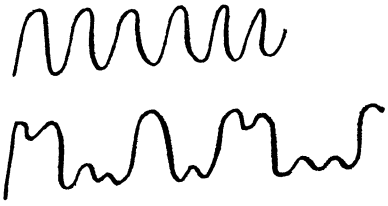
CHAPTER I

THE BEGINNINGS OF MUSIC

In ordinary speech we often use words to which everyone attaches a definite meaning; and yet if we are asked to state exactly what their meaning is, we find it difficult to frame a satisfactory answer. Such terms, for instance, as "beauty," "truth," "colour," "electricity," are hard to define, yet they have a real meaning for everybody who uses them. The use of the term "Music" is common enough, but nobody has yet found a satisfactory reply to the question "What *is* Music?" At any rate, such definitions as have been given are not very intelligible to ordinary folk. But it is quite possible to say a good deal about the material out of which Music—as the term is commonly used—is made.

Musical Material. This material is *Sound*, but out of the multitude of sounds which can be made, only a very few are used for musical purposes. Sound is the result of vibration: if one strikes a low note on the pianoforte, the string can be seen in a state of violent agitation. Also if a drum be struck, and the fingers placed lightly on the parchment, the vibrations can easily be felt. These vibrations give rise to corresponding vibrations in the surrounding air; thus air-waves are produced, just as water-waves are formed when a stone is thrown into a pond, and æther-waves are produced by an electric discharge, as in "wireless." These air-waves spread outwards in all directions, and when they reach the ear they give rise to a sensation known as *sound*. The human ear is not sensitive enough to appreciate all sounds. If the vibrations are fewer than about twenty per second, or more rapid than about thirty-eight thousand per second, the ear in most cases does not respond. It is interesting to note that some animals, especially dogs, can detect sounds which are too high in pitch for us to distinguish.

Scientific instruments have been invented which make it possible to *see* the vibrations of sounding bodies. In the case of a certain class of sounds it is seen that the vibrations are perfectly regular; whilst in other cases the vibrations are irregular. This difference may be shown thus:



The sounds produced by regular vibrations are called by the scientist "musical" sounds; the others he terms "noises." The ordinary person, however, has to rely on his ear, not on his eye, to decide whether a sound shall be called a "musical note" or a "noise"; he generally regards a musical note as a pleasant sound; a noise as an unpleasant sound. Even so, much difference of opinion manifests itself; what some people term beautiful music, others will decry as a disagreeable noise.

The most important fact to be remembered about a musical note is that however long it may be held on, it remains at the same *pitch*, i.e. "height" or "depth," all the time. Strike a note on the pianoforte; it begins to die away at once, but does not get higher or lower. Going from one note to another means ascending or descending by definite steps; we may compare it to going up and down stairs by using the steps, not by gliding, as when using a lift[1].

[1] Strictly speaking, it is hardly possible to produce a musical note without a noise as well, except perhaps in the case of some wind instruments. The thud of the hammer on the pianoforte string, the scrape of the violin-bow, the buzzing of the reed of a bassoon illustrate this fact.

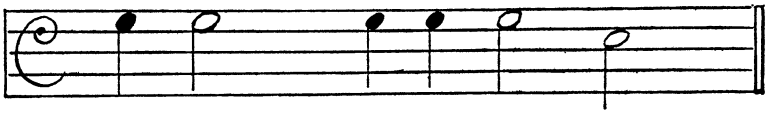
Musical sounds differ from one another in four ways:

(1) in pitch,
(2) in duration,
(3) in loudness, or intensity,
(4) in quality.

