

## Topic 3: Musical Time and Rhythm

[Fundamentals of Music Theory](#) / Topic 3: Musical Time and Rhythm  
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### 3.1. Rhythmic Duration

Video: [Rhythmic Duration](#)

In this video, Michael talks about different note durations. You may want to revisit the illustrations and introduction given in 1.3 Rudiments: Musical duration.

#### Transcript of the Video

0:00	All notes have a duration in time, but in Western musical notation the duration is expressed as a fractions or multiples of a beat, rather than as a duration in seconds. Beats are related to, or even synonymous with pulse. And they're clearly related to tempo, which is often expressed as beats per minute. Rhythm then concerns multiples, or subdivisions of beats. It can be expressed symbolically in western notation, in the form of both rests and notes. So, for instance, all our western rhythmic notations are related to the whole note, as it's called in America, or the Semibreve, as it's called in Britain. Semibreve represent the full duration of one bar in 4/4 meter. We'll come to meter in a little while, but suffice it to say, 4/4 is the most common meter that we come across.
0:49	The Semibreve can of course be subdivided, and these subdivisions have different names. In British nomenclature for example, we speak of minims, Crotchets, Quavers, etc. There are two minims per Semibreve. This is also known as the half note in American parlance. This is then subdivided into two crotchets. Crotchets are Quarter notes in the U.S., and there are four quarter notes in a Whole Note or a Semibreve, as you might imagine. Crotchets are then further divided into Quavers, Eighth Notes, and on into Semiquavers, Sixteenth Notes, and so on and so forth. So, if you use the American nomenclature, which is derived from the German by the way, it's very easy to see how many of a particular rhythm you

	<p>will have in a whole note, as all rhythms are expressed in relation to this. So, let's just recap here and look at the actual notation of these rhythms. First of all, we've got the open round note symbol, which is the Semibreve or whole note. This is four beats long in common time, or four, four meter, again more on this later. Then we've the half note or minim, the crotchet, the quaver and the semiquaver. We also have the equivalent rhythms in rests. Rests are necessary to indicate where a musician stops playing notes. Most music consists of notes surrounded by space, of course. Otherwise, musicians would never get the change to breathe or rest, and neither would the music. So, first of all, again, the semibreve, or whole note rest. The minim, or half note rest, the crotchet, or quarter note rest. The quaver, eighth note rest, and the semiquaver, or sixteenth note rest.</p>
2:30	<p>You can see that the quaver and semiquaver notes are essentially crotchets, with little flags on their stems.</p>
2:36	<p>Each flag that you add divides the rhythm by two, so we could further divide semiquavers into demisemiquavers, or 32nd notes in American parlance. And these can be further subdivided into hemidemisemiquavers, or 64th Notes, etcetera, etcetera. Now those flags which we've seen on the quavers and lesser durations, can actually turn into what we call beams.</p>
3:00	<p>We use beams so that we group notes into twos, fours, eights, et cetera, and thereby easily see a beat's worth, or sometimes more of shorter notes. This makes it easier to orientate ourselves in the flow of the music, so we can recognize where the beat boundaries are. Here's another example. You can see that the number of flags which we use in the individual notes, is reflected in the number of horizontal beams. And that adding one more beam is the equivalent to adding one more flag. That is, we're subdividing the rhythm into two.</p>

### ***3.2. Triplets***

Video: [Triplets](#)

We covered the basics of triplets in this video but if you were interested in finding out more you could follow up by reading: Chapter 5 (section 5) of 'The AB Guide to Music Theory' by

Eric Taylor or ‘The Rhythm and Meter’ section of ‘Tonal Harmony’ by S. M. Kostka, D. Payne or this Wikipedia page: [Wikipedia - Triplet](#). Triplets can sometimes be confusing to start with but please remember to use the forum for this lecture to engage with your fellow learners and discuss concepts such as this.

