chapter 1

The Piano

To activate sound on a piano, you press a key, which releases a small hammer that strikes a string. The string then vibrates with sound, which is called a *note.* To reduce this vibration and soften the sound, you press on a pedal.

COPYRIGHTED MATERIAL

The History of the Piano 4
The Sounding Board 5
Pedals 6
The Keyboard 8
Playing Position, Posture, and Hand Position 14

The History of the Piano

The piano was invented in the early eighteenth century by Bartolomeo Cristofori of Florence, Italy. Cristofori's job was to design and maintain the keyboard instruments used in the court of Prince Ferdinand de' Medici. John Brent of Philadelphia built the first piano in the United States in 1774.



Cristofori was a maker of harpsichords and clavichords (the two predecessors of the piano), so it is reasonable that his instrument would be similar to these instruments, but—instead—capable of softness and loudness. Harpsichords are neither soft nor loud; nor can they produce much of a sustained tone. This is because the strings of the harpsichord are plucked with quills or plectra. Clavichords are more like pianos, in that the strings are struck with metal tangents. The tone produced by a clavichord, however, is soft. Cristofori's invention used hammers to hit the strings. Depending on the pianist's touch at the keyboard, a key could be pressed lightly (producing a soft tone), or struck with enough force that it produced a loud tone. And, unlike both the harpsichord and the clavichord, a tone could be sustained on the piano, depending on the pianist's desire. Cristofori's original name for the piano was *gravicembalo col piano e forte,* which means "harpsichord with soft and loud."

Cristofori's invention soon became known as the *fortepiano*, which distinguished the eighteenth-century instrument from its predecessors and today's piano, the full name of which is the *pianoforte*. Cristofori's early fortepiano had one relatively thin string per note and was much softer than today's pianos. By Mozart's time, it had two strings per note and the hammers were covered in leather. A German organ builder named Gottfried Silbermann began making fortepianos in the 1730s. He is responsible for adding a forerunner of today's damper pedal, which you will be learning about later in this chapter.

The eighteenth-century fortepiano keyboard often didn't look the way the piano's keyboard looks today. Many fortepianos had keyboards that resembled the keyboard of the harpsichord of the time, in which the white keys were black and the black keys were white.

In the nineteenth century, the piano underwent many changes. The frame changed from wood to iron, enabling strings to become thicker and strung with more tension without breaking. (String breakage had been a problem: Beethoven was constantly hitting keys with such force that strings broke.) More strings were added and more octaves. You'll learn about octaves later in this book. The hammers were covered with felt to achieve better tone quality from the new steel strings. At this point, let's leave the subject of the history of the piano and look at how today's piano is constructed.

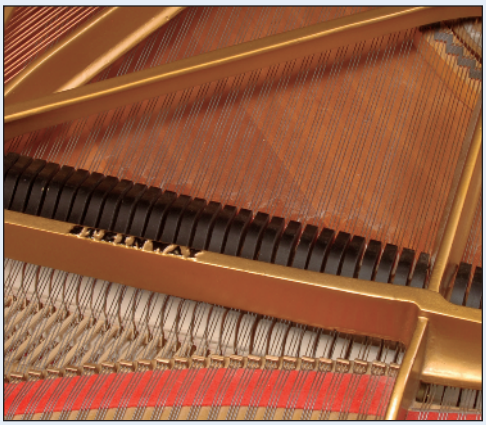
The Sounding Board

The piano's sounding board, an internal part of the piano that you normally can't see unless you have a baby grand or grand piano with the lid up, has four parts: strings of different sizes, pins, hammers, and dampers.



What's Inside

The hammers strike the strings, and the vibration of the strings may be dampened (that is, reduced) by the dampers. The pedals, discussed in the following section, allow the player to alter the string vibration.



The thickest, longest strings produce the deepest and most resonant sounds, while thinner, shorter strings produce higher, less resonant sounds. The lowest range of the piano uses one string per tone; the middle range uses two strings for more resonance; and the highest range uses three strings for even more resonance. The very highest range needs all the help it can get to resonate, so there are no dampers there. The pins are the little metal objects that are used to tune the strings.



