

Why Toes Tap: RHYTHM



I'm Wynton Marsalis, and in this book I want to introduce you to some of the fundamental elements of music. Now I know whenever you hear words like "fundamental" and "elements" together, that generally means something painful is coming your way. Well, I want to show you how fundamental elements of music are shared by different musical styles, and how understanding them can make listening to music much more enjoyable and interesting.

It might seem strange to you, learning to hear music from a book. But we can learn a lot about everything from reading books, and with music we



can also listen to recordings, watch musicians play music, and even make a little music ourselves. This book accompanies a series of television programs that I made with my jazz orchestra; the Tanglewood Music Center Orchestra, led by Seiji Ozawa, who is the music director of the Boston Symphony Orchestra; and the great cellist Yo-Yo Ma.



As we explore the world of music, we'll be looking for similarities. It's kind of like when you try to begin a conversation with someone you don't know. It's better to talk about what you have in common, rather than be stifled by your obvious differences. We want to have fun with music, not fight it. After all, we play music, we don't work it. I encourage everyone who reads this book to sing, even if badly, and to pick up an instrument, even if it's just a kazoo. The world of music always accepts new citizens. It's never too early or too late.

*Without rhythm to
move a melody along, we
would never get past the
first note. No motion,
no rhythm. No rhythm,
no music.*

1.

PETER ILYICH TCHAIKOVSKY



PETER (PYOTR) ILYICH TCHAIKOVSKY (cheye-KUFF-skee) was born on a large estate in Russia on May 7, 1840, when Nicholas I was tsar. Peter had one older and three younger brothers and a younger sister—and the family was comfortably well-off. His father, a government official, wanted Peter to become a lawyer, but after he finished college and worked for a while as a legal clerk, he turned to composing music. For a while he taught at the music conservatory to make his living.

Then a wealthy music lover, Madame von Meck, whom he never met, made it possible for him to compose full time. Eventually he became successful enough as a composer to live on just the money he made from selling his music.

By the time he died of cholera, on November 6, 1893, at the age of fifty-three, Tchaikovsky had composed seven symphonies and much other orchestral music; ten operas, the best-known of which is *Eugene Onegin* (1879); and many piano pieces, choral works, and songs. Some of his best-known compositions are the *1812 Overture* (1880), the *Romeo and Juliet Overture* (1879), concertos for violin (1878) and piano (1875), and the three ballets (*Swan Lake* [1877], *The Sleeping Beauty* [1890], and *The Nutcracker* [1892]).

Tchaikovsky was one of the most famous composers in the world, and he traveled throughout Russia and Europe conducting his music. He came to the United States in 1891 to conduct at the opening of Carnegie Hall in New York City. He also conducted in Philadelphia and Baltimore, and he visited other places including Niagara Falls and Washington, D.C. Shortly after he returned from the USA to his home in St. Petersburg, Tchaikovsky began to work on the *Nutcracker* ballet.



ual tone in the sequence. There are many different kinds of notes, from the high squeaky tones of some bird songs or the swinging of a rusty gate to the deep tones of an automobile engine revving or the low rumbles of a roaring lion.

We may recognize the melody of Brahms's lullaby as a particular sequence of tones, but that sequence is organized in time by rhythm. Melody is dependent on rhythm. Without rhythm to move a melody along, we would never get past the first note. No motion, no rhythm. No rhythm, no music.

If someone plays the rhythm of Brahms's lullaby on a snare drum (CD TRACK 2), this is still music even though we would hardly call it a melody. Music is organized sound in time. Any sound—if it's organized, it's music. It could be beating your chest—one, two, three, four, one, two, three, four. It could be the regular pulsing sound of a computer, or a group of birds calling to each other. As long as it's organized, it's music.

Every day we're surrounded by rhythms. Suppose you wake up in the morning, and after you eat some oatmeal or whatever you like to eat for breakfast—grits with some sugar or salt on it if you're a country boy like me—then you go outside. What do you hear?

