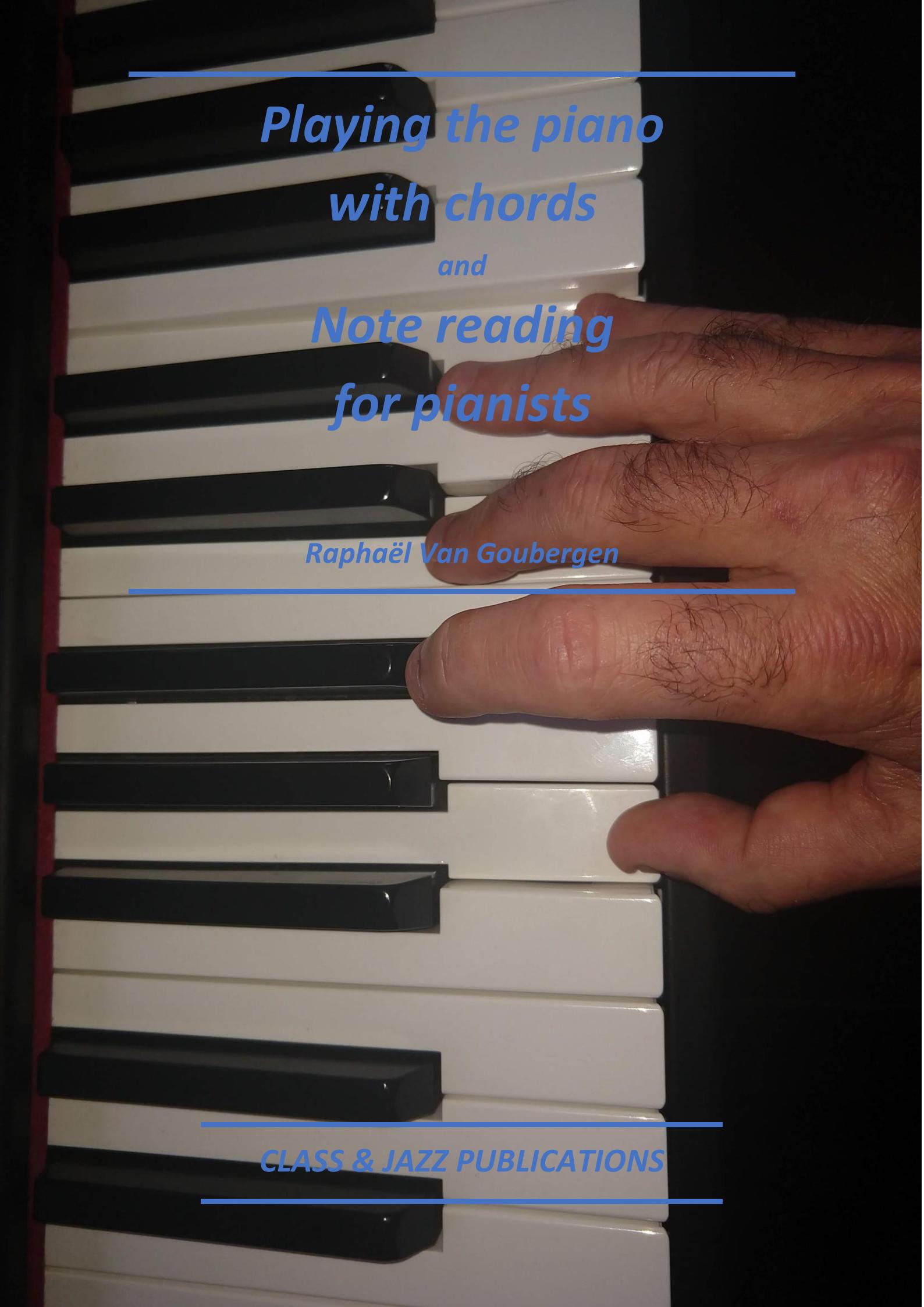

*Playing the piano
with chords
and
Note reading
for pianists*



Raphaël Van Goubergen

CLASS & JAZZ PUBLICATIONS

Playing the piano with chords and Note reading for pianists

Raphaël Van Goubergen

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Introduction and acknowledgements

This book answers the most important questions facing beginning pianists. It consists of two parts: PLAYING THE PIANO WITH CHORDS (the jazz school) and NOTE READING FOR PIANISTS (the classical school). It also prepares the reader for my book on jazz harmony, Parent Scales and Chord Scales, published in 2015.

I wrote this book during the coronavirus epidemic in 2020 and 2021. Because of the repeated lockdowns, and the mandatory online classes, my students started asking more questions than usual. This has fed, tested, and added to the content of this book on a daily basis. So, thank you to my students and ... to the corona virus.

How to use

It is best to read each chapter in its entirety from beginning to end on the first reading, so as not to miss the logical construction of the text and the understanding that accompanies it. The chapters themselves can be read (more or less) in any order.

It is also very important to put into practice what you read. It is not enough to understand what you read, you must be able to **hear**, **feel** and **see** how it works. Use your senses, play the examples and exercises, and apply the techniques you learn to the song(s) you are working on.

After reading, this book can also be used as a vade mecum handbook, so you can re-read the specific topics you might need "on the moment". The extensive table of contents above is a list of active links. Click on the desired topic to go there.

You will also find active links in the text that take you to a *Related Chapter* (always in italics and underlined). Also read the footnotes (like this one¹) to learn more about the topics covered.

Why is there no audio or video support?

Some test readers told me: "The internet generation has become accustomed to using audio and video for educational purposes. A book to read, on music, can seem boring and too dry to them without audio or video support."

If I don't provide this support, it's because that would be to miss the essential message of this book which is that you must learn to **improvise**, that you must **not copy** (except by ear, an ear that you must develop), and above all that you must **dare to try**.

Most of the examples (the little pieces of classical written music) are quite basic. One can, one should even be able to, reproduce them as they are. None of them is difficult to play² (except sometimes at the end of the chapter). But the point is not, in fact, to copy these examples literally. If that were the case, it would perhaps be useful to support them with audio and/or video material. No, these examples only serve to illustrate ideas, a playing structure and a way of thinking. Piano chord playing is based on improvisation. Improvisation is creative. The reader must therefore learn to create himself starting from these few examples.

¹ Also read the footnotes. They serve to put topics into a broader context.

² Improvisation never has to be difficult. The first lesson of improvisation is: "Keep it simple!"

PLAYING THE PIANO WITH CHORDS

The use of classical written scores to illustrate the ideas, however, carries another important message: "It is essential to be able to read music, even a little, if you want to become a musician." Hence the second part of the book: NOTE READING FOR PIANISTS.

The curious reader, who wants to know how the examples sound, may feel some frustration without audio or video support, unless ... he tries them himself on the piano. I admit that I am going against the internet generation who can now see and hear everything, without having to do anything. This is actually one of my goals! You don't learn to swim by watching videos of people swimming. You jump into the water! I wrote this book thinking about my students, sometimes lazy, but much more often, who have not completed their attempts because they paralyze themselves with uncertainty¹. They come to class saying that "it's difficult". Well, no, you simply have to **do!**

¹ Remember that there is no danger whatsoever (unlike with water and swimming) in "jumping into the music."

PLAYING THE PIANO WITH CHORDS

Playing with chords is essential to learning music. Chords are the basis for composition and improvisation, but also for understanding music. With the knowledge of chords, music becomes clearer, easier to read, easier to remember and even easier to play.

There is a persistent myth that chords are reserved for instruments that can play chords (several notes simultaneously), the guitar, the piano and the accordion, to name only the best known. But chords are just as essential to the training of melodic instrumentalists (wind instruments, string instruments, ...). Every musician should learn to play with chords, whether on the piano or not. This will broaden and enrich his vision on music.

Basic roles in music

When we look at a small music group (a "combo" ¹), we can see (for example) a singer accompanied by a drummer, a double bass player and a guitarist. This image informs us about the two fundamental roles in music.

1. The singer sings (plays) the **melody**.
The melody is the recognizable element, the "face" of a song.
2. The other musicians play the **accompaniment** to the melody.
The accompaniment forms the framework, the "skeleton" of the song.

The "comping" ² musicians each have their own particular role to play.

1. The drummer gives the **rhythmic framework**: the bars, the beats, the subdivisions of the beat, the musical phrases and the hypermeasure. ³
2. The bassist and the guitarist give the **harmonic framework**: the chords.
They themselves are divided into two roles:
 - a. The bassist plays only the **lowest note** ⁴ of the chord, the "root".
 - b. The guitarist plays the **full chord**, giving the chord its distinct color.

¹ Short for (a usually small) "combination" (of instruments).

² Short for "accompanying".

³ The hypermeasure, or the "meter above the meter", is a block of 4 bars (called the "carrure" in French, the "squareness" of the music). Musical phrases are built with hypermeasures.

⁴ The word "bass" comes from the Italian "basso" and means "low".

Tonight in Concert



Melody (on vocals) is accompanied by ...

Rhythm (on drums) **Bass** (on double bass) **Chord** (on guitar)

GETTING STARTED

Piano accompaniment

The curse of the (solo) pianist is that he has only two hands to fill the four roles mentioned above. Therefore, the novice pianist will, at an initial stage, limit himself to the accompaniment only.

He plays the **bass with his left hand**, and the **chords with his right hand**. The playing of both hands can be arranged¹ in such a way that he can also give the rhythmic framework.

He leaves the melody to the singer, being himself when he plays alone². He does not need to be a professional singer for this. He will only have to hum the melody, or sing it mentally, to be able to hear what he is accompanying. Not singing the melody is not an option. Without the melody, he would miss the recognizable "face" of the song.

In a later phase, the pianist will learn to add the melody to his solo piano arrangement.

(See Add the melody.)

The chords

With the chords in "standard positions" on the next page, you can start playing right away, without having to take a course in music theory or chord construction.

¹ The "arrangement" is how the various roles are distributed among the various hands, instruments, and/or voices.

² In written classical scores, the melody is included in the piano arrangement. In simple arrangements for beginning pianists, this is often done at the expense of one or more of the other roles.

PLAYING THE PIANO WITH CHORDS

	C	C♯ - D♭	D
(Major)			
m (-) (minor)			
	D♯ - E♭	E	F
(Major)			
m (-) (minor)			
	F♯ - G♭	G	G♯ - A♭
(Major)			
m (-) (minor)			
	A	A♯ - B♭	B
(Major)			
m (-) (minor)			
	C – E♭ (D♯) – F♯ (G♭) – A	C♯ (D♭) – E – G – B♭ (A♯)	D – F – A♭ (G♯) – B
° (Dim)			

Major chords

The 12 **major** chords are located at the top, block by block.

A major chord is noted with just its letter name.

C = the **C (major)** chord.

Get into the habit of not using the word "major" to describe a major chord. Just say "**C**" chord.¹

The word "major" will come in handy later on when referring to something else.

Minor chords

The 12 **minor** chords are located each time, block by block, just below the major chords.

A minor chord is noted with a letter followed by a small **m** (for minor).

Cm = the **C minor** chord.

Sometimes we see a – (subtraction sign), or also **min**, instead of the **m (C-, Cmin)**.

Chords with accidental

Some of these major and minor chords come with an accidental: **#** (sharp) or **b** (flat).²

C# and **D**b**** are in fact the same chords. So are **D#** and **E**b****, **F#** and **G**b****, **G#** and **A**b****, **A#** and **B**b****.

