

THE MARIMBA BOOK

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How to Make Marimbas

and

How to Play Them

by

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Figure 1.—A Wooden Gong.

the middle of the board and hold it by a string tied through the hole. Figure 1 shows a strange wooden gong which is used in a monastery in Europe. The monk rings it every few hours during the night as a signal to all the other monks to rise and pray.

In order that wood may be made to give a “ringing” sound, it must be held or supported in a certain way. The reason for this may be clearly shown by an experiment with a bell, or other piece of metal.

EXPERIMENT 1.—Hold a bell by the handle, and strike it so that it gives a clear ring. Now set the bell on the table and strike it again. What is the difference in the two sounds?

All sounds are caused by something trembling, or vibrating. If you strike a handful of soft cotton with a stick, you hear no sound because the cotton is too loose to vibrate, and yields to the pressure of the stick. If you strike something that is very hard and unyielding, the stick does not sink into it, but starts up a trembling instead, and a sound is heard. Anything that interferes with this trembling, interferes with the sound. Here is another way to prove this fact:

EXPERIMENT 2.—Hold the bell by the handle and strike it, as in Experiment 1. While it is still ringing, take hold of the bell with the hand and stop its vibrations. What happens to the sound?

Strike it again and touch the ringing bell with a finger, in one place only. Does this stop the sound? Why?

This is a useful thing to know, for it shows that a bell or piece of metal may be held in one place and still be able to ring if the remainder of it is left free to vibrate. We will see if the same thing is true of wood.

EXPERIMENT 3.—Find a piece of flat wood, or a narrow board about two feet long, and try the sound of it by tapping it with a slender stick or a small wooden hammer. Tap it in several ways to find out how to get the best tone. Underline the one which you think is the best position for the board:

- (1) flat on the floor,
- (2) standing on end,
- (3) held in the hand,
- (4) hanging by a string tied near one end.

Which way seems to allow the board to vibrate the most freely?

EXPERIMENT 4.—Wooden gongs like this one are sometimes used to take the place of drums in marking the rhythms of music. Try it with singing or with piano music, and see if you like the effect.

EXPERIMENT 5—Saw the board in two pieces, making one piece about nine inches long, and the other about fifteen inches long. Saw little notches near the end of each piece so that it can be held up by a string without slipping off, as shown in Figure 2, and still be free to vibrate.

Hold both pieces by the strings and tap them with the wooden tapper. Are the sounds different from the sound before the board was cut? Are the sounds of the two pieces alike or different? Can you tell which makes the highest note?



Figure 2.

stick does not have to be thrown away. It may be used for a higher note, or, if it sounds only a little too high, its tone may be brought down again!

It is a marvelous thing about wood that its tone may be made higher by sawing it off (making it shorter) and the tone may be also lowered by *planing the broad side* (making it thinner).

EXPERIMENT 9.—(a) Test the tone of a piece of wood and write it down.

(b) Plane its broad side, taking off 8 full-sized shavings. Test the tone again, and see how much was changed by the planing.

(c) How much difference do four shavings make?

(d) Can you tell the difference when only one shaving is planed off?

A little practice in sawing and planing will be necessary for those who cannot plane evenly and saw quite straight. These are the two hand-skills most needed in marimba making.

EXPERIMENT 10.—Sometimes it is necessary to saw off so little that nothing but sawdust falls away. Can you saw well enough to do that? Try it and see.

Have you found out from your experiments how to raise or lower the tone of a piece of wood until its tone is the one you wish?

To make sure that you know the principles of wood-tuning, fill out the blank places in the sentences below.

If a stick sounds too low, I will.....
to make it sound higher.

If I should happen to get it too high, I will.....
.....a little to make the tone lower again.

If I should then get it a little too low, I will.....
.....a little to bring it up again.

If the stick is very much too high, I will either get another stick that is longer, or I will.....

In the first attempt to make a marimba, it would be wise to make a small one. After that experience, it will be easier to plan all the details of a larger one. A six-note or an eight-note marimba is very useful, especially if there are children or others just beginning to learn to play, who may use the instrument. After making a small marimba for a younger member of the family or school, the marimba-maker could then

CHAPTER IV.

PLAYING ON AN EIGHT-NOTE MARIMBA

It would be well to find out how to strike the wood in order to bring out its best tone. With the wooden hammer, try tapping in different ways: (1) strike the stick and let the hammer remain on the wood; (2) strike the stick again and make the hammer bounce up as soon as it has struck the wood. Which way makes the best tone?

Tap the stick (1) in the middle, (2) at the ends, and (3) near the nodal points. Which place is best?

By this time you have probably played tunes by ear on the new marimba. Since you may wish to play other pieces, a few new tunes are given in this chapter, written in "number notation." In case you may not understand the number writing of tunes, these explanations will make it clear:

A row of numbers show the scale notes in the tune. If two numbers have a circle around them, those two notes together are played as fast as one of the other

notes which has only a plain number (just as two eighth notes are equal to one quarter note).