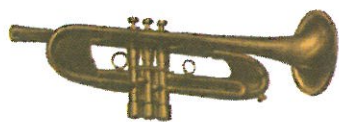
*It can be fun to imitate
different sounds on your
instrument, but if the result
is cacophony, people
will plug their ears like
the girl on the right.*

If you live in the city like I do now, you hear all the different sounds of traffic and people talking, a confusion of sounds. This is not music. It can be fun to imitate these sounds on an instrument, but it's cacophony, or noise. It's unorganized. But in the



midst of this confusion, sometimes you hear somebody who's frustrated by the traffic blow his car horn in a little rhythmic pattern: "duh duh ta duh!" The driver doesn't just lean on the horn and add to the noise. He blows the horn in a definite rhythm that makes us smile and think, "I know just how you feel."

When you hear that one motorist create a rhythm, it makes you feel good because it's music.



Accents and Rests

We really don't have to look outside of our own bodies to find rhythm. We live with a rhythm machine inside of us. You know what it is, our heart. And what goes with a heart? A heartbeat. So we could say that a rhythm indicates how alive we are. If our heartbeat stops for too long, we don't have to worry about learning about rhythm. That's it.

When the doctor puts her fingers on the inside of our wrist, what is she feeling for? Our pulse. What does our pulse sound like? Doomp . . . doomp . . . doomp . . . doomp . . . doomp. Our pulse is a steady beat. It's like the seconds ticking on a clock. No *accents* and no *rests*. Nothing ever gets emphasized or varied. This is organized, but it could hardly be called musical.

What if everything in our lives was without rest or accents? without variety? A busy avenue would be a scene of mass confusion—and terrible crashes—if

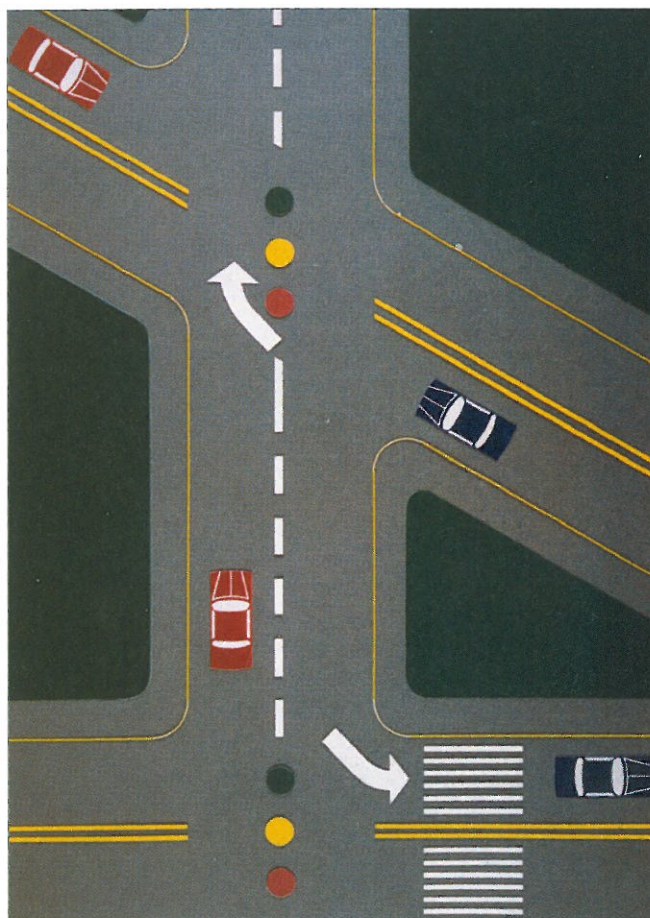
there were no lines to mark where cars could and couldn't go, and no stop signs and traffic lights to regulate stopping and starting.

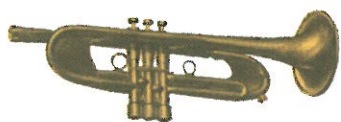
What if we spoke in the same unchanging rhythm of our pulse? "I-am-go-ing-to-the-store-to-buy-some-thing-to-eat-but-if-I-get-in-there-and-see-some-can-dy-that-I-want-then-that-is-what-I-will-buy-but-do-you-know-what-hap-pened-to-me-last-week-a-ter-ri-ble-thing-but-

soon-I-will-run-out-of-breath."

When we speak, we need accents and rests—the punctuation we learn about in English class—to organize the words, just as we need accents and rests to perceive the organization of busy streets.

When we see streets and avenues laid out with all the lines drawn on the pavement, we know we can drive safely. The lines on the pavement are the accents. And the stop signs and wider intersections? They let us know it's time to rest, or at least pause. Rhythms are the same way. You need accents and rests to recognize a rhythm.





