

Having an odd Time of it

Mix Up Your Meter and Twist Your Timing

By Jon Chappell

Pink Floyd's most famous song "Money" uses a 7/4 time signature.

When composers, arrangers or performing musicians really want to switch moods on a dime, they'll often change the tempo and meter. Going from a march to a waltz, or from a straight-eighth backbeat to a swinging shuffle, is like changing gears or slamming on the brakes in a high-performance car: You get instant results and the effects are powerful, immediate and often jarring. A song's time signature gives it structure and sets its rhythmic base.

Most songs are written in 3/4, 4/4 and 6/8 time. But many popular artists will use odd meters—or the odd extra measure—as an alternative to conventional time keeping. Classic rock bands like Led Zeppelin were famous for it; more contemporary examples of meter mangling include Radiohead, Nine Inch Nails, Stereolab, Tori Amos and even Lindsey Lohan.

BACK TO BASICS: MUSICAL FRACTIONS

Let's start with a brief recap of how time signatures (those fraction-like numbers that appear at the beginning of a piece) work. The top number tells you how many beats there are to a measure, and the bottom number indicates what kind of note gets the beat (e.g., 4=quarter note, 8=eighth note, 2=half note). If the piece has a 2 or 4 on top, the song is in duple meter. If there's a 3, it's considered triple meter. If the

time signature's beat value doesn't include a dot, it's referred to as *simple* meter (4/4, 3/4, 2/4). If the beat unit is dotted, it's *compound* meter. For example, 6/8 is considered *compound duple* meter, because the beat is counted as two dotted quarter notes per measure, with each beat divided into three eighth-note subbeats. Whew!

Beyond duple, triple, simple and compound meters, there are complex meters, which often involve odd numbers (5/4) or combined numbers (like 2+3/8) in the top position. The classic rock band Pink Floyd wrote one of their biggest hits, "Money," in the complex time signature of 7/4, beating the "odds" by having off-kilter music occupy a top-ten berth in the pop music charts. ("Oddly" enough, "Money" appeared on *Dark Side of the Moon*, which is the longest charting album of all time.)

Let's see how other musicians have beat the odds with uncommon time signatures.

CHANGING SIGNATURES

One way to mix things up is to *really* mix things up by changing the meter every bar. In "America" (Fig. 1), from *West Side Story*, composer Leonard Bernstein wrote alternating bars of 6/8 and 3/4, which produced a hybrid sound that was equal parts eighth-note triplets and quarter notes.

What he created is a highly infectious sound. Bernstein mated a driving phrase to a punctuated one, and then he, lyricist Stephen Sondheim and choreographer Jerome Robbins had to build their melodies, words and dance steps to match. At first, it seems halting and jerky. It's hard to tap your foot to—until you know the choreography. But when it's all together, "America" is a very effective stage number.

ADD 'EM UP

But a meter doesn't necessarily need to alternate with a different one to create interesting rhythmic effects; you can have unusual subdivisions right within a measure. With "normal" meters like 4/4 and 3/4, we're used to having the beat broken up in a variety of ways without disturbing

Techniques: Time Signatures

the underlying pulse. But in a complex meter, the note groups are trickier.

In “Blue Rondo a la Turk,” composer Dave Brubeck doesn’t create rhythmic clashes by alternating bars of different meters; he stuffs the unusual groupings within the same bar and specifies it right in the time signature! Like “America,” “Blue Rondo” has an even rhythm followed by an odd one. But the time signature is not 9/8, which is a regular-sounding triple meter; it’s a specifically ordered *uneven* rhythmic grouping of 2 plus 2 plus 2 plus 3. So its time signature is 2+2+2+3/8 (see Fig. 2).

THE “MISSION” OF ODD METERS

Three is an odd number, but we don’t think of 3/4 as “odd,” because it’s a triple meter, which is something most of us know and relate to well. But any odd number other than 3 is just going to sound weird at first. And that’s a good thing!

You probably know the famous *Mission Impossible* theme by Lalo Schifrin (Fig. 3). But did you realize that it’s in an odd time signature? Here, the almost-danceable beat is 5/4—five quarter notes per bar. Like “Blue Rondo,” the beats always occur in the same grouping, but here, the first part of the bar syncopated.

“Take Five” (Fig. 4) is a famous jazz instrumental in 5/4 performed by the Dave Brubeck Quartet, which also did “Blue Rondo.” (I guess Mr. Brubeck likes to make his musicians sweat!) Note that like “Mission Impossible,” this scheme is a 3 + 2 organization, with syncopation in first part of the measure. But this song, whose title has a double meaning (as in “help yourself to five beats” or “take a break”), is performed in the jazz feel known as a *shuffle* or *swing*. So the notes have an easier, less-intense feel to them than the more driving, suspense-charged “Mission Impossible” riff.

