only be gained by the careful and patient attention given by the conductor to the acquiring, and most of all to the application of, the rudiments.

Early Vocal Training.

Simultaneously with the instruction in the rudiments should also commence the vocal training: naturally at first, nothing can be done further than the mere production of a few simple sounds, calculated to produce a good method of voice-production. The conductor will find it necessary at first to take each part by itself, as each possesses its own peculiarities, the proper consideration of which would be almost impossible were all the parts singing together. The exercises should be sung to all the vowels and the more open diphthong sounds; preference should naturally be given to the broadest of these, as in their production the voice comes more truly from the chest, thus exercising that particular quality most useful in choir-singing. Let it be remembered that in singing, the broader the vowels are, the rounder and more open will the tone be. There is certainly a limit beyond which the pronunciation of the vowels might become too exuberant; but musical experience invariably finds that young vocal students err far too much in the other direction, the tendency being to keep all the sounds too close. Perhaps the best exercise to begin with is to take the first tetrachord of a scale in the middle of the compass of the voice which is to be practised, beat four or six slow beats to each note, the members being instructed to take a breath to each note, beginning *pianissimo*, and increasing to a robust tone, until half the beats are past, then decreasing again to a *pianissimo*. This seems simplicity itself, but it is astonishing how many mistakes can be committed in the execution of it; one increases so violently that long before the note is half done the inevitable *diminuendo* has set in; another only takes breath sufficient for a third of the note and then becomes exhausted; another takes so much breath that the voice sounds as if it were fitted with a tremulant, so great is the effort to restrain the tone at the beginning of the note; another increases his tone gradually, but fails when the *diminuendo* comes to diminish gradually, &c., &c. All such faults must be carefully eradicated until perfection is attained.

Breathing.—In the course of this practice, the tutor will necessarily touch on the important subject of breathing. It will not be necessary to impart extreme particulars on the anatomical construction of the chest and throat, yet a short graphic lecture will not only interest the members, but may tend to cause research in a subject concerning which the generality of the choristers of the last generation possessed either no information, or only a very little of the haziest nature. The cultivation of these two subjects—voice-production and breathing—is the most difficult and at the same time the most important part of the work necessary to be undertaken by the student.

If a student is ordinarily careful and attentive, the acquisition of the knowledge of the rudiments and rules of music is a certainty; the fixity of these very laws is a guarantee of this; but the acquisition of a proper production and of a sound method of breathing is more difficult, if for no other reason than that there are many more chances of going wrong. The teaching of the rudiments, &c., is concrete; but of production, &c., the teaching is very abstruse: the student grasps the former without difficulty; but in many cases the apparent unreality of the laws of the latter, and the numberless modifications of these same laws, cause a great amount of bewilderment. There are cases of vocalists who have needed little or no teaching in production and breathing, that is to say, that some have fortunately adopted the correct method naturally, both of production and breathing. Let it not be forgotten, however, by such a fortunate one, that his path is only smoothed a little; he will find it just as necessary to practice as a less fortunate one.

There is no finality in either the art of voice-production or in breathing; the more one learns, so much the more alive does one become as to the possibilities. A good manual, patient care, and steady practice will ultimately have their effect.

Pronunciation.—The next step in progress is the fitting of words to the sounds. Here, again, great care is needed; but for choir purposes it is not as necessary to *finesse* with the pronunciation of the words as is the case in solo-singing. Attention must be given so that clear enunciation may be the result. In choir-singing the consonants can be handled much less tenderly than would be advisable in solo-work. Again, the conductor must be strictly on his guard against provincialisms; nothing will more easily escape his notice, and nothing sounds more absurd to a stranger. If any doubt arises as to a word, he should settle the point temporarily, until the opportunity arises of satisfactorily deciding its pronunciation or signification. As has been remarked before, the breadth of the vowels has a great effect on the quality; constant consideration on the part of the conductor to this point will always tend to a healthier tone throughout the choir.

Having reached this stage, the efforts of the choir towards ultimate success will depend mainly on the individual excellence in music of its conductor.

The Conductor.—To conduct a body of musicians is generally one of the ambitions of every young musician; and without doubt it is a distinction worthy of the highest aspirations. In many cases the art of conducting seems to the young musician the easiest of all the practical forms of music; a little experience soon proves the contrary. In no other practical section of music is the efficiency or inefficiency of the musician discovered more quickly or more easily; this power of detecting the capability or the capacity of the conductor is possessed by even a tyro, inasmuch as any want of power in any branch whatever leaves behind an indefinable feeling which is not long in breeding distrust and suspicion. The capable conductor, on the other hand, commands a feeling of reliance on himself, which is only to be gained by a thorough understanding of all the ways and means known in the art.