Meter

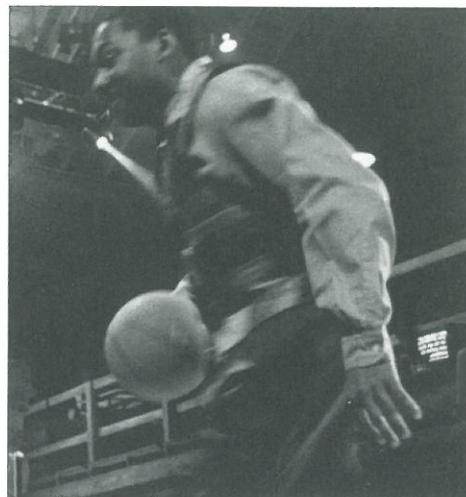
If we were to repeat the same note without accents, it would be like our pulse. But what happens if we accent the first of every four *beats*—one, two, three, four, *one*, two, three, four? Accenting that first note sets up a rhythm we can count. Each note becomes part of a four-beat rhythm, and every four beats is one unit. This could get confusing if we didn't have a way to organize these units. But other things are that way, too. For example, if I ask you how far from home to school, you might say 5 blocks, but you wouldn't say 6,737 steps. Or you might say 10 minutes, not 600 seconds. You divide the distance or organize the time into convenient units.

In music we organize the beats, accents, and rests into something called *meter*. And meter is counted just like numbers. There are odd and even meters. For example, odd, in $3/4$ time; you notice that 3 is an odd number. Or else an even meter, in $4/4$ time. When we accent the first of every four notes, that creates an even $4/4$ meter.

Meters *feel* odd or even. If we listen to sections of “Waltz of the Flowers” from *The Nutcracker Suite*, we'll hear that Tchaikovsky's original is in an odd meter of three—one, two, three, *one*, two, three—and that Duke Ellington's arrangement is in an even meter of four: one, *two*, three, *four*, one, *two*, three *four* (CD TRACKS 3 AND 4).

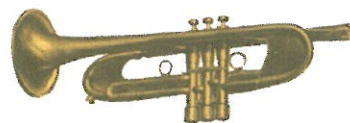
Up to this point we've talked about accents and rests of the same length. But what do musicians like

to do most with rhythms? Well, we like to do what everybody likes to do. We like to play. That's right. In basketball, when we first learned how to dribble, it was an achievement just to bounce the ball in a steady motion. You know, you could spend a long time just learning to bounce the ball in one unchanging rhythm. It might take two weeks to learn how to do that comfortably, or a month. But in order to have fun playing, we have to vary the bounces with accents and rests. In a game you would want to fake out an opponent. You wouldn't dribble only at one speed, or in the same predictable rhythm. Sometimes you would go fast, sometimes a little slower, and then maybe real quick between your legs or behind your back. And then sometimes you'd stop dribbling and pass the ball.



*In a basketball game
we want to dribble with
imagination and style,
the same way musicians
vary rhythms with
accents and rests.*

In a basketball game we dribble the ball to go from one point on the court to another, we hope closer to the basket, and of course we always want to dribble with imagination and style. If you're not going to have imagination and some type of style, it doesn't make sense to play. In music we play with rhythms from tiny fast ones to long slow ones, just like dribbling the ball. And also in music we travel through the meter by way of *measures*. Now, we have a nickname for measures.



Measures

2.