### Transcript of the Video

0:00	We can, of course, divide our rhythms into subdivisions of three, five, seven, etc. These are generally referred to as triplets, and could be any arbitrary division of a note. But the most common are, in fact, triplets. There are, as you might imagine, three triplet quavers or eighth notes to a quarter note. Three in the time of two or three triplet quarter notes to a half note.
0:28	Any basic rhythm can be subdivided in this manner. So, if I’ve got a beat that goes at this speed. [SOUND] That would be quarter notes, and triplets would be one two three, one two three, one two three, one two three, one two three, one two three. As mentioned, we can have other subdivisions, for instance, quintuplets. So for example, I could divide a minim or a half note into five quintuplet eighth notes. That would go something like this: 1, 2, 3, 4, 5. 1, 2, 3, 4, 5. 1, 2, 3, 4, 5. 1, 2, 3, 4, 5.
1:08	Triplets are generally notated in the simplest fashion, by putting a number over a beam as in the triplet quaver, or eighth notes that we’ve already seen. The three there implicitly means three in the time of two. So whereas crotchet or a quarter note would usually be divided in two quavers or eighth notes, by putting the three above three quavers, we indicate that we want these three triplet eighths to be in the time of two.
1:34	We can also use brackets with numbers, if we have notes that we don’t have flags or beams for. So to create triplet quarter notes, we would normally use the bracket to group the three notes we want played in the time of two. And if it’s not obvious how many short notes we want in the time of how many longer notes, we could explicitly write proportions, such as four to three.

### 3.3. Ties and Dots

Video: [Ties and Dots](#)

Wikipedia has a good page on dots: [Dotted note](#). Another area related to rhythm which the video lecture didn't mention but which might nevertheless be useful for some of you is that of grace notes.

#### Transcript of the Video

0:00	Let's turn now to ties and dots. Rhythms don't always occupy complete beats or regular subdivisions. Sometimes, we want to extend the duration of a note. We can do this by tying one note to another, as you can see on your screen now.
0:20	That tie or line connecting the crotchet to the quaver means that the note you are now going to play is one and a half beats long rather, than two separate notes of one beat and then half a beat. So we're not playing this note twice now. Rather, we're extending the duration by tying the two together.
0:41	In this simple case of a quarter note tied to an eighth note we can use a dot to indicate exactly the same duration.
0:50	The clue is in the fact that the second tied note is half the duration of the first. If you see a note with a dot immediately to its right. then this means that the indicated duration is extended by half its duration again, so a dotted crotchet or quarter note would last one and a half crotchets. On the other hand, and you've got to be careful here, a dot immediately above or below a note is another matter altogether and nothing to do with rhythm. It indicates a staccato or detached type of note articulation.
1:24	Let's look at another example. A dotted quaver or eighth note would similarly last one and a half quavers, so that would be the equivalent of tying a quaver to a semi quaver, or an eighth note to a 16th note.
1:40	Dotting can be further extended by adding multiple dots. Two dots would extend the duration of the indicated note by half of the duration and half of that duration again. So a double dotted crotchet or quarter note would actually be one and three

	quarter crotchets in length. One plus half, plus a quarter. Triple, or even quadruple dotted notes also exist, though they are a lot less common. Another notational symbol related to rhythm is the pause or fermata. When placed over any note or rhythm, this symbol indicates an out of time pause. The length of the pause is determined by the musician. Which as a general rule of thumb, it's about twice as long as the indicated duration.
2:31	Now, when you're writing rhythms yourself, rather than just reading them, you might ask yourself how to space them. It would be reasonable to assume that crotchet, or quarter note, takes up the horizontal space of two quavers or eighth notes. This is sometimes the case. Some composers even prefer it that way. But most publishers tend to squash longer durations into less horizontal space, than the requisite number of shorter durations. So you could adopt this approach when writing yourselves. The thing to bear in mind, is that when you're writing more than one part, then coincident notes have to vertically align, so that you can see which notes will actually sound together.

### 3.4. Metre

Video: [Metre](#)

#### Common Time

In the video, Michael mentions 'Common Time'. This is another name for four-four time i.e. four crotchets (quarter notes) per bar, so called because this time is so common. In fact, it is so common that sometimes people write the following time signature instead of 4/4:



If you see this time signature written in music, don't panic – the C stands for common time and this is exactly the same as four-four, it's just an alternative symbol.

There is also 'Cut-Common Time' which is 4/4 'cut' in two to make 2/2 time.



You might find this animated tutorial useful: [Music theory lesson](#). This site does use American terminology but it is good to be familiar with this and the UK terms. The following ‘translations’ might help: ‘Staff’ = Stave, ‘Measure’ = Bar, ‘Quarter notes’ = Crotchets, ‘Eighth notes’ = Quavers, ‘Half notes’ = Minims, ‘Whole notes’ = Semibreves.