The correct name, with sharp (#) or with flat (b), will depend on the context of the music. This is still too complicated to explain at this stage. As a general rule, we do not mix accidentals in the same song: either the (altered) chords all have a sharp or they all have a flat.³

Diminished seventh chords

The major and minor chords in the chart are "triads" (chords that consist of three different notes). At the bottom, there are also 3 four-note chords, **diminished seventh chords**. A diminished seventh chord is noted with a letter followed by a **°** (the symbol for "degrees of temperature").

C° = the **C diminished** chord.

This chord is sometimes referred to as **C°7** or **Cdim** or **Cdim7**. The "7" indicates that it is a four-note chord.⁴ The peculiarity of this type of chord is that you only need 3 "chord grips" to play the 12 existing diminished chords. You don't encounter them very often, but you'll be happy to find them here when you see them on a score.

¹ Of course, it can sometimes be helpful to use the word "major" as opposed to "minor".

² Sharp (#) means "raise a semitone", flat (b) means "lower a semitone".
But it is not necessary to take this into account yet.

³ Beware! Too often on the Internet you can find incorrect chords charts that do not apply this rule.

⁴ A "7" to indicate a four-note chord may seem odd, for now. See

Variation in chord density.

PLAYING THE PIANO WITH CHORDS

These 27 "chord grips" allow you to accompany (almost¹) all the music of the world.

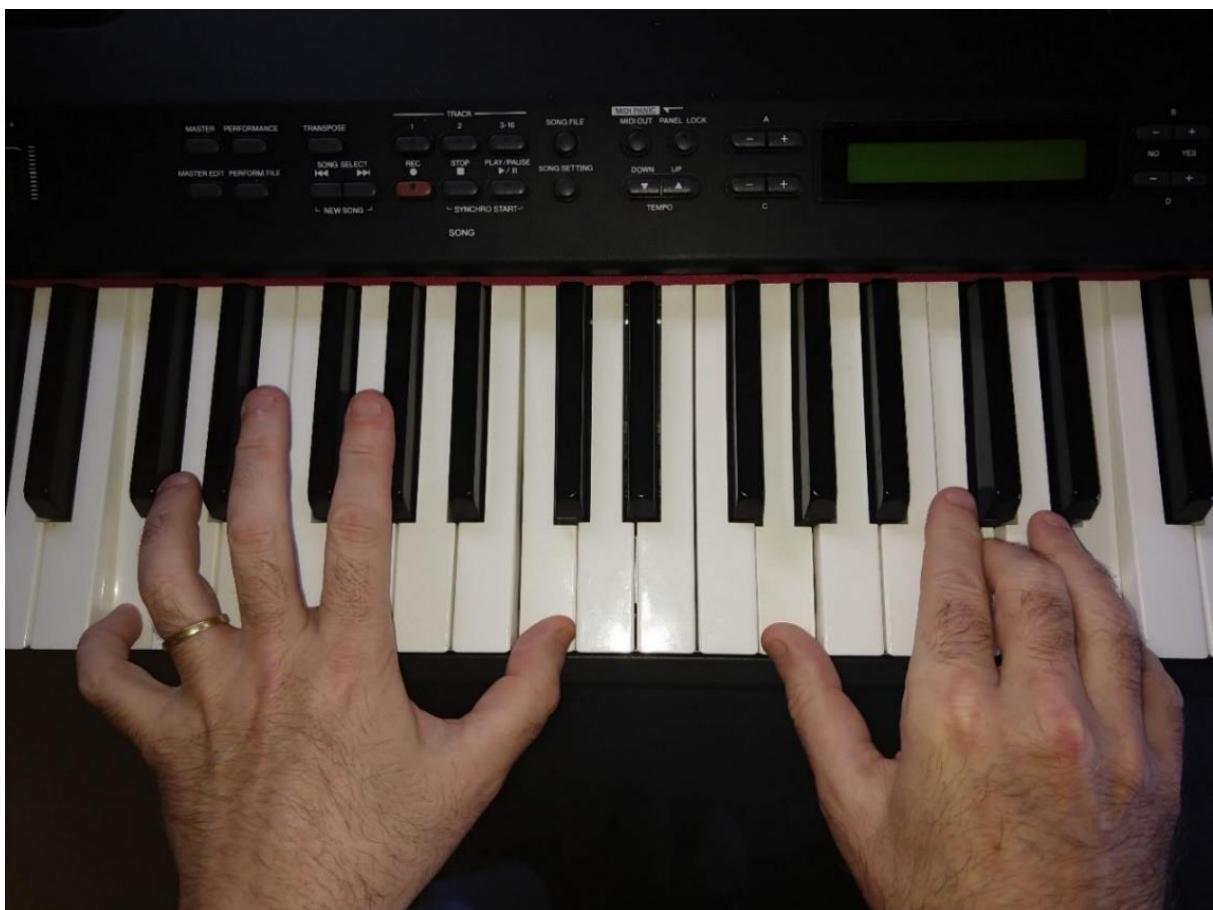
Chords also sometimes have extensions that you can completely ignore for now. These are additional abbreviations and/or symbols, with numbers and sometimes accidentals (like: sus2, add2, omit3, sus4, b5, 5, #5, +, aug, 6, 7, maj7, ^, ^7, b9, 9, #9, 11, #11, b13, 13, alt, ø, ... See Variation in chord density). Ignoring these extensions will not prevent you from playing the right chords, even if they will sound less rich or less colorful.

The **right hand** plays the **chords**. Generally, these chords are positioned around the middle C of the keyboard (in the middle register), as in the "standard positions" chart on page 11.

The **left hand** plays only the **bass** (the lowest note) of the chord. The bass is the root of the chord, and the root is the note that gives the chord its name.

It is better to get used to taking the bass in octaves from the very start. For example, for a **C** chord, with the little finger on C and the thumb on the next C. This gives more sound and more support to the accompaniment. And this technique also offers more rhythmic possibilities later on. But octave basses (or double basses) are not necessary. Pianists with small hands can play only single basses.

Photo: The **C** chord with octave bass in the left hand, and the triad in the right hand.



¹ To be complete, we also need the half-diminished chords ($m7^{b5}$ chords or \emptyset chords). We will learn them later in this book. You will then be able to really accompany all the music of the world.

PLAYING THE PIANO WITH CHORDS

Slash-chords

It sometimes happens that one wants a bass that is different from the root. This is then indicated by a slash.

C/G = the C chord with a G in the bass.

Chord chart

A chord chart is a simple sequence of chord symbols. It can take different forms, from a simple draft¹ to a real chord sheet (or chord score). Here are some examples for a small song of four bars.

A draft

C Am Dm G C

A song text with chords above the syllables where the chord change should occur.

C Am

These lyrics are sung

Dm G C

on the melody of the song

A grid divided into bars gives more information about the duration of the chords.

C	Am	Dm	G	C
1 bar C	1 bar Am	½ bar Dm	½ bar G	1 bar C

A chord sheet also provides information about the key and meter (or time signature) of the song.

It also allows you to write down a lot of additional information. (See The chord sheet.)



The examples above can be translated into a classical score, with notes (here, also with the chords mentioned above).

For readers who cannot read the notes, see NOTE READING FOR PIANISTS.

¹ When, as a young pianist, I had to fill in regularly as a substitute musician in a Blues café, I was given just before the concert, for each song we were going to play, a hastily scribbled beer card. The entire repertoire consisted of dozens of beer cards.

Basic rhythm of accompaniment

In order to give the accompaniment its rhythmic framework (the "drums"), one can initially limit oneself to playing only the bars, the beats and the musical phrases (the subdivision of the beats will follow later).

The left hand (the bass) plays only the first beat of the bar, and thus indicates the meter (follows the time signature). But, beware! The bass must of course also follow the chord changes. It will therefore sometimes have to play in the middle of the bar, as in bar 3 in the examples.

The right hand (the chord) plays all the beats of the bar. It also signals the end of the musical phrase by stopping the rhythm of the beats, as in the last bar in the example below.

With this simple basic rhythm and the 27 "chord grips", you can now accompany (almost) all the music of the world with its **harmonic framework** ("double bass and guitar" = bass and chords) and its **rhythmic framework** ("drums" = rhythm), necessary to accompany any melody.

IMPORTANT

The basic rhythm is almost always played with *The sustain pedal*.

Now take any chord charts and try your first accompaniments.

It is essential to learn to play other rhythms (than the basic rhythm above) **by ear**.

You can also make up rhythms yourself, **intuitively**, simply based on your own sense of rhythm.

Further on in this book we will look at other rhythms, other meters (other time signatures), with subdivisions of the beats, with in-between basses and many other possible variations. Chords will also be studied in more depth so that they can be enriched.

But this should not stop you from experimenting with rhythm, additions and variations, even without prior knowledge and without a score. All musicians I have ever played with learned to play accompaniments **by ear** and **intuitively** (myself included).

THE CHORD SHEET

Unlike the classical score, with notes on a staff, a chord sheet is only a summary of the accompaniment, without melody, and with a minimum of indications. It is therefore always essential to listen to the music beforehand, with the score in hand, in order to have an exact idea of the piece. Most of the preparatory work of a pop, rock or jazz musician is always done **by ear**, and never by sight alone.¹

On the next page you will find an example of a chord sheet for *Always Remember Us This Way* (by Lady Gaga) completed with all kinds of notes, signs and notations that should provide more information about the accompaniment to be performed than just the chords alone. It is impossible to describe in this chapter all the possible notations and additions you will ever encounter on a score. But in this example, you'll already find the most important and the most common notations.

Title and copyright

The title of the piece is self-explanatory. Immediately below the title on the right are the names of the authors (lyricists and composers). At the very bottom are the copyrights (publisher's rights).

Tempo

At the top left, there is an indication for the tempo ("time" in Italian, but meaning "speed" in music) of the song.



The song is a "ballad", a ballad is a quiet and slow song.

$\text{♩} = 63$ (the quarter note equals 63 bpm) is the metronomic indication. "Bpm" means "beats per minute". This indication confirms the slowness of the piece. 63 bpm is barely faster than the beats of the seconds, which by definition is 60 bpm.

Key of the song

The chord sheet also informs us about the key of the piece. Each piece is written in a predetermined key. A key is best understood through its scale. Take the key of **C Major**.

The **C Major** scale is **C D E F G A B C**. The particularity of this scale is ...

¹ The classical musician also has every interest in listening in advance, score in hand, to one (or preferably several) version(s) of the piece he is learning. In the 21st century, it is possible for anyone to listen to almost any piece of music in existence.

The classical score – the written transmission – was for a long time the only way to disseminate music to a large audience, thus allowing other musicians (than the composer himself) to learn how to play a piece (or pieces) of music. And so, it is by necessity that classical notation has become so precise over the centuries. Folk music was generally only broadcast to a local audience, and learned by ear through "oral transmission". But since the invention of sound recording (around the beginning of the 20th century), and especially since the Internet (end of the 20th century), everyone now has access to almost all the music in the world via YouTube, Spotify, etc.

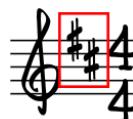
There's a funny but true joke about musicians who can only play with, or from, a (classical) score: "When you learn music with your eyes, don't be surprised if you go deaf." This emphasizes the fact that **all** musicians should use their ears to learn to play music, because music is sound.

PLAYING THE PIANO WITH CHORDS

1. That it starts and stops on **C**. Hence, the **C scale**.
2. That the note names are consecutive. A music scale is a “ladder” with ordered degrees.
3. That none of these notes are raised or lowered (altered with **#** or **♭**).