The pitch of any note is determined by the frequency of the vibrations; the more rapid the vibrations, the higher the note. Generally speaking, the longer the string or pipe, the lower the note, although other factors have to be taken into account. The loudness is determined by the "amplitude of vibration"; i.e. the amount of space passed over by the sounding body as it vibrates backwards and forwards or up and down; the greater the space, the louder the note. The word "quality" has a special meaning in music. If a note of definite pitch, say "middle C," be played successively on a flute, a violin, a cornet, and a clarinet, and held on for, say, five seconds—the intensity of the sound being the same in each case—a certain difference of effect will be noticed, although the pitch, duration and intensity are constant. This difference is called a difference of "quality." A great deal of the pleasure obtained from listening to an orchestra is due to the fact that every class of instruments has its own peculiar "quality" or "tone-colour." One of the commonest effects in orchestral music is obtained by making use of the variety of tone-colour produced when a little phrase is played first, say, by the flute, and then repeated by an instrument of different tone-colour, e.g. the oboe.

Melody. When did Music come into being? Probably before speech. If a human being produces a sound like "ah" or "oh" and holds it on *at the same pitch*, even if only for a fraction of a second, he really makes a musical note; the first sounds made by man were most likely musical interjections of this kind. Out of

only two such sounds tunes of a kind can be made. For instance, in the English Church Service we have:



Out of three sounds quite respectable tunes can be made especially if Rhythm be added. The word "Rhythm"[1] will have to be used so often that it must be explained now.

Rhythm and Metre. Read these two lines in a sing-song fashion:

> Mount on your pony this Midsummer Day,
> Gallop and gallop and gallop away!

One cannot help feeling that there is a certain "swing" about the lines, especially if one taps *regularly* on the table while they are recited. Moreover, the taps will have a tendency to become grouped into threes; thus:

> 1 2 3 1 2 3 1 2 3 1 2 3
> Mount on your pony this Midsummer Day—

What was tapped was the *Metre* of the lines. Tap the tune of "God save the King" (not regularly, but once for each note), emphasising the taps which correspond with the accented syllables. What was heard was the *Rhythm* of this tune. Note that Rhythm can be used as a language: in Africa the tribesmen transmit news by means of different groups of drum-taps on the principle of the Morse code as used in telegraphy.

It is a matter of common knowledge that savage tribes have always been fond of dancing. Now dancing is so dependent upon

[1] The term "Rhythm" is of wide significance—it is often used in connection not only with Music but with other arts, e.g. Painting and Sculpture. In order to avoid vagueness, the term is used in this book in a strictly limited sense.

music that it is difficult to imagine dancing apart from music of some sort. If a simple tune, comprising perhaps only two or three notes, be used to accompany a dance, then this tune will take to itself the rhythm of the dance. Thus, suppose the dance is something like a march, the rhythm will become "*one* two, *one* two," and so on. This applies not only to dancing, but to every form of movement, provided that the movements are sufficiently regular. Long ago it was found that it is much less tiring to do work which involves regular movements if music is going on at the same time. For example, in uncivilised countries, and not in these alone, men rowing a boat nearly always sing; just as sailors, when hauling up the anchor, used to sing their "Shanties." All soldiers know how much less exhausting it is to march when the regimental band is playing than when there is no music. Think, again, of the "Cradle Songs" which are found in the musical literature of almost every country. Thus melody, i.e. a series of musical notes rising and falling in pitch, has become allied with rhythm; and the alliance is so strong that melody apart from rhythm of some kind is hardly thinkable.

Nevertheless, it is of course possible to have music which is not necessarily accompanied by movements of the limbs. This is especially the case if the music is very slow. For instance, in singing a stately hymn-tune one does not feel impelled to move one's hand, feet or head. Thus, in course of time, mankind has developed a sense of "Rhythm by hearing," independent of "Rhythm by movement"; i.e. we can feel that certain music is really rhythmical, although we do not want to perform bodily movements when we listen to it.