These qualities are essentially necessary to form a really successful conductor, viz., character, practical and aesthetical musicianship, and the power to inculcate his own ideas and knowledge in a simple and concise manner.

The first of these qualities is the one which is most difficult to acquire. By the word "character," the social or moral side of the man is not referred to, though these have undoubtedly an incalculable effect on his relations with his subordinates; rather is it that quality possessed by the successful soldier, whose orders command obedience, not from the fact that they must be obeyed, but that his soldiers know from experience that it is expedient to trust in his wise and tried generalship. It is probably impossible to lay down rules, or to state a line of conduct, which would be entirely sufficient in themselves to gain this effect on the minds of his subordinates; rather should that be done by each individual, who can then frame his code according to his circumstances.

It is far from uncommon to meet a conductor whose musicianship may be above reproach, who may yet be a signal failure at the head of a choir. He may have the knowledge, and the power to impart it, but he lacks the knack (if it may be so called) of welding everything and everybody together. The procedure of a good conductor when at practice may have something to do towards gaining this ascendency; he can always be recognised by his punctuality, his determined energy in work, and his gentle firmness in the gaining of his ends. These points, together with an equable temper, if persisted in, will help considerably towards the attainment of that character especially necessary to those placed in command.

The practical attainments necessary to a conductor are manifold: he should be good at harmony, counterpoint, and fugue, as without these he cannot possibly understand the complications of composition, still less can he explain them; he must possess a knowledge of the vocal organs, also of the different voices; he must be practically a dictionary of musical terms; he must also be able to sing any part; the fact that his voice may be a bad one is of no

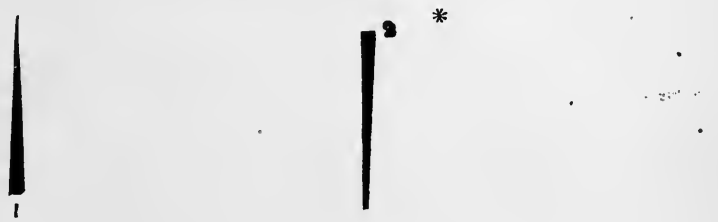
moment; he must be able to read and retain under command eight distinct parts; he should possess the faculty of picking out a false note from any part, although softly sung. From the æsthetical part of his culture he gains his decision as to what, in his opinion, was the wish of the composer as to the execution of his music. In this department he has ample opportunity of proving his judgment, for here he encounters one who is *his* master, viz., the composer, to whose will his own should be entirely subservient if he desires to give an honest rendering of the work. If a work is approached and handled in any other way, the effect produced will be mere jugglery and mock art.

The faculty of imparting one's knowledge, and of giving short yet clear explanations, is of inestimable value; it is perhaps not wrong to say that "one cannot use too few words in explaining any matter." It is not uncommon to hear a young conductor begin an explanation and flounder about among the side-issues, until he and everybody else has forgotten what the original subject of discussion was. A verbose style not only bewilders the choir, but it tends to foster inattention and carelessness.

The conductor will do well not only to be punctual at choir-practice, but to be there sufficiently early to have his programme of work for the evening mapped out. A business-like and punctual method on his part will beget the same on the part of the choir; his behaviour at practice should be as equable as possible, but at no time should he allow the reins to hang loosely, or, as was remarked previously, the effect will recoil on himself; his bearing should be such that while every member feels the presence of a superior, each one should at the same time recognise a friend. Familiarity of any kind tends to weaken discipline. Few men are able to keep the discipline of a choir at a normal standard when friends are among the members; it may seem hard, but the less the choir know of a conductor, except in so far that he is its musical mentor, the greater seems the power exercised by him. Let not the impression obtain that conductor and choir should be practically strangers to one another; nothing of the kind is intended or advised. What has been advised is to have caution with regard to too much freedom. If a man possesses command, he will know how to bend without doing any injury to his rule, and in such a one such a bending tends rather to strengthen than to weaken his rule; this is no doubt the perfection of command, but it is not unknown; the possession of this quality guarantees that his musical capabilities will receive every attention. The young conductor is advised then to strive for this quality, and to bear in mind that the best and easiest way is by moderation. Before going on to the treating of composition, as to the way it should be handled, it will be advisable to give a few simple diagrams showing how time is beat.