The scale of **D Major**, by comparison, is **D E F♯ G A B C♯ D**. In order to make this scale sound like **C D E F G A B C** (but then, just a little higher) you have to raise the **F** and **C**. That's why these notes are altered. They both have a sharp (#) which indicates that they should be raised a semitone (see Semitone and whole tone intervals). When a piece is in **D**, you'll find at the beginning of each staff, next to the clef, that all the **F**'s and **C**'s encountered in the piece should be raised. This indication is called the **key signature**.

“Two sharps in the key signature”



key signature for the key of **D**

ALWAYS REMEMBER US THIS WAY

J = 63
BALLAD

STEFANI GERMANOTTA / NATALIE HEMBY / HILLARY LINDSEY / LORI MCKENNA

The musical score consists of several staves of music:

- VERSE:** Treble clef, 4/4 time, vocal part. Chords: Am, F, C, G. Performance instruction: PNO IN - 2ND BAND IN.
- CHORUS:** Treble clef, 4/4 time. Chords: F, C, Am, G, F, G, Am, F, G, C. Performance instruction: 1. (with a bracket over the first four measures) 2. (with a bracket over the last three measures).
- 2. MID-PART:** Treble clef, 4/4 time. Chords: Bb, F, C, Bb, F, G, G. Performance instruction: D.S. AL CODA.
- CODA:** Treble clef, 4/4 time. Chords: Am, F, G, Am, F, G, C. Performance instruction: BREAK DOWN, POCO RIT., OUTRO, VOCAL AD LIB - RUBATO.

CLASS & JAZZ TRANSCRIPTION

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On the score of *Always Remember Us This Way*, there's no key signature, "nothing in the key signature". This indicates that the song is in **C**, because in **C**, none of the notes should be raised or lowered.

“nothing in the key signature”



key signature for the key of **C**

PLAYING THE PIANO WITH CHORDS

Both examples of keys above are major keys. There are also minor keys. They sound different. They are often said to sound "sadder" than the major keys. And for every existing key signature, there is a major and a minor key possible. For example ...

The minor scale with no key signature ("nothing in the key signature") is **A B C D E F G A**. The English note names, with letters, is in the logical order of the A minor scale¹. The particularity of this scale is

1. That it starts and stops on **A**.
2. That the note names are consecutive.
3. That none of these notes are raised or lowered.²

The scales of C major and A minor are called "relative" (as in "related") because they share the same notes (they "share the same blood").

So, how do we know if a piece, with "nothing in the key signature", is in C major or A minor? The first and last note of the scale gives us the answer. If the scale begins and ends with C, it is the C major scale. If it begins and ends with A, it is the scale of A minor.

On a chord sheet (without notes), we look at the beginning and end chord of the piece (which is in itself more reliable than the beginning and end note of the melody). The end chord, especially, gives us (usually³) the answer.

Always Remember Us This Way begins with an **Am** chord and ends with a **C** chord. This is obviously not a coincidence, since the two keys are relative. But the doubt remains: the piece is in both A minor and C major. In doubt, the final chord is decisive. *Always Remember Us This Way* ends with a **C** chord and is therefore in C major.

See [Keys \(tonalities\) and key signatures](#).

For a beginner accompanist, who only plays from the chord symbols, it is not really necessary to know the key and the key signature of the piece. Chord symbols are notated independently of the key signature (unlike notes, which are always dependent on the key signature).

But for musicians who improvise, transpose or arrange, it is essential to know the key of the piece. And every accompanist, even a beginner, will sooner or later be confronted with improvisation, transposition and/or arrangement.

Readers who want to know everything about scales, keys and chords, as well as improvisation, composition and arrangement, can download (for free) my book [Parent Scales and Chord Scales](#), a book on jazz harmony (and chord theory).

¹ A piano (with a full keyboard) begins, on the far left, with the scale of A minor: A B C D E F G A. On the far right, it ends with the logical order of the Latin note names of the DO major scale: do re mi fa sol la si do.

² From here on, there should be a 4th characteristic: that it is minor (or major).
See [Keys \(tonalities\) and key signatures](#) further in this book.

³ I wish I could write "always" here. Songs composed "by the book" always end with the right final chord. But in recent pop music, it is quite common to leave a piece "hanging" at the end, "unresolved", without the correct and expected final chord.

Time signature

The piece is written in 4/4 meter (read literally as "four fourths" or "four quarters"), which is clearly indicated by the time signature at the beginning of the piece, right next to the clef.



We will study the different meters and time signatures in the chapters *Variations in rhythm* and *Rhythmic notation (tone duration)*.

Start of the song

The notes at the very beginning indicate how to start the piece.



These notes should be sung by the vocal, and the "pno" (short for piano) comes in ("pno in") immediately after with one bar of Am, followed by one bar of F, and so on. "2nd band in" means that when this passage is played for the "2nd" time (see song structure and repeat signs below) the "band" must come "in".

Song structure

Bar lines

The piece is divided into bars, delimited by bar lines.



Sometimes these bars are shortened for visual convenience only.



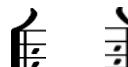
Double bar lines

The double bar lines are used to separate the musical parts. At the end of the first line, there is a double bar that indicates that the first part (the verse) of the piece ends here (and consequently, that the second part, the chorus, begins right after). There are double bars at the end of each line, although they sometimes have a slightly different appearance (the use of which we will see later).

Double bar line



Repeat signs (which are also double bar lines)



Final bar line (also a double bar line indicating that the song ends here).



PLAYING THE PIANO WITH CHORDS

Song parts

The boxed words at the top of each line designate the different parts of the song: **VERSE** above the 1st line, **CHORUS** above the 2nd line, **MID-PART** above the 3rd line, and at the end of the 4th line there's also the **OUTRO** (specific ending part of the song).

In front of the 4th line, we find the word **CODA** (which means "tail" in Italian ¹) with a coda sign corresponding to it.



CODA

This is the (full) ending, the "tail", of the piece. This word is not boxed like the others because the CODA is rarely a new part of the song. In this case, it's actually a continuation of the chorus, followed by three bars of "outro". ²

Bar numbers

At the beginning of each line (except the first line) there's a number indicating that it is the "nth" bar of the piece (the 9th bar in the example below). This makes it easy to point out to each other where you are during a lesson or rehearsal: "We'll start again at bar 9."



Bar repeats



This is a very common repeat sign on chord sheets (less common on classical scores). It indicates that these 4 bars are the same as the previous 4 bars, or in other words, that the previous 4 bars must be played again.

These repeat signs also exist for 2 bars, or for 1 bar only.

¹ You will have noticed that in addition to English words (quite logical for an English song) we use a lot of Italian words. These words come from the Renaissance, when Italy was the European center of music. And it was at this time that (classical) music writing was established.

As a copyist (the one who writes the scores), I always choose to use the language in which the song was written (and which I master): English for English songs, Dutch for Dutch songs and French for the "chanson Française" (the only languages I master). But it is, even today, impossible to write a score without resorting to many musical terms inherited from the "great Italian era".

Under the growing influence of Anglo-Saxon popular music and jazz (since the 20th century), there are now more and more musical terms in English. A chord score will therefore also often contain words and concepts of English origin.

² The word "outro" is a rather amusing invention of English-speaking musicians. If there is an "INTro" (short for "introduction"), there must be an "OUTro" too, right? Except that the word "outroduction" doesn't exist in any known language.

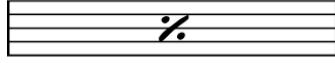
PLAYING THE PIANO WITH CHORDS

2



Repeat the 2 previous bars.

;



Repeat the previous bar.

Repeat sign

Repeat signs, which we've already encountered in the form of double bar lines, are used in almost every score, chord sheets and classical scores. The parts of the song between these repeat signs must be played twice. The "classical" repeat signs are a little more discreet (without the prominent brackets).

"Classical" repeat signs



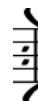
"repeat this part"



"Jazz" repeat signs



"repeat this part"



The right/back sign :|| is the one that should attract the reader's attention.

As soon as you see it, you know that you have to start again from the left/front sign ||:

If you don't find this left/front sign, you start again from the beginning of the song.

Sometimes it's necessary to play more than twice. This will then be clearly indicated at the top of the right/back sign, such as PLAY 3x.

First ending, Second ending (Third ending, ...)

It often happens that a repeated part (the second time) ends differently from the first time. This is indicated with "first ending" and "second ending" brackets (or "Prima volta" and "Seconda volta" in Italian).



On the 1st ending, one plays the **C chord**, followed by a repeat.



On the 2nd ending (at the end of the repeat), one plays the Mid-Part starting with a **Bb** chord, followed by a **F** chord, and so on.

We're not limited to a "first" and a "second" ending. Sometimes there is also a "third" and a "fourth" ending (and even more: fifth, sixth, ...). This will also automatically indicate the number of times to play the repeat (instead of PLAY 4x).

PLAYING THE PIANO WITH CHORDS

Examples:

The image shows five musical staves. The first four staves are grouped by vertical brackets and labeled 1., 2., 3., and 4. from left to right. Below each bracket is a caption: '1st ending: this' under 1., '2nd ending: that' under 2., '3rd ending: like this' under 3., and '4th ending: like that' under 4. The fifth staff is also grouped by a bracket and labeled 1.2.3. and 4. from left to right. Below the bracket is a caption: '1st, 2nd and 3rd ending: this' under 1.2.3. and '4th ending: that' under 4. The staves consist of five horizontal lines with vertical bar lines dividing them into measures. In the first four staves, the first measure has a short horizontal dash, the second has a vertical cross, the third has a short horizontal dash, and the fourth has a vertical cross. The fifth staff has a short horizontal dash in the first measure and a vertical cross in the second.

Dal Segno, Da Capo, Coda, Fine

At the end of the Mid-Part, there is another type of repeat sign, D.S. AL CODA. This is short for "Dal segno al coda", which in Italian means "from the sign to the coda (tail)". "The sign" (Segno) is the crossed-out S sign at the top of bar 9 (beginning of the chorus).

One must start again from the Segno to the Coda symbol.

And the Coda symbol announces that it is now time to start playing the coda (last line).

This type of repeat sign is also found in other forms, such as:

D.C. AL CODA: Da capo ("head" in Italian) al coda
means: repeat from the beginning of the piece (the "head") to the Coda symbol.

D.S. AL FINE: Dal segno al fine
means: repeat from the Segno to the word "fine" ("end" in Italian)
(written somewhere above a bar – not in *Always Remember Us This Way*).

D.C. AL FINE: Da capo al fine
means: repeat from the beginning until the word "fine".

Rhythmic notation

Sometimes there is a rhythmic notation above the chords which indicates the rhythm of the chords.

The rhythmic notation is exactly the same as the classical rhythmic notation, but without specifying the pitch of the notes (without specifying if it is a C or a D or another note). That's why the "round" note heads (symbol for pitch) are replaced by "dashes", "crosses" or "squares" (and sometimes other less common note heads).

PLAYING THE PIANO WITH CHORDS

CLASSICAL RHYTHMIC NOTATION WITH ROUND NOTES (PITCH OF THE NOTE: B)

WHOLE HALVES QUARTERS EIGHTS SIXTEENTHS

6 RHYTHMIC NOTATION WITH SQUARES AND DASHES (NO NOTE PITCH)

11 RHYTHMIC NOTATION WITH SQUARES AND CROSSES (NO NOTE PITCH)

For readers with little or no knowledge of rhythmic notation, see the chapter [Rhythmic notation \(tone duration\)](#) at the end of this book.

Bars 13 to 16 of *Always Remember Us This Way*

Bar 13:

- 1 quarter note (1 beat) for the **F** chord
- 1 eighth note (1/2 beat) for the **G** chord
- 1 eighth note tied to a half note (2 beats and a half) for the **Am** chord

Bar 14: same as bar 13, but this time the **C** chord replaces the **Am** chord.