JUST A SPLASH OF WEIRD, PLEASE

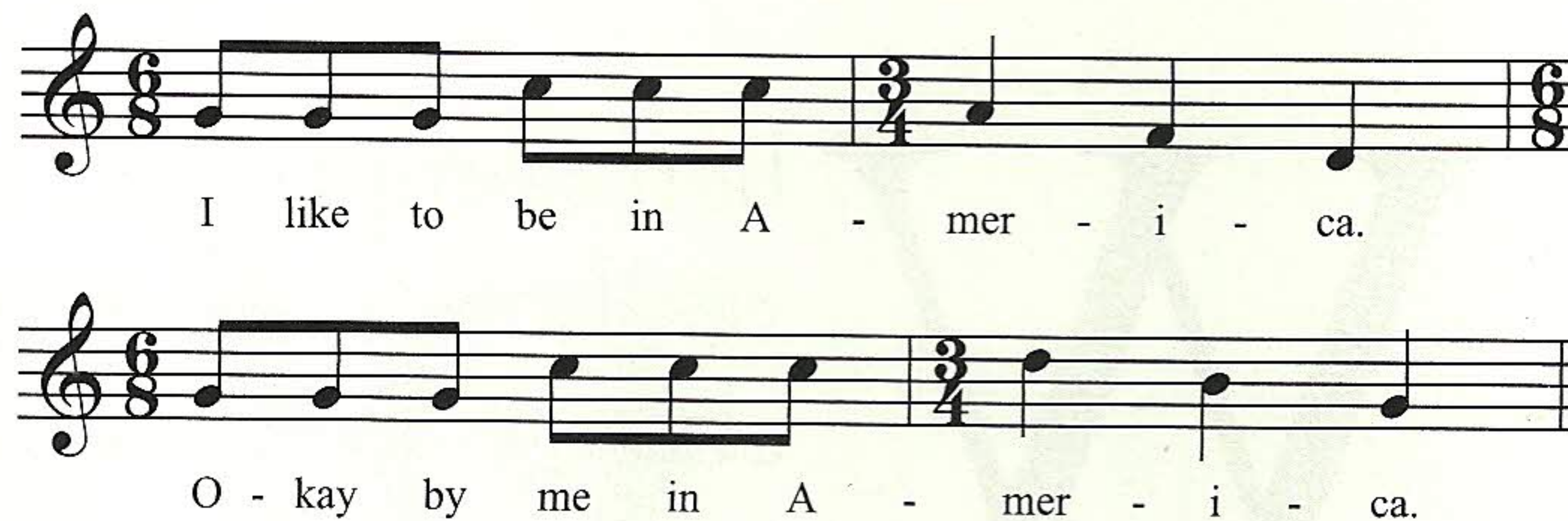
To grab the listener’s ear with meter, you don’t always have to put your entire song in an odd meter or create alternating bars with different time signatures. Just an odd bar here and there will



Franz Ferdinand adds an odd bar to “Fade Together.”

be enough to break up the music so that it doesn’t have robotic predictability. Franz Ferdinand’s “Fade Together,” for example, features a five-bar phrase repeated over and over in one section of the song. The meter seems to be a lilting triplet feel—but there’s just something not quite “right.” It defies your foot-tapping attempts and avoids the “sing-song-y” element that characterizes so many other songs with a regular triplet feel. It’s an interesting bit of musical adventure disguised as a pop song.

Figure 1



Alternating meters of 6/8 and 3/4 provide a basis for exciting rhythmic phrasing.

Figure 2



A compound meter of nine eighth-note beats, broken up in groupings of 2+2+2+3.

Figure 3



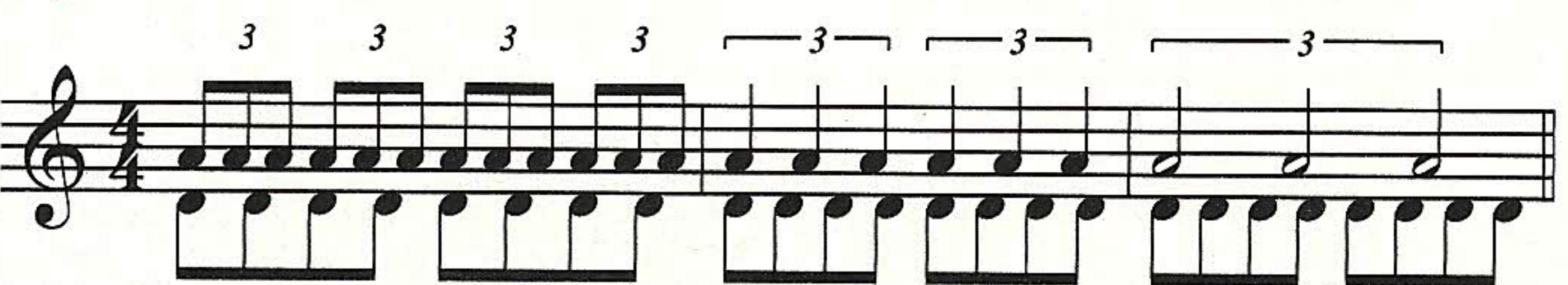
This 5/4 figure, made famous first on TV and then in Tom Cruise movies, is not “impossible” to play.