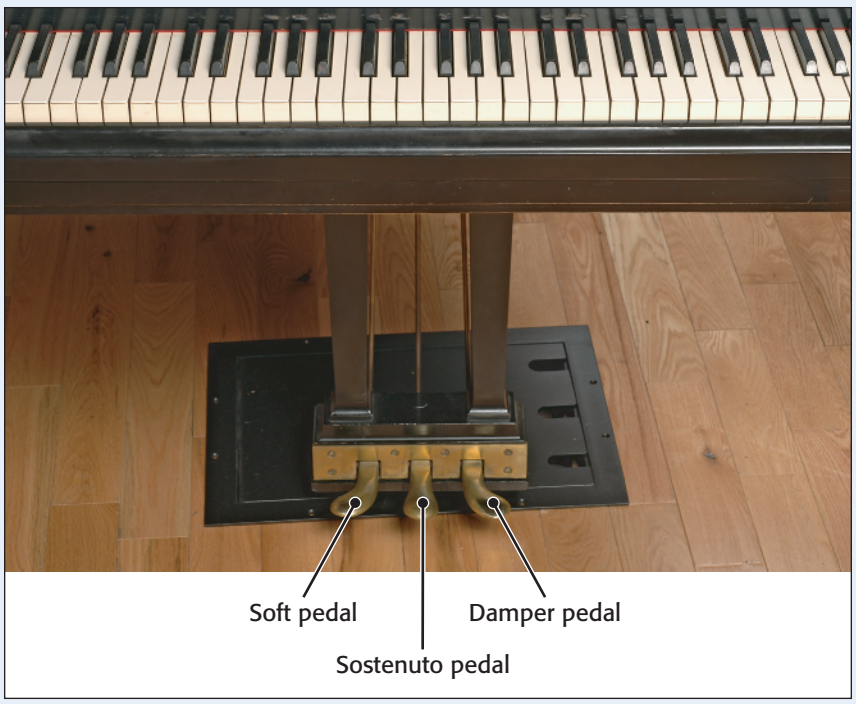
Pedals

There are three pedals on the piano: the damper pedal, the soft pedal, and the sostenuto pedal. The pedals are found at the bottom of the piano, below the keyboard, and you push them with your feet.

Types of Pedals

DAMPER PEDAL

The right-most pedal is called the *damper pedal* or *loud pedal* and is used more than the other two pedals. It's called a *damper,* because it holds the dampers up, preventing them from dampening the strings, thus letting the strings ring until you release (lift your foot off) the pedal. In this way, the damper pedal enables you to sustain notes as you play.



SOFT PEDAL

The left-most pedal is the *soft pedal,* and on the grand piano it softens the sound of notes by shifting the keyboard slightly to the right so that the hammers hit one less string in the middle and high ranges (see the "What's Inside" section, earlier). For this reason, the soft pedal is sometimes also called the *una corda,* which is Italian for "one string." On upright pianos, the soft pedal works differently, but it still softens the sound of the notes.

SOSTENUTO PEDAL

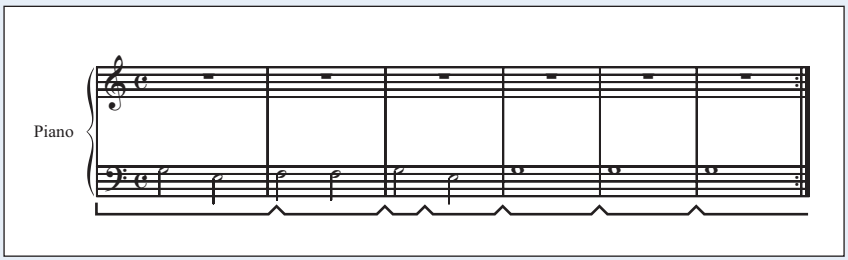
The middle pedal is the *sostenuto* (sus-tah-*new*-toe) *pedal* and is not used as much as the other two. Sostenuto is Italian for "sustained," which makes sense because—like the damper pedal—this pedal holds the dampers above a specific note or notes you want to sustain. You can, meanwhile, use the other pedals at the same time and it won't affect the notes being sustained by the sostenuto pedal.

Note that many less expensive upright pianos do not have a sostenuto pedal, but instead have a *practice pedal* that muffles the sound so that you can play without disturbing your neighbors if you live in an apartment or if it is late at night. Virtually all grand pianos have a sostenuto pedal, as do some of the more expensive uprights.

How and When to Use the Pedals

Push a pedal *after* you've struck the keys (this produces a cleaner sound and is called *syncopated pedaling*). Overpedaling results in notes that sound muddled.