Bar 15: The two chords (**F** and **G**) should be held for 2 beats (1 half note each). This rhythm is noted in brackets because these chords must be played in basic rhythm on the repeat, two beats for each chord (play the two beats rather than holding the chords for the two beats).

Bar 16: The **C** chord must be held for 4 beats (1 whole note).

Bars 24 and 25 (below): same rhythmic notation as for bars 13 and 14.

PLAYING THE PIANO WITH CHORDS

Syncopation (*chord anticipation*)

Sometimes there is also a (incomplete) rhythmic notation which indicates that a chord must be anticipated (= played ahead of the beat).



The G chord (1st bar) must be anticipated with an eighth note.
(= must be played one eighth note before the 3rd beat)

The C chord (2nd bar) must be anticipated with a sixteenth note.
(= must be played one sixteenth note before the 1st beat)

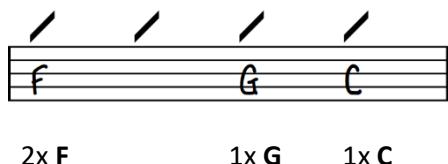
Chords division in the bar

When there's only one chord in the bar, that chord is played (in basic rhythm) as many times as there are beats in the bar: 4x in a 4/4 meter.

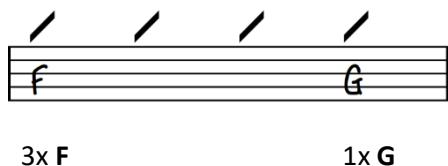
When there are two chords in the bar, they are evenly distributed: each chord is played for two beats (= 4 beats), as in bars 15, 26 and 27 of *Always Remember Us This Way*.

When there are four chords in the bar, they are also distributed equally: each chord takes one beat (= 4 beats).

But there may be three chords in a 4-beat bar. In this case, the number of beats given to each chord is indicated by dashes above the chords.



It also happens that the piece requires that in a bar with two chords, the distribution is not equal. This is also indicated by dashes above the chords.



Fermata

At bar 26 of *Always Remember Us This Way*, you'll find a **fermata** (**hold or pause**) just above the G chord.



PLAYING THE PIANO WITH CHORDS

This symbol indicates that the rhythm must be stopped on this chord ("break" or "stop") and that the chord must be held for longer than noted (more than two beats in this case). The holding time is left to the discretion of the accompanist (**ad lib** – see below) or is agreed upon by the musicians of the band.

Additional comments

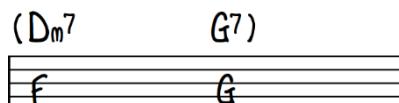
Always Remember Us This Way also includes all sorts of additional "free" comments such as those at the bottom of the coda (the last line). The copyist writing the score is indeed free to write anything he or she feels is important to communicate to the performer/accompanist/reader.

- **BREAK DOWN** indicates an abrupt drop in power, tempo and energy.
- **POCO RIT.** (short for) "poco ritenuato" which means "slow down a little" in Italian.
- **AD LIB** is the abbreviation of the Latin expression "ad libitum" which means "as you desire". As in the previous paragraph, "the holding time of the fermata is **ad lib**", that is "left to the discretion of the accompanist" or "at his own choice".
- **VOCAL AD LIB** means that the singer can express himself freely, can make additions, can improvise.
- **RUBATO** (or sometimes **TEMPO RUBATO**, which means "stolen time" in Italian¹) means that the tempo is free and alternates accelerations and decelerations.

Most of these comments are related to Variations in dynamics (variations in power, energy and/or tempo).

Alternate changes

Sometimes, above the chords, there are other chords in brackets. These are called "alternate changes". It's a possible reharmonization of the piece with alternative chords. As an example, here is a possible (somewhat forced) reharmonization for bar 15 (and 26) of *Always Remember Us This Way*.



Lead sheet

When, in addition to the chords, the melody is written on the score, sometimes with the lyrics of the song written below the notes, it is called a "lead² sheet" (instead of a "chord sheet").

F G C

A - AL-WAYS RE-MEM - BER US THIS WAY

¹ Why "stolen time"? When the music is accelerated, time is taken away, "stolen", from the piece. The stolen time must then be compensated by an equivalent deceleration. And vice versa. In this way, the piece will keep its original duration. But many musicians interpret the term "rubato" in an (even) freer sense.

² The main vocal or melody of a song is called the "lead".

VARIATIONS IN RHYTHM

The 5 concepts of variation

I often hear my students ask me, "I now know the chords, and I can play them in rhythm, but I'm always playing the same thing. What can I do to vary my accompaniments?"

We can reduce the possible variations to just "5 concepts":

Rhythm, Dynamics, Chord Positions, Chord Density, Approaches

These concepts will be examined in detail, chapter by chapter. It is of course impossible for me to describe all the possible variations. This book gives only a limited overview of a number of the most commonly used "clichés" and techniques. Other more creative techniques are of course always possible. One can recognize a good composer, arranger, improviser by his own surprising style. This is why it's useful to keep these "5 concepts" in mind, and to deepen them, when trying to vary the accompaniments.

Dare to experiment with the "5 concepts of variation", **by ear** and **by intuition**.

Basic rhythm in simple meter

Let's take the basic rhythm of the chord accompaniment in 4/4 meter, below with the addition of the accentuation.

The 4/4-time signature is very often replaced by a **C**.

When playing and counting the bar, it is very important to be aware of the natural accentuation and **sense** of meter that this causes.

>¹ indicates the strong accent (underlined by the bass in the left hand).

-² indicates the half-strong accent (exactly half the bar).

The other beats are the weak beats (but strong in relation to the subdivisions of the beats).

¹ This symbol > (martellato = "hammered") is the usual symbol for an "accent".

² This symbol – (tenuto) is the usual symbol for a "sustained" note.

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See Natural binary accentuation "in 4" and Natural ternary accentuation "in 3".

A very common variation, for a 4/4 accompaniment, is to switch to "half-time" (bar in 2/2, or "alla breve", or "C with a vertical line through it" => see the "time signature" below). This gives a slower, quieter accompaniment that alternates well with the faster, more active rhythm of the 4/4 accompaniment. (See also Rhythmical activity).

In 3/4 time, typically "the waltz", we alternate basses and chords.

In 2/4 time, typically "the march", the basses are also alternated with the chords, but rather in half beats, or eight notes. In order not to have to repeat the same bass (the root) on each beat, the fifth¹ of the chord is used as an "auxiliary" bass.

Of course, you can also alternate basses and chords in 4/4. This allows to play the whole thing only with the left hand, jumping from the bass to the chord. This technique is called "the stride" (in jazz). The right hand, freed, can then play the melody (see Add the melody).²

¹ The fifth of the chord is the 5th degree, starting to count from the root.

For example for the C chord: **C=1 (root)**, D=2, E=3, F=4, **G=5 (fifth)**.

Tip: The fifth has, on a piano keyboard, always the same color (white/black) as the root.

Except for **B with fifth F#**, and **Bb with fifth F**.

² This technique requires precise jumps and is therefore not the most suitable for beginning pianists.

Basic rhythm in compound meter

The 6/8 meter	is composed of	2 beats	each subdivided in 3.
The 9/8 meter	is composed of	3 beats	each subdivided in 3.
The 12/8 meter	is composed of	4 beats	each subdivided in 3.

The difference between compound meter and simple meter is only audible at the level of the subdivision of time: a **ternary** subdivision ("in 3") for compound meters, against a **binary** subdivision ("in 2") for simple meters. We will see later on how to make this difference heard at the level of subdivisions. But, in basic rhythm (at the level of beats), there is no notable difference between simple and compound meter.

However, in the 6/8 meter (in 2 beats), one will accompany less often in the typical "march" style, and in the 9/8 meter (in 3 beats), one will accompany less often in the typical "waltz" style (one will not alternate basses and chords automatically).

In-between basses

One rhythmic variation that beginning accompanists often discover on their own is the addition of an in-between bass, between beats, just before the chord change.

PLAYING THE PIANO WITH CHORDS

4/4 time signature. Bass line consists of quarter notes. Treble line consists of eighth-note chords. Bass line consists of eighth notes.

In-between basses can be played anywhere in the bar. Bassists, for example, very often play In-between basses just before the accented beats (before the 1st strong beat and before the 3rd half-strong beat).

4/4 time signature. Bass line consists of eighth notes at the start of each measure. Treble line consists of eighth-note chords. Bass line consists of eighth notes.

Punctuation (breaks)

To clearly convey the structure of a piece, one can use "breaks" every 4 bars (according to the hypermeasure) and in the transitions between musical phrases and parts. A "break" means to break with the "regularity of the rhythm" (or "groove").

The musical text is thus punctuated (as in written language) with "commas" (small, short and discreet breaks) and "full stops" (or "periods") (larger, longer and more striking breaks).

For the sake of clarity, the breaks are noted below in big notes, and the groove in small notes.

4/4 time signature. Bass line consists of large eighth notes. Treble line consists of eighth-note chords. Bass line consists of small eighth notes.

PLAYING THE PIANO WITH CHORDS

The musical score consists of two staves. The top staff is labeled 'CHORUS' and contains four measures of chords: F major, C major, A minor, and G major. The bottom staff continues the sequence of chords. The right hand is shown playing the chords, while the left hand provides octave basses.

Subdivision of the beat

"Hand/thumb" technique

The "hand/thumb technique"¹ is very often used to play with the subdivisions of the beats.

The (right) hand – all fingers except the thumb – plays the beats. The (right) thumb plays the subdivisions between the beats. The chord is "broken" into two pieces.

Sometimes the (right) thumb notes are barely audible. These notes are then called "ghost notes".

To make the concept of ghost notes more visible on the score, I have noted the notes played by the thumb in smaller notes in the following examples.

Octave basses in the left hand also allow to alternate between the little finger and the thumb ("little finger/thumb technique").

The musical score shows a single staff in 4/4 time with a tempo of 4. The right hand uses the 'hand/thumb' technique, with the thumb playing the subdivisions between beats, indicated by small arrows above the notes. The left hand provides octave basses. Fingerings are marked below the notes: 5, 1, 5, 1, 5.

With the (right) thumb playing the subdivisions of the beats, the difference between the simple meter of 4/4 – with a **binary** subdivision ("in 2"), as above – and the compound meter of 12/8 – with a **ternary** subdivision ("in 3"), as below – now becomes very clear.

¹ The term "hand/thumb technique" is not at all common. Yet it describes a technique that is used so often that it's actually surprising that it is not heard more often.

PLAYING THE PIANO WITH CHORDS

12/8 time signature. The top staff shows a continuous sequence of eighth-note chords: C major (two notes), A minor (two notes), D minor (two notes), G major (two notes), and C major (two notes). The bottom staff shows the bass line with notes labeled 5, 1, 5, 1, 2, 1. Measure numbers 1, 2, 3, 4, 5 are indicated above the measures.

Alternating left thumb / right thumb

The beats can also be subdivided "in 4" sixteenth notes (also a **binary** subdivision, because it's an even subdivision). In order to facilitate a fast execution, this can be done, for example, by alternating the right and left thumbs.

4/4 time signature. The top staff shows a continuous sequence of eighth-note chords: C major (two notes), A minor (two notes), D minor (two notes), G major (two notes), and C major (two notes). The bottom staff shows the bass line with notes labeled 5, 1, 5, 1, 2, 1. Measure numbers 1, 2, 3, 4, 5 are indicated above the measures. Dynamic markings 'p' are placed under the bass notes in each measure.