Form. So far, we have spoken only of two ingredients of a tune[1], viz. Melody and Rhythm. There is another factor, and a very important one, called "Form." The meaning of the word "Form"

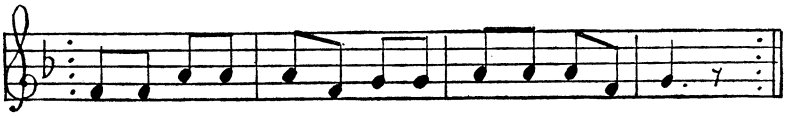
[1] Throughout this book, the term "tune" will be reserved for melody ***plus*** rhythm. The word "melody" is often used loosely in the same sense.

should be clearly grasped at the outset, as it will have to be used very frequently. Suppose that you were going to weave an ornamental carpet. First of all, you would probably draw a rough sketch, and into this sketch you would introduce some designs or patterns. But you would not use them in any haphazard fashion. Some of the designs would be used several times, and unless you were simply going to make a crazy quilt, these repetitions would be carried out according to some scheme which when completed would satisfy the eye. (The architect, of course, has a similar problem to solve when designing a building[1].) Now in carrying out such a process you would be attending to the "Form" of the carpet. In the same way, when one is speaking about the "Form" of a tune, one is referring to the arrangement of its separate sections—how they are related to one another and to the tune as a whole. In long pieces of instrumental music, especially, the composer has to give much consideration to Form; otherwise the listener finds it very difficult to keep his attention fixed. This matter of Form will be dealt with more fully later on.

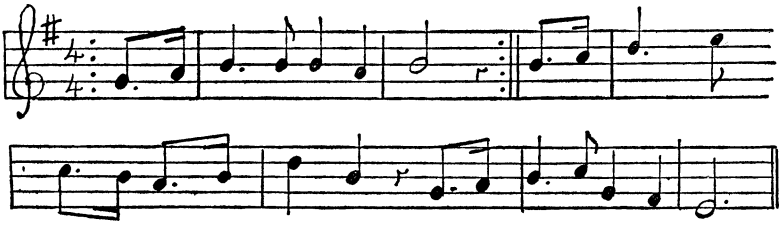
Primitive Tunes. The earliest tunes were undoubtedly very short, like those sung in uncivilised countries to-day. Here are three tunes, still used; how old they are, nobody knows. Notice that in Nos. 1 and 3 only three notes are employed. No. 2 seems almost modern in character, but as a matter of fact it is never sung in anything like strict time, nor are the notes sung absolutely "in tune" as we should say. To us such tunes sound very tame, but that is not the effect upon the natives who sing them. Even the educated Chinaman or Hindoo prefers his native music to ours. The complexities of our modern music leave him cold; whereas he may be deeply affected by a native tune which to us seems too crude to be called a tune at all.

[1] Cf. this statement by Goethe: "A distinguished philosopher spoke of Architecture as 'Frozen Music.'...We believe this really beautiful idea could not better be re-introduced than by calling Architecture 'Silent Music.'"

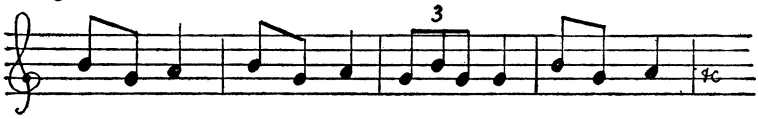
1. NIGERIAN LULLABY



2. DERVISH TUNE



3. WEST AFRICAN BATTLE SONG



CHAPTER II

EARLY STAGES OF MUSIC

WHEN any attempt is made to discover the type of music performed in the earliest ages of civilisation a difficulty is at once encountered; no written records of the actual music are available—at least none that we can decipher. Music seems to have been learnt entirely "by ear," not from books; just in the same way that most children of to-day learn their Nursery Rhymes. Musical notation of a kind was certainly used by the Greeks, but it was very incomplete, and the system adopted even so late as the eleventh century A.D. was of a rough and ready character, hardly at all intelligible to us. We shall be justified in assuming that the music of the earliest ages must have been something like that of those tribes of the present day who are just emerging from barbarism, when it is remembered that the human voice of to-day, regarded as an instrument of speech and song, is not really different from that of primitive man. Moreover, the number of ways in which musical instruments can be constructed is not great, and we do happen to have pictures and sculptured representations of primitive instruments; from these we can get a fair notion of the sounds which were produced.

Primitive Instruments. There are only four practicable methods of producing musical sounds:

(*a*) by striking certain elastic materials which are thereby set into regular vibration;

(*b*) by plucking a string stretched more or less tightly;

(*c*) by setting a column of air into vibration;

(*d*) by rubbing together two particular substances, the sound being produced by friction.