Figure 4



This 5/4 shuffle rhythm riff is the basis for the jazz instrumental “Take Five.”

Figure 5



Triplet eighths, quarters, and halves against steady eighth notes. Not an easy rhythm to play!

Figure 6



Two instruments in different meters playing against each other. It takes five bars in the piano and seven bars in the guitar for the parts to synchronize again.



"New acoustic" virtuosos Bela Fleck & the Flecktones use odd meters and polyrhythms.

So what's going on? Well, when you listen to the song carefully, and *really* count through it, you realize the band is playing one bar of $3/4$, and then another—no, wait!—they've extended that second bar to $5/4$, and followed that by three more bars of $3/4$. It's that strange bar of $5/4$ that dashes your expectations and predictions about where the song is going and really makes you focus on the music.

Lindsay Lohan's "Symptoms of You" seems more straightforward than "Fade Together," but it too has an interesting aspect to its triplet feel—an extra something that prevents you from waltzing to it. The song is in $9/8$, which means there are three main beats in the bar, with each beat divided into three subbeats. But instead of repeating the $9/8$ bars one after the other, Lindsay sticks in a short bar of $4/8$. So you can think of the meter of this song as $9/8 + 4/8$, or $13/8$. But either way, it's tricky!

POLY WANT A RHYTHM?

Odd meters give us new ways to organize beats and rhythms. A *polyrhythm* stacks the rhythms and meters on top of one another. A polyrhythm is the mixing of two (or more) different rhythms simultaneously in the same setting—in one instrument (like drums or piano) or in the same ensemble (between two or more instruments playing at the same time). Polyrhythms often sound like they're two completely independent ideas, and this creates a loose, chaotic or random element to the music. Polyrhythms are a great way to introduce a transition or create an ambiguous mood—something film composers have learned to exploit. A good way to practice polyrhythms is to perform the passage in Fig. 5. It's easy to play either line by itself at a moderate tempo (say, for example, at 96 beats per minute). All you have to do is

subdivide the patterns by three (for the top line) or two (for the bottom line).

But when you try to mix the examples by playing the lines simultaneously, you can immediately see a problem: You can subdivide by two or three, but not both simultaneously (three does not go neatly into two, as any calculator will tell you). So you have to keep two independent subdividing schemes. Musicians can train to do this, but it gets increasingly difficult as the rhythms get further apart in value. The figure in bar 3, for example, is very difficult to play. Most musicians can't play this rhythm unless they've practiced it over and over. For a rhythm like this, it might be better to separate the parts and give them to two different musicians.

For even more complexity, some composers will mix meters and have musicians play in different time signatures at the same time in what's known as *polymetric* music. Look at Fig. 6: A piano part in $4/4$ plays against a guitar part in $5/8$. Note that the first beat of each bar is accented. But even though both instruments are playing eighth notes, their accented downbeats don't line up very often. In fact, five bars of the piano part and seven of the guitar part must elapse before their parts synchronize again. This creates a hypnotic, weaving quality.

Other examples of odd meters include Bela Fleck and the Flecktones' "Almost 12," a brisk, virtuosic piece in $11/16$, and "Amium," in $7/8$, which sounds fiendishly difficult to play, but which the Flecktones pull off with ease. New acoustic musicians aren't the only ones exploring odd meters, either. Classical composers Bela Bartok and Elliott Carter have produced many works with complex and rapid meter changes, including Bartok's often-played *Concerto for Orchestra*. And from the rock world, Led Zeppelin, the influential early hard rock band from the '70s, played many exotic-sounding songs that used mixed meters or polyrhythms, including "Black Dog," which shifts between $4/4$, $5/4$, and $5/8$. And for the ultimate in meter madness, the Swedish metal band Meshuggah plays a hyperkinetic style that is sometimes referred to as "math metal," because of their use of complex polymeters. In one notorious song, the drums play in $4/4$, while the bass and guitar play in $23/16$ and $11/16$.

Odd meters and polyrhythms can be intimidating, but with diligence you can master them. Try writing out familiar pieces—like scales—in odd groupings, and focus on the rhythms as you play. Soon, you'll be able to break through the standard time signature barrier. You can "count" on it. **T**

Tip: The Odd Couple

One effective way to master odd meters is to split each measure into groups that are easy to count. For example, try counting a measure of $5/4$ as a group of three, followed by a group of two: 1, 2, 3 | 1, 2—accenting on each "1." For $7/4$, try 1, 2, 3, 4 | 1, 2, 3; or 1, 2, 3 | 1, 2, 3, 4. The famous bass line in Pink Floyd's "Money" accents on the first and fourth beats in each $7/4$ measure. Count it out before playing it, and you'll learn that unusual time signatures are not that odd after all.