A line after a note shows that the note is held twice as long as the others. The vertical lines are the bar-lines.

This is an easy way of writing music for simple instruments that are played in only one key. It is also a kind of “short-hand”—an easy and rapid way of writing down one’s original compositions before they are forgotten.

Several blank pages will be found in the book where original compositions may be preserved.

The following tunes will be easy to play, and it will be interesting to see how they sound when all the marimbas are playing at once.

— — — — —	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8	Middle Octave	Octave above
Octave below		

There are not many songs that go lower than 5 in the octave below, or higher than 3 in the octave above. A marimba of three full octaves would be rather cumbersome, but 12 or 13 notes makes a very convenient and useful size, beginning with number 5 in the octave below the main octave, and ending with two or three in the octave above. In that case, your range of notes would be this:

— — —	1 2 3 4 5 6 7 8	1 2 3
5 6 7		

and this would be enough for the tunes you would probably wish to play.

You will notice that the three notes of the low octave are written under the lines, and we call them “5 in the octave below” etc., or, for convenience “5 below,” “6 below,” and “7 below.” The high notes are written above the lines, and are called “2 above” and “3 above.” The eighth note of the middle octave may be called either “number 8” or “number 1 above.”

A large marimba is made in exactly the same way a small one is made, the only difference being in the number of sticks and the length of the board to hold them. If you wish to make a large marimba, follow the directions which begin on page 36, tuning the sticks to the scale you select. As in the case of the smaller marimba, the nodal points of the longest and the shortest sticks will be the guide-posts for the arrangement of all the other sticks on the frame.

The experience in making the small marimba will enable you to make an instrument that is more perfect in every way than was your first attempt.

The key of G is a very good key for a 13-note marimba, with D the lowest note, and B the highest note. F is also a good key with notes from C to high A. Figure 21 shows a boy playing on a 12-note marimba which he made in the key of G.

Some of the tunes in this book will be written in numbers, and others will be written on the staff in the key of G, in case you wish to play on your instrument from regular notes.

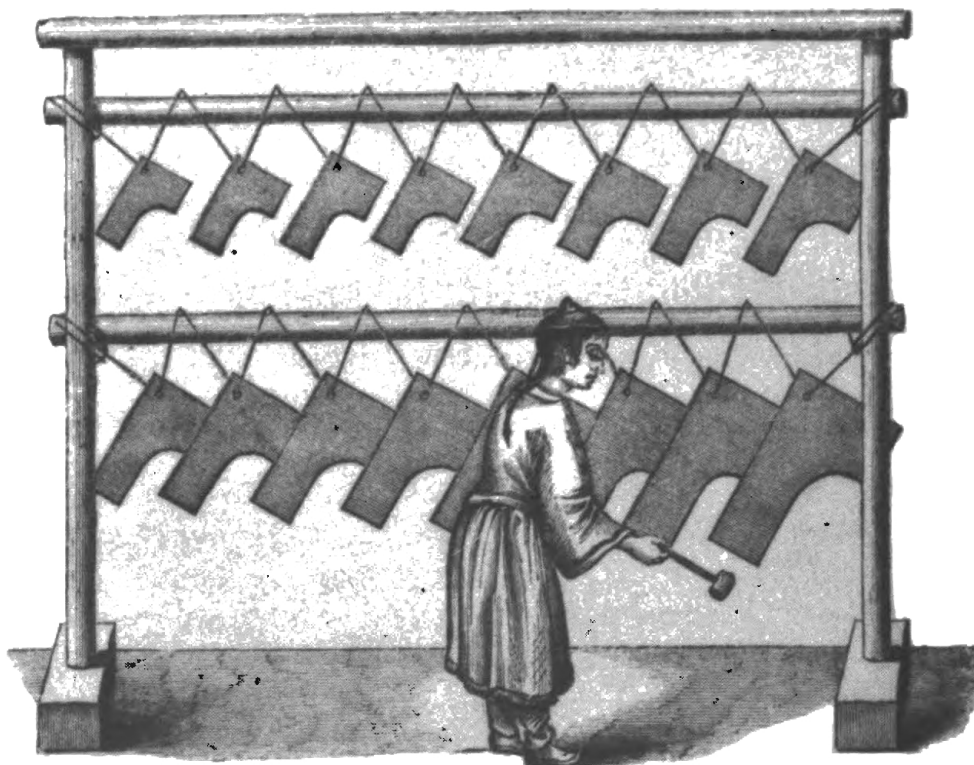


Figure 23.

According to their legends, the tones of the Chinese scale were given to them by the sacred phoenix bird which was born in the heart of the Sacred Fire. They tuned the *yu* stones to match these tones, in order to preserve them forever. But there came a time when they feared the stones were not in perfect tune, because little bits had been chipped off at various times. "So