Tempo di marcia viva

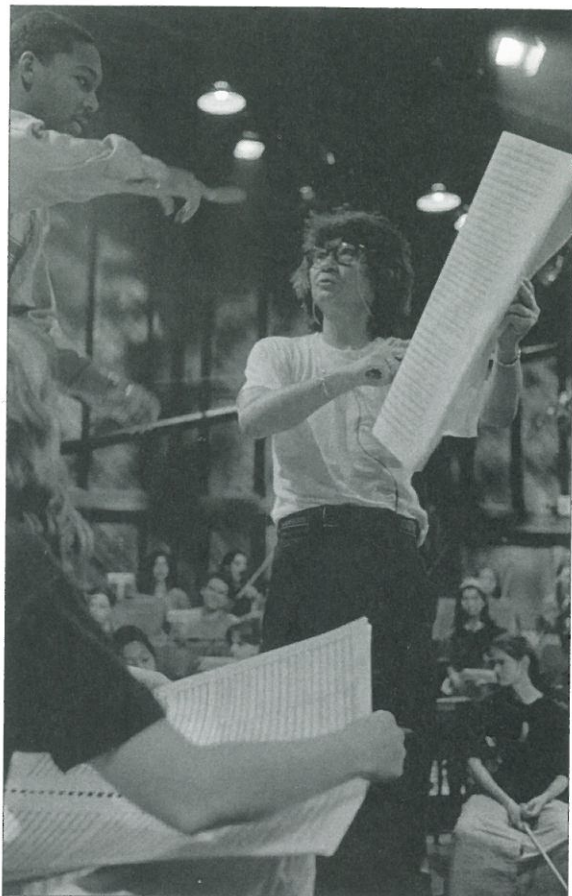
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An accent, mezzoforte, moderately loud

Measures are called *bars*—we musicians, we like to say that.

If we look at a sheet of music, we'll see something interesting. Groups of notes are divided by *bar lines*. It's like the way a football field is marked off in five- and ten-yard sections. Even though only the musicians reading the music will see these bars—all of us, listeners and everybody, we feel them. Bar lines mark off beats. So if we're in a meter of four, every four beats we have a bar line. But if you look at the score on the opposite and the next page (SCORE ILLUS. 2), you'll notice we have all kinds of rhythms dancing up and down inside of the bar lines. The little fast notes sound exactly like they look. Whether you're writing music or reading it, playing it or listening to it, remember, the motion equals the rhythm.

We can dance, hop, skip, fly, and tickle rhythms through the meter, and the measures, or bars, are our points of reference. The measures let us know where we are, like yard marks in a football game. The "March" section of *The Nutcracker Suite* will show us different examples of motions that can be associated with certain rhythms. Since we call it a march, the primary motion would be marching.



Only the musicians reading the score will see the notes, bar lines, accents, and rests, but all of us will hear the tones, rhythms, and shadings that are marked on the page.

Opposite: A page from Tchaikovsky's "March" in 4/4 time.



READING A SCORE

Most sheets of music use both verbal marks (words) and nonverbal marks to tell you what to play, or how the composer wants the music to sound. The words tell you the title of the piece and what instruments or voices to use, and often something about the tempo or the mood of the work. But how do you read the *nonverbal* marks?

Start with the parallel lines running across the page. These lines are bunched in groups of five, and each group of five lines is called a *staff*. The plural of staff is *staves*. There is one staff for each instrument or voice (or two for the piano—one staff for each hand). Staves that go together are bracketed at the left side of the page into a *brace*.



2. *Tempo di marcia viva*

Each of the five lines of a staff and each of the four spaces between the lines stands for the letter name of a *pitch*, or one of the white keys on a keyboard. For example, if one of the lines stands for A, then the space above it stands for B, and the space below it stands for G. You can also write higher or lower notes, above or below the staff, by adding short lines to it.

At the beginning of each staff is a *clef* sign, to tell you the names of the notes on the particular staff you are reading. For example, if the sign is a *treble clef* () , then the second line up from the bottom of the staff stands for the G above middle C on a keyboard. Or if the sign is a *bass clef* () , then the second line down from the top of the staff stands for the F below middle C.

The shape of a note tells you how long it sounds. A note is made of a little circle (*head*) placed on a particular line or space, to which you may attach a *stem* and also a *flag*. Noteheads that are black (filled in) are shorter (they last a shorter time—they get fewer beats) than white notes (open circles); a note with a stem is shorter than one without a stem; and a note with a stem and a flag is shorter than one with a stem but no flag. The more flags, the shorter.

The vertical (up-and-down) lines that cross the staff (between the notes) separate the music into measures, or bars, and they are called *measure lines* or *bar lines*.

Following the clef sign at the beginning of the staff, there may be a *key signature*: one or more sharps () or flats () in a bunch. These are called *accidentals*, and they direct you to always play (on a keyboard) the black key above (sharp) or below (flat) the white key that the line or space tells you.