The music shown here gives you pedaling instructions: You'll use the damper pedal, since it is the pedal most commonly used by beginning piano players. Hold the damper pedal down when the line is continued, and release the damper pedal when the line stops at a small notch. Hold the damper pedal again when the line begins again.



The Keyboard

The piano has 88 keys: 52 white keys and 36 black keys.



Key Groupings



GROUPS OF TWO BLACK KEYS

Notice the groups of two black keys. Starting at the far left side of the keyboard (the *bottom*), press both black keys at the same time. Do the same *up* the keyboard (toward the right).

There are three white keys—C, D, and E—by the two black keys. Starting at the bottom of the keyboard, press all the Cs. The Cs are left of the first black key in each two-black-key grouping.

Now press all the Ds—the key between the two black keys in each group. Then press all the Es, the key to the right of the second black key in each two-black-key group.



GROUPS OF THREE BLACK KEYS

The rest of the black keys are in groups of three. Find the first group of three black keys at the bottom of the keyboard, and play them all the way up.

There are four white keys by the three black keys, and these are the notes F, G, A, and B. Again, playing only white keys, press all the F keys (to the left of the first black key of the three-black-key groups). The Gs are the next white key to the right of all the Fs. The As are the next white key to the right of all the Gs. And the Bs are the next white key to the right of all the As.



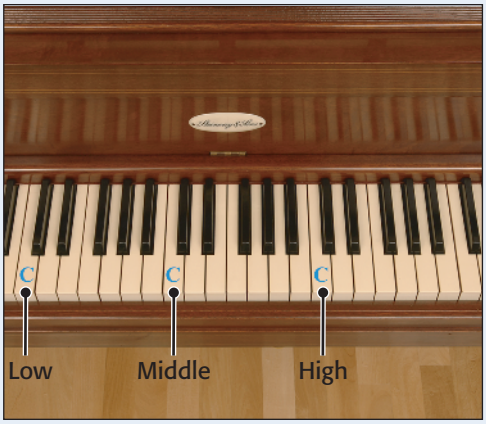
THE KEYS IN AN OCTAVE

You have now played and learned the eight notes that comprise the piano octave: C, D, E, F, G, A, B, and C again. (An *octave* is eight notes, so when you play one C key, and then play another C key up or down the keyboard, you play an octave higher or lower, respectively.)

The black keys have names, too—they're sharps and flats. See Chapter 2 for details.

Finding Middle C

Put your right thumb on the C key closest to the middle of the keyboard (called *middle C*). One octave down from middle C is known as *low C,* while one octave up from middle C is known as *high C.*



Play middle C four times with your thumb. Now move up and play G four times with your pinky. Again play four Cs, and then play four Gs. Repeat this several times, saying the names of the notes out loud, until it feels comfortable. Now mix the keys, playing C once, G once, C once, and so on. You can also move down an octave and play C and G again. Keep playing C and G all over the keyboard.



With your left hand, place your thumb on middle C. Play C four times. Reach your pinky down the keyboard to F and play it four times. Again, repeat many times, saying the names of the notes as you strike the keys. Alternate C and F over and over, and then play the C and F combination all over the keyboard.

As you become comfortable playing these key combinations, use the damper pedal, and then the soft pedal, to see what difference those two pedals make in how the notes sound.

CONTINUED ON NEXT PAGE



Positioning Your Fingers

With your right hand, position your fingers on the keyboard as shown:

- C: Thumb (called 1)
- D: First finger (called 2)
- E: Middle finger (called 3)
- F: Ring finger (called 4)
- G: Pinky (called 5)



With your left hand, position your fingers on the keyboard as shown:

- C: Thumb (called 1)
- B: First finger (called 2)
- A: Middle finger (called 3)
- G: Ring finger (called 4)
- F: Pinky (called 5)

Practice these finger positions, saying the numbers to yourself in the beginning, and then progressing to note names.



TIP

One important tip that we could mention in every chapter of this book is that you want to watch the *music* instead of your fingers as you play. After you position your fingers on the keys, play the notes one at a time without looking, and you'll develop a feel for your position. As you progress in your playing abilities, if you find that you can't stop watching your fingers as you play, ask someone to hold a piece of paper over your hands to block your view.