### Transcript of the Video

0:00	Now let’s move on to metre, as promised. As you might imagine, this is closely related to poetic meter or rhythmic grouping. Music is most often organized into groups of two, three, or four beats per bar. We use bar lines to indicate bar boundaries and to make reading easier.
0:23	Less standard groupings, or meters, would be five, seven, eight, ten, or in fact, any number of beats. So any grouping is possible, but two, three and four beats per bar are the most common. These bars then represent the meter, so when we speak of duple meter, typical of marches for example, we mean two beats per bar. Triple meter, typical of waltzes, would be three beats per bar. Quadruple meter, or four beats per bar, would be the four-four that’s most common in western classical music or electronic dance music. In fact it’s so common that it’s called common time.
1:03	Generally, we’re talking about crotchets or quarter note beats here, though it’s possible to have the beat be minims or quavers, or any basic rhythmic duration. So though four-four, four crotchets per bar, is most common, it’s possible to have quadruple meter with eighth notes or minims as the basic beat.
1:23	The way we indicate meter is with a time signature. This consists of two numbers: a numerator on top, and the denominator on the bottom as with fractions in arithmetic. The numerator tells us how many beats there are per bar, and the denominator indicates the beat type. So four-four means four quarter notes or crotchets per bar, whereas three-eighth means three quaver or eighth notes per

	bar. Now, each of these bars has, or tends to have, weak or strong beats. In Western classical music, we tend to favour the down beats, or odd beats, in general.
1:24	Let's look at another example. A dotted quaver or eighth note would similarly last one and a half quavers, so that would be the equivalent of tying a quaver to a semi quaver, or an eighth note to a 16th note.
2:00	If you have a four-four bar, that is a quadruple meter, the accent would generally be on beats one and three. So, for instance, if we listen to Mozart's 'Eine kleine Nachtmusik', you can see quite clearly and hear these accents. Some pop and jazz music on the other hand, tends to favour the off or even beats. In a four-four bar this would be beats two and four. And this gives it the characteristic rhythmic feel we associate with this type of music, very often with a strong snare drum stroke on those off beats.
3:01	It doesn't stop there, I'm afraid. In Western notation, we speak of two basic types of meter: simple and compound. Simple meters are those that divide into beats of two, four, eight, etc. So when we look at a simple four-four bar, we tend to subdivide that into eighth notes, sixteenth notes, etc. That is, groups of two, four, eight, powers of two.
3:25	Compound meters, on the other hand, use dotted rhythms as their basic beat, so it is very easy to subdivide into three. The most common compound meter would be a six-eight bar. This clearly does have six quavers or eight notes per bar. But instead of being felt as six beats per bar, it's felt as two dotted crotchet, or dotted quarter notes per bar, each subdivided into three. This allows us in this case to avoid having to write triplets all the time, or triplets, because essentially the equivalent would be a triplet eighth note in a two-four bar.

### ***3.5. Anacrusis, Phrases and Structure***

Video: [Anacrusis, Phrases and Structure](#)

#### **Amendment:**

In this segment, Michael mentions an example by Brahms. The example he refers to is the main theme of the 4th movement of Brahms's 1st symphony (not the main theme of the 4th symphony as stated in the video). Sorry for any confusion!

### **Anacrusis**

An anacrusis is also known as the 'pickup' or the 'pickup notes' as it is the note (or group of notes) which happens before the first downbeat in a bar. You can think of it as a partial bar just before the down beat of the first full bar.

Have a look at the following image which is the first few bars of the popular jazz standard 'Autumn Leaves':



Generally, in written Western music, when a piece with an anacrusis, the same number of beats are absent from the final bar so that the number of bars in the music is a whole number.

### **Phrase**

We covered the fundamentals of phrases and structure in this segment of the lecture but this Wikipedia page has some great information on phrases in music and some of the theory surrounding this, if you'd like to read more: [Musical Phrase](#).

### **Musical Form**

There are many types of musical form. The basics were covered in the lecture, but the following Wikipedia page is useful for your reference and further reading: [Musical form](#).

The link below is a glossary compiled by Yale University that may be of interest to some of you: [Music Glossary Yale](#).