After the key signature comes the *time signature*, which often looks like a fraction. The top number (“numerator”) tells you how many beats, or pulses or counts, there are in each measure. The bottom number (“denominator”) tells you how long each beat lasts: 2 means each beat is the length of a *half note* (an open circle with a stem); 4 means each beat is the length of a *quarter note* (a black circle with a stem); 8 means each beat is an *eighth note* (a black circle with a stem and a flag). Occasionally the time signature will surprise you with a C instead of a fraction; C is a special abbreviation for 4/4 (which means that there are four beats in each measure, and each beat is the length of one quarter note).

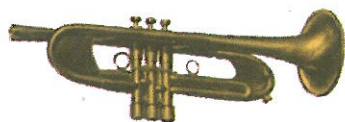




Then we can hear skipping. And then bouncing. What about flying? And what about tickling?

(CD TRACK 5)

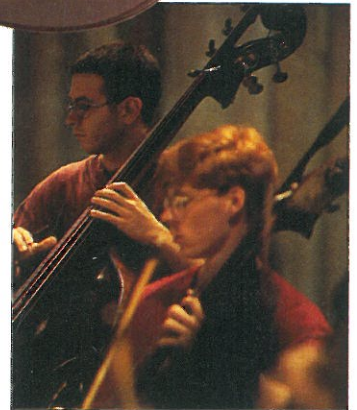
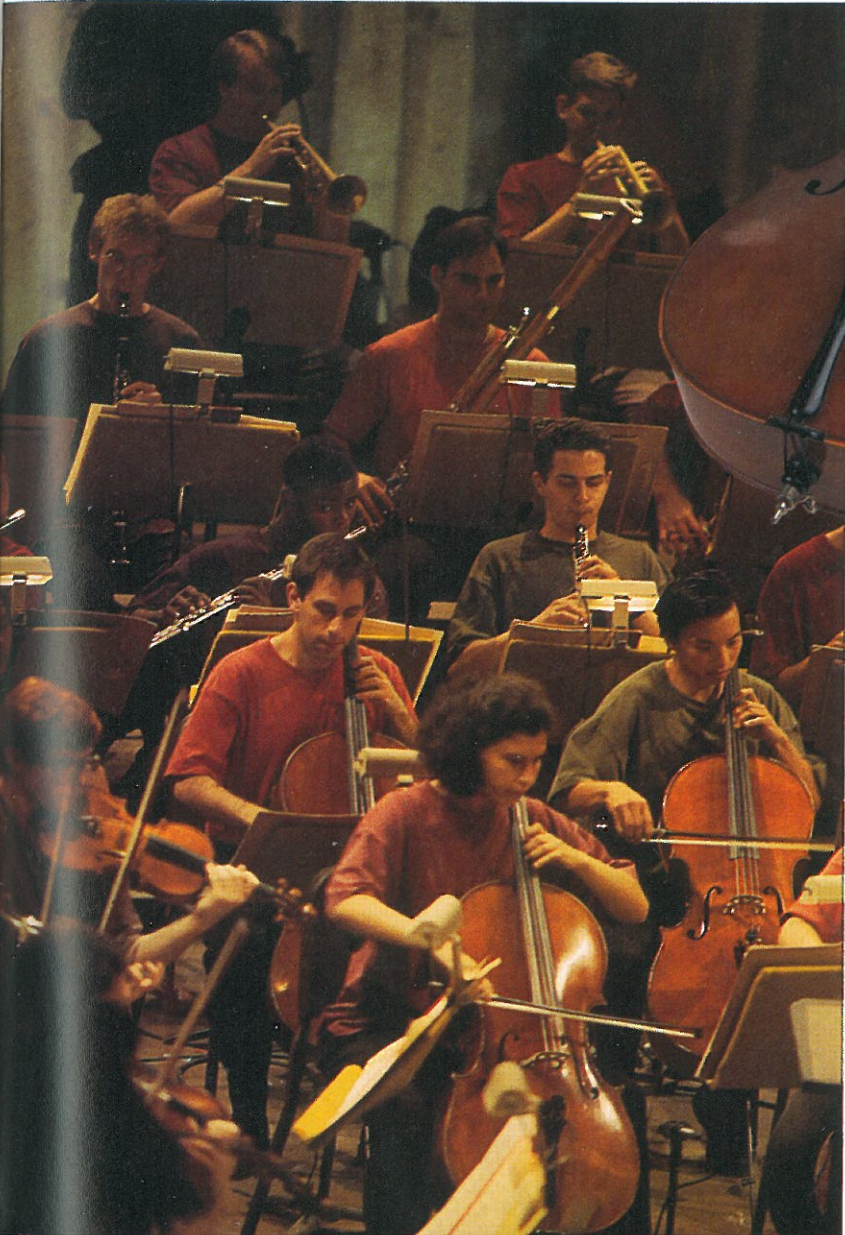
Tchaikovsky wrote this music to be played by a symphony orchestra. The many instruments in the orchestra enable us to combine motions like marching and flying in especially enjoyable ways (CD TRACK 6). Duke Ellington liked Tchaikovsky's music so much that he and his collaborator Billy Strayhorn arranged a version of it for a jazz orchestra. We can learn even more about rhythm if we compare Tchaikovsky's "March" with Duke Ellington's arrangement of it called "Peanut Brittle Brigade" (CD TRACK 7). We will find that even though the two pieces of music sound very different, they both use meter, accents, rests, and bar lines.