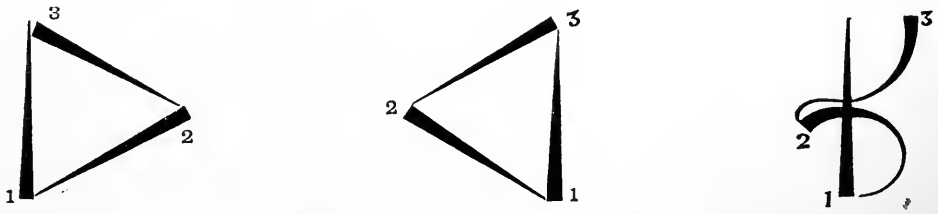
All the motions hereafter described, to be done neatly must be done easily: make every motion distinct, but avoid a too ornamental action. It is well to bear in mind that the less one sees of the conductor, the better it is for the composition; and in any case a quiet, firm action is far more effective than the windmill contortions one unfortunately sees occasionally.

A two-pulse bar has necessarily two beats—one down, the other up:—



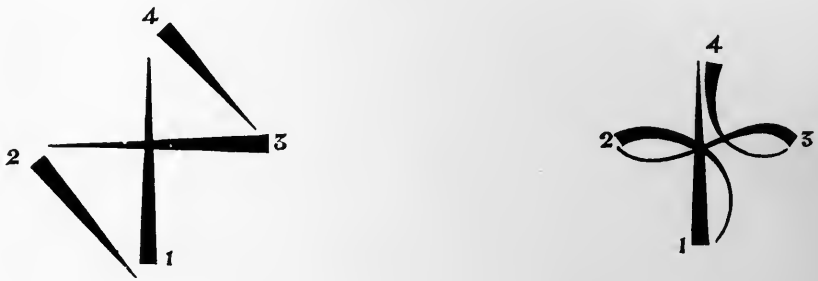
* The figure represents a beat; it expands in the direction towards which the beat should be made.

A three-pulse bar has three beats—the first one, which is the strong one, being down; the other two, which are weak, being directed obliquely upwards:—



The second and third figures are used by some conductors as an alternative style of beating.

A four-pulse bar has four beats—the principal one downwards, the second to the left, the third to the right, and the fourth upwards:—

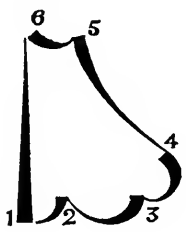


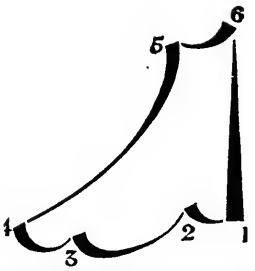
The second figure is sometimes used as an alternative.

In six-pulse bars, the motions are the same as in the four-pulse bars; the only difference is that beats two and five are duplications of one and four:

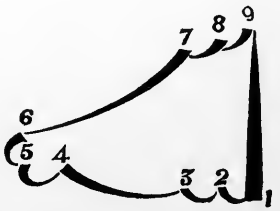
The second figure is used as an alternative.

The following figures represent a slow $\frac{3}{2}$ time :—

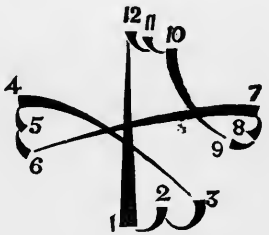




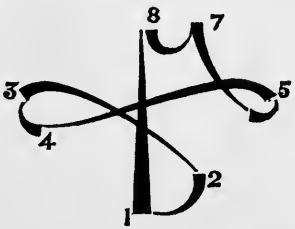
In a $\frac{9}{8}$ time, when all the quavers are beat, it will be noticed that there are really only three distinct beats, as in a three-pulse bar, each beat being subdivided into three :—



In a $\frac{12}{8}$ time, when all the quavers are beat, only four distinct motions are seen, these being each subdivided into three :—



In a bar with eight beats, four motions are used, each being subdivided into two :—



These figures embrace all the motions necessary to conduct music.

Once again it is impressed on the young conductor to be easy, free, and simple in his motions. The mere beating of time is undoubtedly very easy, and any one may learn to do it who is able to feel rhythm; but there are numberless styles of beating, from the graceful to the uncouth; and, for the sake of appearance, if for no other reason, it would repay one if a little care and attention were displayed in order to acquire a graceful and free style of using the *bâton*.

[*To be continued.*]

Printed by Hazell, Watson & Viney, Ld., London and Aylesbury,