Instruments of the first class are called "instruments of percussion," and are the most primitive of all; e.g. drums, cymbals, gongs, bells, etc. The Chinese have an instrument called the "King," in which a number of slabs of metal or stone of different sizes are suspended in a frame and struck by a kind of hammer.

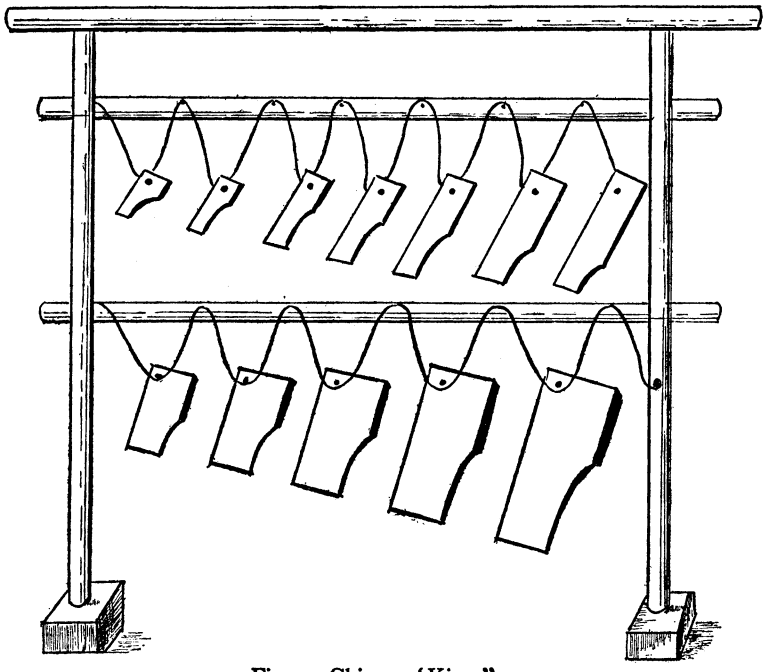


Fig. 1. Chinese 'King."

The larger the slab, the lower the note. The natives of South Africa use a similar instrument; in this case hard wood is used instead of metal or stone. The child of to-day has a kindred instrument—the "Harmonicon." Class (*b*) is represented by the harp, lute, lyre, guitar, banjo, etc. There are many varieties of

class (*c*), such as the flute, trumpet, horn, and all wind instruments. Class (*d*) comprises instruments of the violin type which are played by drawing a roughened bow across the strings. Such instruments are comparatively modern.

The earliest civilisation of which we possess an abundance of records is that of the Egyptians. Five thousand years ago the dwellers by the Nile made use of music; but, for the reason given above, we cannot reproduce this. We do know, however, something about the instruments which were used by the Egyptians in the time of the Pharaohs, because these frequently figure in the sculptures and drawings which have been preserved.

Stringed Instruments. The harp was in use in very early times. The hunter's bow is really a one-stringed harp, giving a distinct musical note when the string is twanged. It needed no genius to discover that notes of different pitch could be obtained by varying (*a*) the length of the string, (*b*) its tension, and (*c*) the thickness of the string employed. By attaching a set of strings to a triangular wooden framework a harp was at once obtained. The Egyptians had also instruments of the lute family; in shape these were much like the modern mandoline. Several notes in succession could be obtained from one string by "stopping" with the fingers of the left hand, just as the violinist or mandoline player does to-day.

Wind Instruments. It was discovered quite early that if one takes a hollow tube of any material, closes one end, and blows across the top, a musical note can be obtained; also that the pitch of the note depends upon the length of the tube. Hence it was easily possible to construct a wind-instrument on which several notes could be played in succession; all that had to be done was to take a number of such tubes and group them in some convenient way. Pan-pipes, an instrument which was in use until quite recently in Punch and Judy shows, is perhaps the most primitive of all wind instruments. The modern Organ is, of course, constructed on the same principle. Then it was found possible to get several