An Exercise: The Alphabet Song

You can now play a piece. Place your right thumb on middle C and follow the notation and fingering shown on each line of the chart below. HC stands for high C. Watch your fingering, especially where your thumb crosses under your third finger.



1	2	3	1	2	3	4	5
C	D	E	F	G	A	B	HC
1	3	2	4	3	5	4	2
C	E	D	F	E	G	F	D
5	4	2	3	1	4	3	2
G	F	D	E	C	F	E	D
1	2	3	1	2	3	4	5
C	D	E	F	G	A	B	HC

Now come down from high C to middle C, as shown on each line of the chart below, watching your fingering.

5	4	3	2	1	3	2	1
HC	B	A	G	F	E	D	C
5	3	4	2	3	1	2	
HC	A	B	G	A	F	G	
5	2	3	2	4	3	2	
HC	G	A	G	B	A	G	
5	4	3	2	1	3	2	1
HC	B	A	G	F	E	D	C

CONTINUED ON NEXT PAGE

The Keyboard
(continued)

Now start with middle C and stretch up to high C with your fifth finger, as shown on the chart below. Rotate back and forth to get the feel of this eight-key spread.

Note: *In the chart, HC stands for high C.*



1	5	1	5	1	5	1	5
C	HC	C	HC	C	HC	C	HC
1	5	1	5	1	5	5	1
C	HC	C	HC	C	HC	HC	C

With your left hand, place your thumb on middle C and follow the notation and fingering shown. Watch your fingering, especially where your thumb crosses under, and your third finger crosses over.

Note: *In the chart, LC stands for low C.*



1	2	3	1	2	3	4	5
C	B	A	G	F	E	D	LC
1	3	2	4	3	5	4	
C	A	B	G	A	F	G	
1	4	3	4	2	3	4	
C	G	A	G	B	A	G	
1	2	3	1	2	3	4	5
C	B	A	G	F	E	D	LC

Now place your thumb on middle C and your fifth finger on low C, as shown. Again, rotate back and forth to get the feel of this eight-key spread.



1	5	1	5	1	5	1	5
C	LC	C	LC	C	LC	C	LC
5	1	5	1	5	1	1	5
LC	C	LC	C	LC	C	C	LC
1	1	5	5	1	5	5	1
C	C	LC	LC	C	LC	LC	C

FAQ

Why do I have to do the "thumb under" and the "3rd finger over" exercises? That is hard to do. Why are all these fingerings important?

We have only five fingers on each hand. Think about the number of notes you need to play from the first note to the last note. Unless you can grow more fingers, you won't have enough fingers to cover all the notes you need to play. That is why you need to do the "thumb under" and "3rd finger over" techniques, which free up more fingers to use. If you don't use proper fingering from the start, you will never be able to play accurately with any speed. There aren't any shortcuts.

Playing Position, Posture, and Hand Position

Good playing position, posture, and hand position are necessary when playing the piano. They keep your muscles from getting tired and sore as you play.



Position Yourself to Play Comfortably

PLAYING POSITION

Playing position refers to how you situate yourself in front of your piano, before you begin playing. Just as you adjust your computer workstation before you begin typing, you'll want to adjust your body and piano stool to achieve the greatest comfort level possible.





Be sure you're sitting facing the middle of the keyboard, so that all the keys are within easy reach. Pull your stool in far enough so that your knees are under the keyboard. Adjust your piano stool so that your forearms (the part of your arm that runs from your elbow to your hands) are parallel to the keyboard. Place your feet flat on the floor, but still within reach of the pedals. Photo a shows bad foot placement. Photo b is correct foot placement.

POSTURE

Using good posture when playing the piano means keeping your shoulders lowered and pulled back.





One common posture mistake is to raise your shoulders (usually because your piano stool is too low, making the keyboard too high). This creates tension in your neck that will likely lead to soreness and discomfort in your neck, arms, and back.

A second common problem is to round your back as you play (see photo a). This usually occurs because your piano stool is too far from the keyboard, forcing you to slump as you play. Photo b shows correct posture.

HAND POSITION

The correct way to hold your hands on the piano is as though you have a golf ball in your hand. Pretend you're holding the golf ball, with your fingers loosely formed around it. You then press keys with the pads of your fingers (see photo b). Do not flatten your fingers out (as in photo a), because this slows your execution of the notes.

Look at the illustration to see how your hand should curve over the notes.