Alternating the left and right thumbs is a very common technique, in all kinds of styles and rhythms. The two thumbs play a kind of additional percussion, usually in ghost notes (rather discreetly), between the main accents.

Ternair, Shuffle and Swing

A very typical rhythm, used especially in Blues and Boogie, is the "Shuffle". It is a ternary rhythm (in compound meter) of which one plays, for each beat, only the 1st and the 3rd eighth note of the subdivision. This generates a very recognizable "long – short – long – short – long ..." rhythm.

This "long – short – long – short – long ..." rhythm is also typical for some traditional styles like the Irish jig, the Neapolitan tarantella, the 6/8 march... But what differentiates the "shuffle" is ...

The typical Blues/Boogie/Jazz/Rock accentuation or "reverse accentuation". In these styles, it is the weak beats (2nd and 4th beat) that are accentuated instead of the strong beats (1st and 3rd).

PLAYING THE PIANO WITH CHORDS

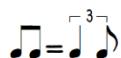
A musical score for piano chords in 12/8 time. The top staff shows a treble clef, a key signature of one sharp (F#), and a tempo of 12/8. The bottom staff shows a bass clef and a key signature of one sharp (F#). The score consists of four measures. Measure 1: C major chord (C, E, G) followed by an A minor chord (A, C, E). Measure 2: D minor chord (D, F#, A) followed by a G major chord (G, B, D). Measure 3: C major chord (C, E, G). Measure 4: C major chord (C, E, G). Measures are separated by vertical bar lines. Measures are grouped by double bar lines.

"Swing" is very similar to the shuffle, but less "shaky". The swing is a typical jazz rhythm. The swing will be more or less audible (more or less ternary) depending on the tempo of the piece: the faster the piece, the less audible the swing. To learn to swing well, you have to listen to a lot of swinging music.

Ternary rhythms in compound meters are particularly difficult to read, especially for beginners. That's why we often prefer to write them in 4/4 (simple binary meter, easier to read), with a remark at the top of the score indicating that it is in fact a ternary rhythm, for example **TERNAIR** or **SWING** or **SHUFFLE**. Compare the example below in 4/4, with the previous example, identical, but in 12/8.

A musical score for piano chords in 4/4 time. The top staff shows a treble clef, a key signature of one sharp (F#), and a tempo of 4/4. The bottom staff shows a bass clef and a key signature of one sharp (F#). The score consists of four measures. Measure 1: C major chord (C, E, G) followed by an A minor chord (A, C, E). Measure 2: D minor chord (D, F#, A) followed by a G major chord (G, B, D). Measure 3: C major chord (C, E, G). Measure 4: C major chord (C, E, G). Measures are separated by vertical bar lines. Measures are grouped by double bar lines. In the first measure, the word **SWING** is written above the staff, followed by a small musical notation consisting of two eighth notes followed by a triplet bracket over two eighth notes.

In this last example we can see, next to the word **SWING**, a second notation which indicates that it is a ternary rhythm.



This is called a "metric modulation" which says "play two eighth notes as (=) a quarter note + an eighth note in a triplet". In other words, you have to subdivide each beat into three eighth notes (into a triplet of eighth notes) and play only the 1st and 3rd, exactly the description of the shuffle at the beginning of this topic.

In contrast, when you want to make it clear that a score written in 4/4 is not a swing, nor a shuffle, nor a ternary rhythm – typically in jazz circles where there's a tendency to "swing" all songs – you indicate this with the remark **STRAIGHT 8THS** (which means "even eighth notes").

Arpeggios

In an **arpeggio**¹, the "broken" chord is played note by note. This technique gives the accompaniment a certain "melodious grace", and it allows to play easily in any type of subdivision of the beats ("in 2", "in 3", "in 4").

The image shows four sets of piano staves. Each set consists of a treble clef staff above a bass clef staff, both in common time (indicated by a '4'). The first set, labeled "IN 2", shows two-note chords being arpeggiated. The second set, labeled "IN 3", shows three-note chords being arpeggiated from top to bottom. The third set, labeled "IN 4", shows four-note chords being arpeggiated from top to bottom. The fourth set, labeled "IN ALTERNANCE, STARTING WITH TOP", shows the same four-note chords being arpeggiated starting with the top note. The fifth set, labeled "IN ALTERNANCE, STARTING WITH BOTTOM", shows the same four-note chords being arpeggiated starting with the bottom note.

There are many other possible combinations, for example ...

- Alternating, starting with the middle followed by the top
- Alternating, starting with the middle followed by the bottom

Possibly also by leaving out one of the "voices".

- Without the top note
- Without the middle note
- Without the lower note

Be creative!

¹ The Italian term "arpeggio" (arpeggio) is derived from the word "arpa" (harp). "To sound like a harp".

PLAYING THE PIANO WITH CHORDS

Left hand arpeggios

Arpeggios are also often used to play chords in the left hand. But the low register of the piano (lower than low C) is not suitable for full chords. The sound becomes "muddy". Therefore, the third¹ is usually left out of the chord. Only the root (little finger = 5), the fifth (index finger = 2) and the octave note (doubling of the root in the octave) (thumb = 1) are kept.

The left hand in arpeggios can play all the beats (or possibly also the subdivisions of the beats), freeing the right hand to Add the melody to the arrangement.

C A_m D_m G C
 ROOT FIFTH OCTAVE FIFTH ROOT FIFTH OCT. FIFTH ROOT OCT. ROOT OCT. CHORD
 5 5 5 5 5 5 5 5 5 NO THIRD

If you want to keep the third of the chord in the left hand, you play it above the octave note. This "wide" position of the chord avoids the "muddy" sound it would have in a "close" position.

Wide positions require large hand spreads and are therefore not suitable for pianists with small hands, unless the hand is allowed to pivot slightly on the fifth. Large hands prefer to use the middle finger (= 3) as a pivot, while small hands should use the index finger (= 2) instead.
 (The wavy arrow next to the final chord in the left hand indicates that the chord should be arpeggiated quickly from bottom to top).

C A_m D_m G C
 ROOT FIFTH THIRD FIFTH ROOT FIFTH THIRD FIFTH ROOT THIRD ROOT THIRD CHORD
 5 5 5 5 5 5 5 5 5 WITH THIRD

The use of subdivisions, playing with more notes per bar, allows to enrich the arpeggios (chords) with the doubling of some chord notes, and even with passage notes² between the chord notes (which is of course also conceivable for right hand arpeggios). The chords will generally be played in wide positions, beyond the octave.

¹ The third of the chord is the 3rd degree, starting to count from the root.

For example for the C chord: C=1 (root), D=2, E=3 (or third).

² To understand what passage notes are, see Variations with approach tones.

PLAYING THE PIANO WITH CHORDS

C Am Dm G C

1 5 1 2 3 2 1 5 1 5 1 2 3 2 1 5 1 5 1 2 3 2 1 5 1 5 1 3 1 5 1 3 TRIAD

The small numbers, just under the notes, give the fingering.

The large numbers below indicate the degrees of the chord: 1 = root or octave note (doubling of the root), 5 = fifth, 2 = second (passage between 1 and 3), 3 = third.

Displacement of accents (syncopations)

You can find more information on this subject in the chapter on Rhythmic notation (tone duration).

The hand/thumb technique and the arpeggio technique are very useful to learn how to move accents, or in other words, to learn how to place syncopations in the bar. For instance, in 4/4, the 8 eighth notes – normally grouped in two equal groups of 4 eighth notes (4+4), or in four equal groups of 2 eighth notes (2+2+2+2) – can be grouped unevenly, like 3+3+2 (a very common grouping, sometimes called "rumba" accentuation).

This causes a shift in accentuation **between**, rather than on, **the beats**. The bass, which in the example continues to play on the 1st and 3rd beats, makes it easier to feel this shift in emphasis (anticipation of the 3rd beat) in relation to the strong beats. Once this new accentuation is well assimilated, one can remove the subdivisions (for example the thumb in bar 1 above) to keep only the accents (with the syncopation/anticipation).

Other types of groupings are possible. Below with anticipation of the 4th and 1st beats.

PLAYING THE PIANO WITH CHORDS

The image shows two staves of piano sheet music. The top staff is in treble clef and the bottom staff is in bass clef, both in common time (indicated by '4'). The music consists of five measures. Measure 1 starts with a C chord (root position). Measure 2 starts with an Am chord (root position). Measure 3 starts with a Dm chord (root position). Measure 4 starts with a G chord (root position). Measure 5 starts with a C chord (root position). In each measure, the top staff has an eighth-note pattern with an accent above each note, and the bottom staff has an eighth-note pattern with a bass line below it.

Complex rhythms

When the two hands each have to play a different rhythmic combination, sometimes with accent shifts, the coordination of the two hands becomes increasingly complex. Learning to play complex rhythms requires a good feel for the syncopation effect. A good way to learn how to play this kind of rhythm is to build it up step by step ("pas à pas") in repetitive "loops". Below is an example for a Bossa Nova rhythm.

The image shows four staves of piano sheet music illustrating the building of a Bossa Nova rhythm. The first staff is labeled 'C STEP 1' and shows a simple quarter-note chord pattern. The second staff is labeled 'STEP 2' and shows a more complex eighth-note pattern. The third staff is labeled 'STEP 3 (AND SO ON)' and shows a sixteenth-note pattern. The fourth staff is labeled 'FINAL RESULT: BOSSA NOVA' and shows the complete Bossa Nova rhythm. The music is in common time (indicated by '4'). The top staff is in treble clef and the bottom staff is in bass clef.

PLAYING THE PIANO WITH CHORDS

Important: Each step (pas) should be played dozens of times, on the metronome, until the rhythm can be played with the utmost confidence and at a fairly high tempo. Only when you feel the rhythm (and no longer think it) can you move on to the next step.

Styles

In this study on rhythmic variations, we've dealt primarily with techniques, not styles (except for a few examples). In order to learn new rhythms and styles, it is essential to **listen** to the styles you want to learn. Play along with a recording (YouTube, Spotify, ...) of the song you want to learn on the piano until you **feel** how your accompaniment fits the song.

Learning to play rhythms and styles from sheet music has three major drawbacks. (1) It is often much more difficult and time consuming than learning by ear. (2) For each style you want to learn, you will have to find a piece in the right style, well arranged and technically feasible. (3) Each score, each piece, each arrangement, comes with its own variations/creations within the style itself, which makes it difficult to get a more general idea of the style you are trying to learn.

The book [Piano Rhythm Patterns](#) (by Bob Kroepel - 1977) offers a beautiful palette of different styles. It presents rhythms, from simple to more complex, in a very accessible way.

VARIATIONS IN DYNAMICS

More or less

Varying the "dynamics" always means emphasizing "more or less" a specific aspect of the music, and alternating this "more" and "less" to create contrasts. This gives the piece more character and more "dynamics", making the music livelier and more moving. When you don't vary the dynamics, the music sounds "flat" and "static".

It's the dynamics that give the music its real magic. It is a matter of well dosing, like the best cuisine chef, sometimes resolute and daring, sometimes very subtle and sensitive. The dynamics require the musician to open up all his senses and express himself with passion (which is so evident in the performer's sometimes painful facial expressions). And this is how one shares emotion, affection and the relationship to the "other" (both with the other musicians and with the audience). It is in the dynamics that the "professional" musician stands out in comparison to the "amateur".

Beginners tend to ignore, or at least forget, the dynamics of music. On a scale of 1 to 10, they play everything on 5. And when they finally start to take it into account, they vary from 4 to 6. That's why I always ask my students to exaggerate the dynamics, to play from -1 to 11. And when they're convinced that they are already exaggerating too much, I am usually only moderately satisfied, because in fact they play from 3 to 7. Americans rightly say: "You need to play BIGGER than life!".