Tempo

Now that we know about marching, skipping, bouncing, flying, tickling, and all of that, we probably want to know the speed at which we do these things. The rate at which beats and rests occur is called the *tempo*. And the tempo has a powerful effect on the feeling or mood of a piece of music. Walking a mile would certainly put us in a different mood than running one would, or crawling one for that matter. In the "Russian Dance" section of *The Nutcracker Suite* a rapid tempo generates a lot of excitement (CD TRACK 8).

Notice that the tempo speeds up even more at



The many different instruments in the orchestra allow composers to play with different rhythms and motions at the same time.

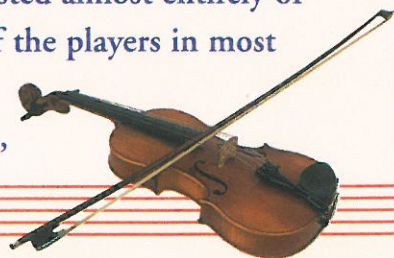
WHAT IS AN ORCHESTRA?



Wynton conducts a jazz orchestra

A group of musicians who perform together is called an *orchestra* or a *band*. (However, if the group is smaller than about twelve, it is named for the actual number of players: *duet* or *duo* for two players, *sextet* for six, *septet* for seven, and so on.) If the group includes other stringed instruments than just the bass (such as violins, violas, cellos), it's an orchestra; if not, it's a band.

Nowadays an *orchestra* may have anywhere from about 25 players to over 100, depending on what music it's playing. (Prokofiev's *Classical* Symphony needs a relatively small number of players; Ives's *Variations on "America"* takes a lot.) The first orchestras—about 300 years ago—consisted almost entirely of string players; and strings still today make up over half the players in most orchestras. The four basic *string* instruments (listed in order from the highest to lowest register) are violins,



WHAT IS A BAND?



Seiji Ozawa conducts a classical orchestra.



violas, cellos, and double basses. There are more violins than anything else in the orchestra, and they are usually separated into two groups, first violins above second violins.

As orchestras began to develop and grow, they added instruments in three more groups besides the strings. The basic *wind* (or *woodwind*) instruments are all played by blowing into them: they are (in order) flutes, oboes, clarinets, and bassoons. The basic *brass* instruments (also blown, but with the lips inside a mouthpiece) are trumpets, trombones, horns, and tubas. The *percussion* instruments are practically everything else in the orchestra, mostly drums and cymbals and other things that you play by hitting them—also including the piano!

WHAT IS AN ORCHESTRA?



A *band* is like an orchestra with no string section. Instead it adds other instruments in the wind section, like different sizes of clarinets and various saxophones, and in the brass section, like different sizes of tubas (baritones, euphoniums, sousaphones).

The orchestra is a European invention. Musicians such as Fletcher Henderson and Duke Ellington developed a distinctively American orchestra to play jazz. A *jazz orchestra* or *jazz band* is a group of musicians who improvise together on varied musical themes, many of which follow a blues form but all of which have a blues feeling and are played in swinging rhythm. Its wind section consists of clarinets and saxophones. Its brasses are trumpets or cornets, trombones, and sometimes a tuba or other low horn. Its percussion section—more often called the rhythm section because its basic function is to establish and sustain the swinging rhythm—includes the double bass, drum set, and piano.