### **Transcript of the Video**

0:00	Before we leave meter and move onto phrases, let's look at something that bridges the two... anacrusis. This is both a poetic and a musical term, and in music, it indicates that the start of a piece or section begins with an under-full bar, most characteristically just the last beat. This is often called a pickup note. Some
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	<p>very well-known melodies are structured in this way, for instance, <i>Happy Birthday to You</i>, or the main theme of the final movement of Brahms's Fourth Symphony.</p>
1:05	<p>So when we have music with anacrusis, we tend to start each of the phrases in the music with the pickup note, as in the examples just noted. But what are phrases? A phrase is a part of a melody, a group of several bars, most often four. It forms a melodic unit that feels more or less complete, depending upon its harmonic context at the end. In fact, phrases are generally articulated by harmony in western music, and in particular by what we call cadences; we'll cover these in week five.</p>
1:39	<p>Not coincidentally, a phrase is often the approximate length of a singer's or a wind player's breath. So there might be rests at the end of a phrase, in which they can take a breath. Phrases might be indicated in notation by a curved line above the staff, much as a wind player's slur line indicates a passage to be performed in one breath also. Phrase marks and slur lines are not equivalent, but they are related and look pretty much the same.</p>
2:06	<p>So what we can see now is a clear hierarchy of musical structure from rhythms grouped into beats, beats into bars, bars now into phrases and as you'll see next, phrases into periods, or phrase groups if they're not grouped into pairs. Periods into sections, sections into movements or songs and movements into symphonies, concertos, et cetera, or songs into albums. There are, however, a couple of other things to add in here. The first of which is the motif or motive.</p>
2:43	<p>Many melodies and phrases make use of concise musical signposts or motives. These are usually short musical statements that are easily recognizable by their strong rhythmic or intervallic character. Motives are often repeated considerably and developed and varied both rhythmically and melodically during the course of a piece.</p>
3:03	<p>Probably the most famous music motive in Western classical music is found at the very opening of Beethoven's Fifth Symphony. This is fairly typical of motives, in that it is an isolated short statement. Shorter, in fact, from not, what</p>

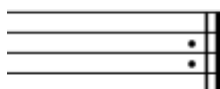
	we'd normally consider to be a phrase, but it could by itself, or in compilation with extensions of itself, form a complete phrase of music.
3:33	Somewhere between phrases and sections, we have melodies. But the confines of these are open ended. They may or may not constitute a complete section of a piece, depending on stylistic context. It all depends on how long the melody is. Wagner's were famously never-ending, for instance. But in any case, melodies generally consist of several phrases. Take for instance, the old English tune <i>Greensleeves</i> . This displays an anacrusis or pickup note, which we've already discussed.
4:04	The pickup here is on the last eighth note, or last quiver of the six eight-bar. So we got a six eight melody, which we may remember is a compound duple form with two dotted crochet beats per bar.
4:17	The <i>Greensleeves</i> melody consists of four four-bar phrases. These are grouped into two periods, each consisting of two phrases, the antecedent phrase, which doesn't come home to our tonic of G and the consequent phrase which does indeed come home.

### 3.6. Form

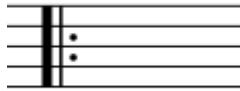
Video: [Form](#)

#### Repeat Marks

Repeat marks are important symbols that are used to indicate a section of music that should be repeated. When reading music, if you encounter this sign then this means to repeat from the beginning, and then continue.



If you encounter a corresponding sign facing the opposite way, this indicates the point in the music at which the repeated section is to begin.



So, in the following example – all the music contained within the repeat marks should be repeated. When repeated once, the player would simply ignore the repeat mark and continue through the music in order to avoid an infinite loop.



When a repeat calls for a different ending, number brackets above the bars indicate which to play the first time (1), which to play the second time (2), etc. These are called ‘first-time bars’ and ‘second-time bars,’ or ‘first and second endings.’



For further reading on repetition in music you can consult this Wikipedia page: [Repetition](https://en.wikipedia.org/wiki/Repetition).

### Transcript of the Video

0:00	The last thing we’ll cover today is musical form. We’ve already touched upon form in fact, by talking about the clear hierarchical relationship that went from bars to phrases, phrases to periods, and then periods into sections and on into movements and songs. We can only really touch on Musical Form here as it’s a complex much debated area of musical thought analysis and composition. But essentially, once you’ve built up your phrases into sections, you can then start combining these sections and their repetitions into movements. There are several basic ways of combining these sections. The most simple of which is the Binary Form.
0:44	As you might imagine, this has two sections. Usually referred to as A and B. The B section could or would actually most likely be closely related in character to the A section. But generally it would be in a different key. Also of note in Binary Forms, is that both section A and section B are quite likely to be repeated.

1:07	<p>If Binary Form has sections A and B, then Ternary Form is generally notated or referred to as A B A. So what we have here is a return to our A section after changing key for the B section. The return of A might be in some modified form, in which case, we generally notate it as A, B, A' Prime, with the apostrophe here, Prime, signifying a modification.</p>
1:32	<p>This form is quite closely related to the Sonata Form, which was common during the western classical period. It's the form of most first movements of symphonies, sonatas, concertos, etcetera. This has a basic A-B-A Prime Form of exposition, development and recapitulation. You can read more about this via the Wikipedia link on this week's webpage. Other common forms are the Rondo Form, which has a recurring section in between contrasting sections. So, A B A C A, for instance. And the very common repeating 12 Bar Blues Form, which you can also read more about via the Wikipedia link on this week's webpage.</p>