Written dynamics

Dynamic markings

The first aspect of musical dynamics is the volume, or intensity, of the sound, the fact of playing louder or softer, of alternating **nuances** (all possible gradations between soft and loud). We will examine later on other aspects of the dynamics, such as accentuation, movement, rhythmic activity, sound mass, register and pedal. But all are closely related to the loud/soft dynamics.

I prefer to give my students the freedom to decide for themselves when and how to play the nuances (by **intuition** and by **ear**). In this way, they learn to interpret by **feel** rather than by command. But, on classical scores, most composers write down the nuances to be played.

Notation (abbreviation of ...)	In Italian	Translation
ppp	piano pianissimo	as soft as possible
pp	pianissimo	very soft
p	piano	soft
mp	mezzo piano	moderately soft
mf	mezzo forte	moderately loud
f	forte	loud
ff	fortissimo	very loud
fff	forte fortissimo	as loud as possible

Exceptionally, we also find (rather in contemporary music) even more repetitions of letters (like **pppp** or **ffff**) to give an even more extreme nuance to the music.

PLAYING THE PIANO WITH CHORDS

Of course, one can also, and often should, move gradually from soft to loud. This is called playing in "crescendo" (Italian word meaning "in an increasing manner"). Or, conversely, by going progressively from loud to soft, play in "decrescendo" or "diminuendo".

There are two types of notation for this type of gradual transitions:

- Abbreviations like **CRES.** (crescendo), **DECRES.** (decrescendo) and **DIM.** (diminuendo).
- "Hairpins" as in the example below: a crescendo followed by a diminuendo.

And if we can't find nuance markings on the score, some "rules" can help us create the dynamics of a piece. These rules are only guidelines, ideas that can (often) be applied, not that must (always) be applied.

Song structure

In a song with lyrics (an easy-to-understand example), the structure, the different parts of the song, will determine the nuances. The verse will generally be played more softly than the chorus ("ritornello" in Italian). Because...

- The verse is the narrative part of the song. The accompanist makes way (plays softer) for the singer so that the text can be clearly transmitted to the listener.
- The chorus, on the other hand, is the text that comes back several times ("ritornello" means "recurring"). It is the moral of the story, which is sung in "chorus" (in "choir"). It is played louder.

It is therefore possible, and even necessary, to use the dynamic nuances to give each part of a piece its own character.

Repeats

Repeats can be played differently by giving them a different nuance. This avoids useless, boring and flat repetitions that bring nothing new to the piece.

Accentuation

We've seen in the previous chapter how important accentuation is for a good sense of rhythm and meter. The alternation of strong, weak and half-strong beats, with or without syncopations, determines the style, the dance, the atmosphere of the music being played.

For more information on accentuation and syncopation, see [Rhythmic notation \(tone duration\)](#).

The more accented the music is, the more rhythmic and danceable it will be. This is called playing **rhythmically**. If, on the other hand, one wants to give more space to the text, the narrative and the

PLAYING THE PIANO WITH CHORDS

melody, one will accentuate much more discreetly, even to the point of completely removing the accents (typical in romantic classical music). This is called playing **lyrically**.¹

Rhythrical accentuation

Rhythmic accentuation does not normally have its own symbols on the score, as it is implicit in the rhythmic notation and the meter. There are four levels of rhythmic accentuation, from loud to soft:

1. Accents (strong and half-strong beats) which are played the loudest.
2. Weak beats
3. The subdivision of the beats
4. The "ghost notes" that are played the softest.

But at each level, it is possible to make even more subtle distinctions, for example between strong and half-strong beats, or between strong, weak and half-strong subdivisions, A good drummer always marks these different levels of accentuation well, sometimes in a very contrasting way, sometimes much more discreetly. A good pianist, also a percussionist (the piano being a percussion instrument), must, like the drummer, mark all the levels of accentuation well.

Lyrical accentuation

In the "narrative line" (the "contour") of a melody, one may want to emphasize certain notes to give the story more shape and meaning. This is noted above or below the notes with accent symbols, each with a specific meaning.

Symbol	In Italian	(meaning)	Accent type	
>	martellato	(hammered = accent)	dynamic	(intensity)
^	marcato	(marked = emphasized)	dynamic	(intensity)
<i>sf (sfz)</i>	sforzando (sforzato)	(reinforced)	dynamic	(intensity)
.	staccato	(detached = short)	articulation	(length)
-	tenuto	(sustained)	articulation	(length)
▼	staccatissimo	(very short)	articulation	(length)

This list only contains the most common symbols. They can be "dynamic" (intensity) accents or "articulation" (length) accents. Articulation accents do not affect the rhythm, only the sound.

A quarter note played staccato will sound shorter but will still fill the same part of the bar (the beat). The gap caused by the shorter sound is filled by a rest.

Movement

The movement consists of variations in tempo. When speeding up or slowing down the music, one plays "with movement" ("con moto" in Italian). This has nothing to do with dynamics in the strict sense – softer, louder – but with tempo – slower, faster. Allowing movement in music nevertheless makes it more dynamic and livelier. Moreover ...

Movement will almost always be accompanied by dynamic variations. When a piece speeds up, one will tend to play crescendo, and vice versa, when one plays crescendo, one will want to speed up. The same logic applies to slowing down, usually accompanied by a decrescendo.

¹ The "lyrics" are the text of the song. But in instrumental music the term "lyric" also refers to the melody, which is in its own way also the "text" (or story) of the piece.

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Notation (abbreviation)	In Italian	Translation	
RIT. ¹	ritenuto ritardando	slow down	(to resume after)
RALL.	rallentando	slow down	(to stop after; like ritardando)
ACCEL. (ACC.)	accelerando	speed up	
POCO (RIT. OU ACC.)		a little	(slow down or speed up)
MOLTO (RIT. OU ACC.)		a lot	(slow down or speed up)
A TEMPO		(back) to tempo	(after slowing down or accelerating)
PIU MOSSO		with a more distinct movement	
(TEMPO) RUBATO		free tempo	

Depending on the style of music, variations in tempo are desirable or not.

- In classical romantic lyrical music, but also often in ballads (lyrical songs), movement is not only welcome, but often required.
- In non-classical dance music (jazz, pop, rock, ...), movement is to be avoided at all costs. One must be very careful that the nuances do not influence the tempo. The dynamics should rather focus on the structure of the piece (musical parts with different dynamics, transitions from one part to another, ...) and on the, more or less dancing, rhythmical accentuation.

If there is no indication of movement on the score, one can add some to clarify the structure of the song: in the middle of the phrase (following the hypermeasure of 4 bars)

=> a barely perceptible ritenuto (a "comma", not noted on the example below)

- | | | |
|--------------------------|---------------|--|
| at the end of the phrase | => POCO RIT. | a slight but perceptible ritenuto (a "semicolon" or ;) |
| at the end of the part | => RIT. | a marked ritenuto (a "full stop") |
| at the end of the piece | => MOLTO RIT. | a big ritardando (a "definite ending"). |

The image shows three musical staves illustrating tempo changes:

- FIRST PART:** Labeled "MUSICAL PHRASE". It consists of two "HALF PHRASE" sections. The first section ends with a vertical bar line followed by a short horizontal line, indicating a Poco Rit. (slight ritardando). The second section ends with a vertical bar line followed by a longer horizontal line, indicating a Rit. (marked ritardando).
- SECOND PART:** Labeled "A TEMPO". This section starts with a vertical bar line followed by a short horizontal line, indicating a Poco Rit. (slight ritardando).
- Third Staff:** Labeled "MOLTO RIT.". This staff shows a long horizontal line extending across several measures, indicating a very marked ritardando.

¹ Most scores indicate RIT. without distinguishing between a ritenuto (to resume after) and a ritardando (to stop after), because the performer knows himself what he will do "after".

Improvised dynamics

Nuances, accentuation and movement are three aspects of dynamics that have their own classical notation (except for rhythmic accentuation which is implicit in the meter). However, they are rarely found notated on a chord sheet, forcing the accompanist to improvise them.

But there are still other aspects that have a great influence on the dynamics: more or less **rhythmic activity**, more or less **sound mass**, a higher or lower **register** and more or less **pedal** (left or right pedal). Of course, these aspects are familiar to arrangers and composers, and naturally find their way into the classical score in this way. But an accompanist, who improvises from a chord chart, must know how to use these four aspects as assets to underline the dynamics of the piece.

Rhythmical activity

An accompaniment that plays only the beats of the bar will sound quieter, and therefore generally softer, than an eighth note accompaniment. A syncopated or irregular rhythm will sound more nervous, and will tend to be louder, than a regular rhythm. More activity means more rhythmic subdivisions and/or more use of syncopations, and vice versa. Here are two obvious examples:

Two different musical parts (couplet = verse, refrain = chorus) can be accompanied with more or less activity.

A musical score for piano. The top staff is labeled "VERSE" and the bottom staff is labeled "CHORUS". Both staves are in common time (4/4). The top staff starts with a dynamic marking "p" (piano). The bottom staff starts with a dynamic marking "f" (forte). The music consists of chords and eighth-note patterns.

A crescendo can be perfectly underlined by an increasing activity in the accompaniment.

A musical score for piano. The top staff is labeled "C", the middle staff is labeled "TRANSITION TOWARDS CHORUS", and the bottom staff is labeled "CHORUS". All staves are in common time (4/4). The bottom staff starts with a dynamic marking "p" (piano). The middle staff ends with a dynamic marking "f" (forte). The music consists of chords and eighth-note patterns.

Sound mass

More "sound mass" (bigger sounds, more notes, more fingers on the keyboard) will also sound louder than less "mass" (thinner sounds, fewer notes, fewer fingers). Like the activity above, mass can be used as a dynamic asset. Here are two examples that are very similar to the ones above, but this time adapted to the "mass".

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Two different musical parts can be accompanied with more or less mass.

A musical score for piano. The top staff is labeled "C VERSE" and the bottom staff is labeled "CHORUS". Both staves begin with a dynamic of *p*. The "CHORUS" staff then transitions to a dynamic of *f*.

A crescendo can be perfectly underlined by an increasing mass of sounds.

A musical score for piano. The top staff is labeled "C" and the bottom staff is labeled "TRANSITION TOWARDS CHORUS". Both staves begin with a dynamic of *p*. The "TRANSITION TOWARDS CHORUS" staff then transitions to a dynamic of *f*.

Register

The use of low, medium, high or very high tones will also influence the dynamics, although here it's more difficult to establish trends like "lower = softer" and "higher = louder". But one can imagine this: lower = darker, therefore sadder and therefore softer. But it could just as easily be: lower = darker, therefore more threatening and therefore louder. And: higher = lighter, therefore happier and therefore louder. Or: higher = lighter, therefore more discreet and therefore softer. The register mainly influences the **character** of the music. And the character of course also influences the dynamics of the music.

A useful tip for scores already arranged in classical notation (less so for chordal accompaniments): As one moves away from the middle register, one will tend to play crescendo, and conversely, as one returns to the middle register, one will tend to play decrescendo.

A musical score for piano. The top staff begins with a dynamic of *p* and ends with a dynamic of *f*. The bottom staff begins with a dynamic of *f* and ends with a dynamic of *p*.

The pedal

The use of the piano pedals also has a huge influence on the dynamics. Many of my students consider the use of the pedal as a kind of "fixed technical data" or "following predetermined rules". They don't sufficiently realize that the use of the pedals is an element of interpretation over which they have complete creative freedom.