Orchestras and bands usually perform on a stage or other large space, seated in a semicircle facing the *conductor* or *band leader*. (The exception, of course, is a *marching band*, which follows its leader or drum major down the street or across the field.) In an orchestra the strings are usually arranged left to right (from the audience's point of view), highest to lowest. The winds sit in rows in the center, directly facing the conductor, with the brasses in rows behind them (because the brass instruments are louder). The percussion players fit in where the conductor wants them, often across the back; most of them play standing, and they move around a lot because they play different instruments at different times.

The conductor is the person who stands in front of the orchestra or band and waves her or his arms in a pattern that shows the meter of the music

WHAT IS A BAND?

they're playing or indicates expressive shadings. Usually the conductor holds a *baton*, or stick, to make it easier for the musicians to see exactly where the beat is. The conductor's job is to keep everyone together, at the right place in the rhythm, and to make sure that people play when the music says they're supposed to play. You could say that the conductor "plays" the whole orchestra, just as the musicians play their own instruments.



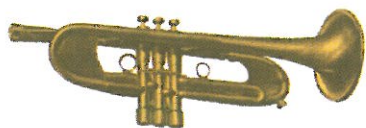
Obviously, the more players there are in an orchestra or band, the more need there is for a conductor separate from the rest of the players. In fact, when orchestras began, there was no separate conductor. The musicians watched the chief violinist or the keyboard player to know when to start and stop and how to keep together. Only as orchestras began to get larger—a little over 150 years ago—did they first start having conductors who didn't play also.



Actually today many jazz bands play without a separate conductor, because in jazz the drumming conducts the band. The leader of a jazz band or orchestra can be a first trumpet player (like Louis Armstrong at left), a saxophone soloist (Benny Carter), a pianist (Duke Ellington), or a singer (Billy Eckstine).

the end. This is called an *accelerando*. We use almost the same word for the gas pedal that makes a car go faster, the accelerator. In most scores there are some Italian words like *accelerando* that describe the tempo. For example, *largo* means slow, and *vivace* means lively (but I just say very fast), and *allegro* means moderately fast.

If we play the same piece at a slower tempo, it will sound like an entirely different piece of music. And if we mix up fast and slow, the changes in rhythm will show the type of effect tempo has on the mood of a piece of music (CD TRACK 9).



Ground Rhythm

W e've been talking about notes dancing or stepping, and all of that—actually, *The Nutcracker* is a ballet. It was written for people to dance to. Many times we may hear someone say that a beat is danceable, or most likely they'll say, "I like that beat." Well, what beat are they talking about? It can't be all of those rhythms dancing and skipping through the meter because that's not one beat, it's many, many, many beats. *That beat* is what we call the *ground rhythm*. Ground rhythms are the "blue-collar workers" of music. Overworked and underpaid. They're just like pavement. We walk on it all day without thinking about it.

But a ground rhythm all by itself gets pretty boring after a while. It's like getting a hamburger bun with tomato, mayonnaise, lettuce, and even one

Andante non troppo.

pizz.

Violins I.
(4 Soloists)

pp
pizz.

Violins II.
(4 Soloists)

pp
pizz.

Violas.
(4 Soloists)

pp
pizz.

Cellos.
(4 Soloists)

pp
pizz.

Double
basses.
(2 Soloists)

pp
pizz.

of those scrawny pickles—but no meat. If the “Dance of the Sugar Plum Fairy” from *The Nutcracker Suite* is played with only the ground rhythm, it won’t keep us interested for very long. The ground rhythm even looks boring written out on the page by itself (SCORE ILLUS. 3, CD TRACK 10).

The ground rhythm of “Dance of the Sugar Plum Fairy” even looks boring on the page.

On the other hand, if the “Sugar Plum Fairy” is played without the ground rhythm, that sounds like a hamburger with no bun, ketchup, mayonnaise, or tomato—and definitely not that unfortunate little pickle (CD TRACK 11).

Ground rhythms establish the meter, and they change the way you feel it. Just as you have to be still and listen for your heartbeat, so, too, with ground rhythms. For example, when two different ground rhythms are played back to back in the “Sugar Plum Fairy,” the mood changes. Throughout the “Sugar Plum Fairy,” changes in the ground rhythm change the mood of the music (CD TRACK 12).