PLAYING THE PIANO WITH CHORDS

The sustain pedal

The right pedal (sustain pedal, damper pedal, loud pedal) is absolutely essential. All pianists use it, a lot and often. When we talk about "the pedal", we always mean "the right pedal".

It is used to maintain the sound with the foot, a sound that would stop as soon as you let go of the keys. In most cases it is used to link (to connect in legato, to avoid silences between) chords that are impossible to link with the fingers, or to merge notes in arpeggios in order to reach the full sound of the chord.

The musical notation shows a piano keyboard with two chords: C major and F major. The left hand plays the bass notes, and the right hand plays the treble notes. The first section, labeled 'LINK CHORDS', shows the pedal being released at the end of the C chord and pressed again at the start of the F chord. The second section, labeled 'MERGE ARPEGGIOS', shows the pedal being held through both chords as arpeggios are played. A red circle highlights the pedal position at the start of the F chord in the first section.

The **pedal reflex** – circled in red above – is a single foot movement that consists of **releasing** the pedal **on the first beat** of the bar (to cleanly cut off the sound of the previous bar's chord) and in the same movement, **pressing** the pedal down again **immediately** after the beat (to maintain the sound of the new chord from the very first note on).

Learning to play with the sustain pedal

Preparation for each exercise (and for each song):

Always start with the pedal down!

This pedal does not hold any sound yet. It is only used to prepare the foot for the pedal reflex.¹

Linking chords (see bars 1 and 2 in the example above)

1. **RELEASE** the pedal simultaneously with the attack of the first chord.
(Keep your hands in the keyboard).
2. **PRESS** the pedal down
(Hold the pedal down.)
3. Release your hands.
(Still keep the pedal down.)

Repeat each step with the new chord, and continue to alternate chords.

Listen to the result! If the chords are **NOT connected**, you are **releasing** the pedal **too soon**. This is the mistake not to make!

If, on the other hand, the chords are mixing up, you are releasing the pedal too late. But in this case, don't panic, this type of mistake will automatically disappear with practice.

Always take the time at each step, no matter how simple, to ask yourself the question "Was this step done correctly?" before moving on to the next step. After ten to twenty attempts, the steps should gradually become automatic, as a "reflex".

¹ All pianists, even experienced ones who no longer need to learn the pedal reflex, always start with that "first pedal for nothing".

PLAYING THE PIANO WITH CHORDS

Once you have become accustomed to the previous exercise, and can play it with ease, you must learn to convert steps 1 and 2 into **one unique fluid movement**: the **pedal reflex**. The best way to do this is to use the second exercise:

Merge arpeggios (see bars 3 and 4 in the example on the previous page)

1. **RELEASE** the pedal simultaneously with the attack of the very first note of the bar, and immediately **PRESS** down again.
2. Play the rest of the arpeggio (from the second note in the bar) **only after** you've pressed down the pedal.

Repeat each step with the new bar, and continue to alternate the bars in this same way.

Play slowly enough to give the foot time to do the **single joint OFF-on** (release-press) movement for the short duration of only one eighth note (the very first note). In the beginning, you may find yourself thinking the **OFF-on** still in two steps, but eventually it should be executed in one single step.

Once you've learned to place the pedal reflex, never think about the foot again, because the pedal is played by ear, not by head. Make it a habit to study each new piece immediately with the pedal, starting with the first session. It is your hearing – not your reason – that will "know" if pedal is needed and, if so, when to place the pedals (i.e., the pedal reflexes).

But the right pedal is more than just an "on-off switch". It is possible to play with intermediate gradations that we conveniently call quarter pedal, half pedal, three quarter pedal and full pedal (with even finer gradations).

The pedal can be used, in a "song without pedal", to emphasize accents (on-off), or to get a "wetter" sound (with a half or three-quarter pedal), or to emphasize crescendos with increasing sound mass (quarter, half, three-quarter, full pedal), and many other "pedal-on" effects.

Conversely, in a "song with pedal", the pedal can be released to obtain a rhythmic staccato, to create surprising rests and breaks (sudden off), to produce a "drier" sound (with half or quarter pedals rather than full pedals), and many other "pedal off" effects.

There's a way to achieve extreme finesse of sound with this pedal ("refining the pedal" is a common phrase in my classes). Always use your **ear**, trying to imagine the sound you are trying to achieve.

The soft pedal (una corda)

The left pedal (soft pedal, *una corda*) is more difficult to learn because the effect it produces is much more subtle to perceive than the clearly audible effect of the right pedal. This is the reason why too many pianists ignore this pedal completely.¹

The left pedal is used to attenuate the sound to obtain a softer, more discreet, more subtle and/or more muffled sound. On a classical score, this pedal is sometimes (but very rarely) noted as **UNA CORDA** (**UC** = press) and **TRE CORDE** (**TC** = release).² You learn to use it by pressing it down whenever you want

¹ Most pianists who play on a "stage digital piano" don't use the left pedal at all, only the right pedal. They usually even only have one pedal, "the (right) pedal".

² "Una corda" means "one (piano) string", "tre corde" means "three strings". On a grand piano, you can see that, when the left pedal is pressed down, the hammers move slightly to the right to strike only one string. When the pedal is released, the hammers move back into place to strike all three strings per note.

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to play **PIANO** (soft) or **PIANISSIMO** (very soft), and remembering to release it in **FORTE** (loud) and **FORTISSIMO** (very loud) passages.

Once this "on-off" aspect is under control, other subtleties are possible such as playing "FORTE, but still muffled". And as for the right pedal, gradations are sometimes possible (on some grand pianos): half pedal and full pedal. I also always keep this pedal pressed down when I accompany a singer without a microphone, to attenuate the sound of the piano and make more room for the singing.

The middle pedal (study pedal or sostenuto pedal)

On many upright pianos, the middle pedal serves as a **study pedal**. When pressed, a strip of felt descends between the hammers and the strings. The result is a (too) quiet and (too) muffled sound. It's only for studying with as little noise as possible for your family members in the same room or for the neighbors in the next apartment. You can also lock it so you don't have to keep pressing your foot down all the time. This study pedal is never used to "play music".¹

On most recent grand pianos, some upright pianos, and newer digital pianos (with built-in pedals), the middle pedal serves as the **sostenuto pedal**. The sostenuto pedal does exactly the same thing as the right pedal, but only on preselected notes. To select the desired notes, (1) you play them with your fingers, (2) you hold them down in the keyboard, (3) you press the pedal. When you release the fingers, only the selected notes will be affected by the pedal. This allows you to continue playing the other notes, not affected by the pedal, in staccato over the held sound of the preselected notes. This pedal is very rarely, if ever, used. Only classical pianists use it in very specific pieces to create very specific effects. Of course, you should never rule out a creative use that you have imagined yourself.

The key words used in this chapter on dynamics are all rather "vague" (drier, wetter, finesse, subtle, guidelines that can, but must not, be applied, etc.), and for good reason. The interpretation of the "more or less" dynamics is always left entirely to the free creativity and sensitivity of the performer, but never forgetting to do so with immense respect for the composition and for the musicians with whom one is playing.

¹ Although one could imagine a creative use of this pedal.

VARIATIONS IN CHORD POSITION

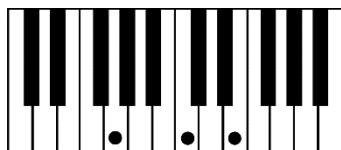
Standard position

The chord positions (voicings¹) that you will find on the next page (and at the beginning of this book) are called (in this book only) "standard positions". The principle behind the adjective "standard" is based on common practice. Experienced pianists tend to play chords "by default" in positions around middle C, in the middle register. From a pedagogical point of view, the use of standard positions is a good start for pianists learning to play with chords, because ...

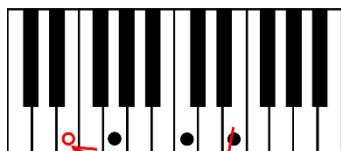
1. They immediately adopt the "standard" practice of experienced pianists.
2. It avoids overloading the memory, because there's only one possible (standard) position for each chord.
3. One plays (in most cases), and this from the beginning, with a good *Voice leading*.

New positions

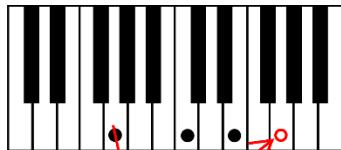
But each chord can be played in other positions.



C chord in standard position.
The **root C** is located in the middle.



The **C** chord, 1 position lower (than standard).
The top note, E, is moved down an octave.
The **root C** is now on top.



The **C** chord, 1 position higher (than standard).
The lower note, G, is moved up an octave.
The **root C** is located below.

As long as the three notes that make up the chord – G C E – remain the same, the chord also remains the same, regardless of the order in which the notes are played – G C E (standard), or E G C (1 position lower), or C E G (1 position higher).

You actually don't need to know more to be able to vary the chord positions. However, I recommend that you first become familiar with the standard positions before trying others.

¹ The term "voicing" is derived from "voice". Each note of the chord is considered a voice.
Imagine a choir with Peter, John, Mary and Eve singing the **C** chord together:

- Eve sings the top note => E (the **third, 3**)
- Mary sings the note just below => C (the **root, 1**)
- John sings the note below Mary => G (the **fifth, 5**)
- Peter sings the bass => C (the **root, 1**)

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	C	C# - D♭	D
(Major)			
m (-) (minor)			

	D# - E♭	E	F
(Major)			
m (-) (minor)			

	F# - G♭	G	G# - A♭
(Major)			
m (-) (minor)			

	A	A# - B♭	B
(Major)			
m (-) (minor)			

	C – E♭ (D#) – F♯ (G♭) – A	C♯ (D♭) – E – G – B♭ (A♯)	D – F – A♭ (G♯) – B
° (Dim)			

PLAYING THE PIANO WITH CHORDS

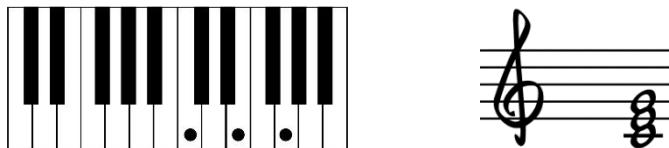
Sometimes, a new position is easier to play than the standard position. In this case, you should always favor this new position, because the easier it is to play, the more fluid it will be.

To be able to build and enrich the chords, it is essential to be able to identify **the degrees of the chord**. So, let's go deeper into the study of these three positions.

Root position

The last position found (1 position higher than the standard position), with the **root** below, is called the "root position", or "building position", or "theoretical position", because the chord is built up from (on) the **root**.

The **C** chord in root position:



C (1 – **root**, 1st note), E (3 – **third**, 3rd note), G (5 – **fifth**, 5th note)

For the origin of the names of the degrees (root, third, fifth), see the chapter on [The intervals](#).

The root position is a stack of thirds

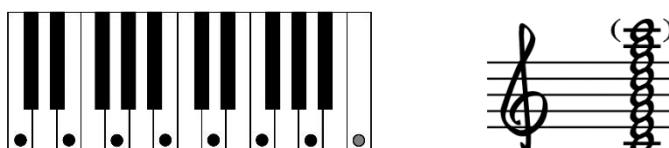
In music theory ("theoretical position") we say that a chord is built ("building position") up from the root ("root position") by **stacking thirds**.

From C to E there's a third. 1 (C), 2 (D), 3 (E)

From E to G there's still a third. 1 (E), 2 (F), 3 (G)

A third on a third is a stack of thirds.

The principle of stacking thirds is important to continue building chords. One can, in theory (practice will prove to be a little different), build a C chord up to seven different notes between C and C two octaves higher.¹



C (1) – E (3) – G (5) – B (7) – D (9) – F (11) – A (13) – (C) (15 = 1)

¹ It's not possible to have more than seven different notes (with some exceptions), because there are only seven different degrees (seven note names) in a scale. Raising (#) or lowering (b) a degree does not create a new degree. It remains the same, though altered, scale (or chord) degree.

Likewise, the highest C, two octaves higher, is not counted as an extra degree either, because it is only a doubling of the root, not a new degree. This is still a chord of only seven notes. This is why I have noted this C in brackets and/or in grey in the text and in the examples.

PLAYING THE PIANO WITH CHORDS

C	E	G	B	D	F	A	(C)
Root	Third	Fifth	Seventh	Ninth (Second)	Eleventh (Fourth)	Thirteenth (Sixth)	(Root)
1	3	5	7	9 (= 2)	11 (= 4)	13 (= 6)	(15) (= 1)

For chords with more than three notes, see the chapter [Variation in chord density](#).

Most chord methods for pianists begin by teaching all chords in root position. This is understandable from a theoretical point of view, i.e., learning to build chords. But in practice, this results in chord accompaniments that don't sound good, because the chords don't connect with a good [Voice leading](#).

In our standard positions chart, only the chords from **G** to **B** are in root position.

As a reminder, a standard position is centered on middle C.

The chords from **G** to **B** all have middle C inside the "chord grip" when played in root position.

[1st inversion](#)

When, starting from the root position, the **root (1)** is moved up an octave, a new position is found which is called the 1st inversion.

The **C** chord in 1st inversion: E (3) - G (5) - C (1).

In the chart, only the chords from **E♭** to **F♯** are in 1st inversion.

[2nd inversion](#)

When, starting from the 1st inversion, the **third (3)** is moved up an octave, a new position is found which is called the 2nd inversion.

The **C** chord in 2nd inversion: G (5) - C (1) - E (3).

In the chart, only the chords from **C** to **D** are in 2nd inversion.

[Names of the positions](#)

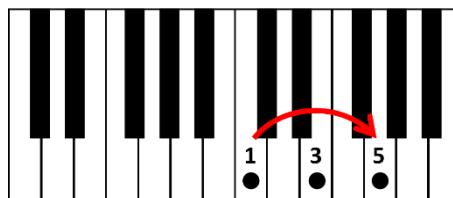
The "root position", **with root below**, seems clear enough to me. On the other hand, when confronted with the terms "1st" and "2nd" inversions, it's necessary to be able to mentally reconstruct the procedure as described above: move the root one octave higher (1st inversion), then move the third one octave higher (2nd inversion). I therefore prefer the expressions "**with root on top**" (1st inversion) or "**with root in the middle**" (2nd inversion).

PLAYING THE PIANO WITH CHORDS

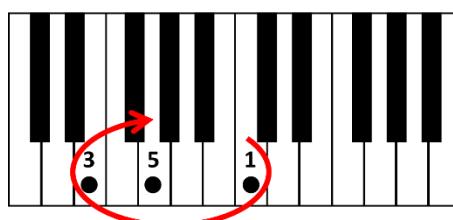
Positions on the keyboard

Here's a tip that makes it easy to trace the chord degrees in any position. When you follow the chord on the keyboard, clockwise starting from the **root**, you'll always find the **third** first, and then the **fifth**. The C chord with ...

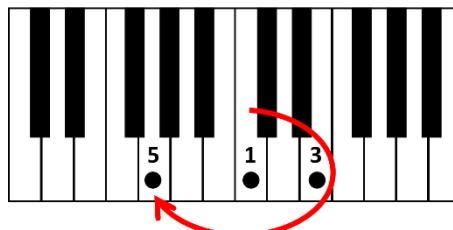
Root below



Root on top



Root in the middle



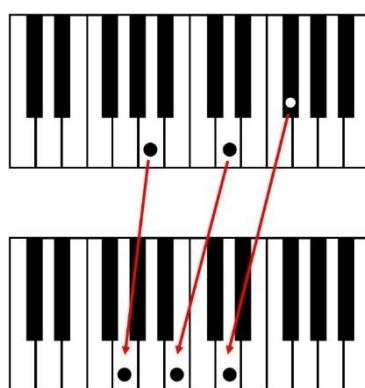
Voice leading

As mentioned at the beginning of this chapter, the standard positions (of the chart) offer the advantage of playing, from the beginning, with a good **voice leading**, *but only in most cases*. Since the chart is limited to offering only one position for each chord, it still happens sometimes that some chord progressions do not follow the best voice leading.

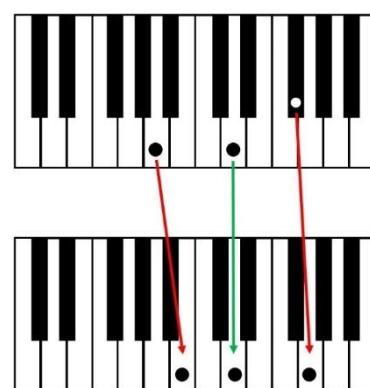
There are **two important rules** to apply to obtain a good voice leading.

Keep common notes in place

Always keep the **common notes** of connecting chords in place. Let the other notes **resolve** to the nearest new notes. Example: the connection from **D** to **G**.



Not ideal.



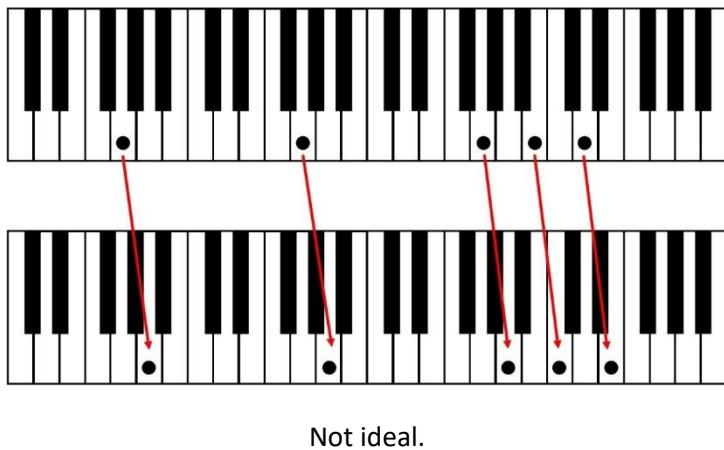
Better!

PLAYING THE PIANO WITH CHORDS

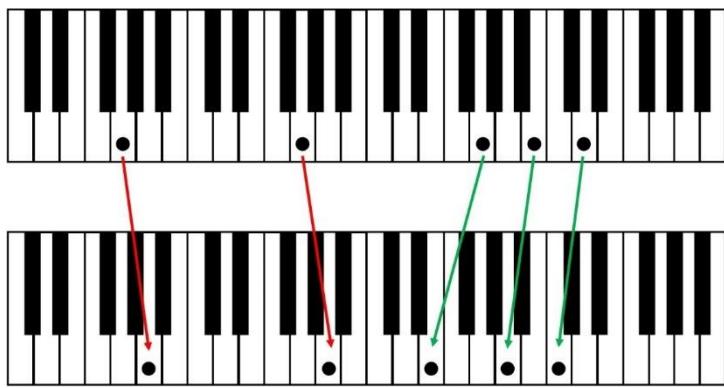
This new position (compared to the standard position) of the **G** chord, connecting with the **common note kept in place**, is easier to play, and the connection also sounds obviously better.

Contrary motion (when bass in step)

When the bass (left hand) moves towards a conjunct note (stepwise, not by leap), it sounds better when the chord (right hand) makes a **contrary motion**: if the bass goes up, the chord goes down, and vice versa. Example for the connection from **G** to **Am**.



Not ideal.



Better!

This connection is not in itself easier to play. But the **contrary motion** sounds better because it avoids a "poor" sounding connection due to too many parallel movements (all the notes moving the same distance, in the same direction and at the same time).

The "singing" of the accompaniment

The "top notes" of the chord determine the "singing" of the accompaniment. When I listen to a piano accompaniment, I can sing it quite easily. In fact, I sing the note that is best heard for each chord, and that's the "top note". And if I know the top note of the chord, I also know its position.

PLAYING THE PIANO WITH CHORDS

Chord symbols never give information about chord positions. When I want to clarify the singing of the accompaniment – and therefore the chord positions – I write the top note of the position above the chord symbol.

E
C => G – C – E (= top note)

c
C => E – G – C (= top note)

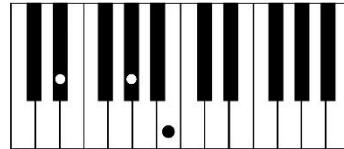
On a chord sheet, this can be noted even more easily and clearly.

G[#]m D[#]m⁷ G[#]m D[#]m⁷

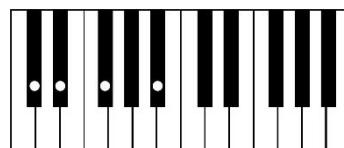
TOP NOTE

Resulting in ...

G[#]m with B “on top”



D[#]m⁷¹ with A[#] “on top”

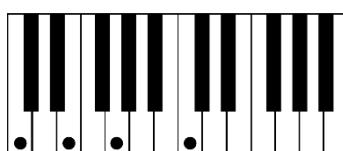


Octave positions

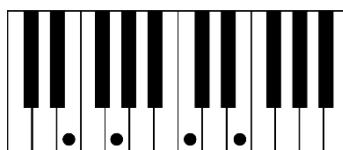
The octave positions emphasize the "singing" of the accompaniment even more, thanks to the doubling of the top note an octave below.

The **C** chord with its three possible octave positions:

With **root** (C) in octave

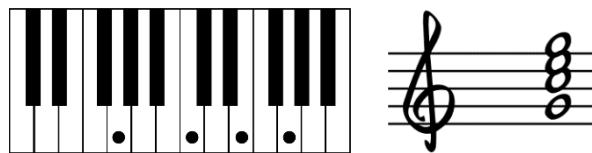


With **third** (E) in octave



¹ To understand the “7” in the D[#]m⁷ chord, see the next chapter, Variation in chord density.

PLAYING THE PIANO WITH CHORDS



With **fifth** (G) in octave

The octave positions sound more grandiose, they have more "sound mass". They are therefore very well suited for **FORTE** accompaniments. (See [Variations in dynamics, Sound mass](#)).

Basses in fifths

You can also vary the "positions" of the bass in the left hand. Instead of taking only the root, you can add its fifth to make the sound bigger. Here are some examples for the **C** (or **Cm**) chord, with a sound mass ranging from "thin" to "big".

SINGLE BASS HIGH	SINGLE BASS LOW	OCTAVE BASS	BASS WITH FIFTH	OCTAVE BASS WITH FIFTH

Wide positions

Adding the third to the bass – thus completing the chord in the left hand – tends to sound too "muddy" (because of the low register). But, the third can be played above the octave note, in a wide position (see [Left hand arpeggios](#)). Large hands can play such a position in a block chord, but most pianists can only do it in arpeggio.

C chord in wide position in the left hand:

BLOCK CHORD	FAST ARPEGGIO	SLOW (RHYTMICAL) ARPEGGIO
 THIRD FIFTH ROOT	 	

Wide positions can also be spread over both hands. But this doesn't make it easier to play the accompaniment because it's more difficult to find a good voice leading. Wide positions are therefore less suitable for sight-reading or improvisation. Composers and arrangers, who have more time to think, to try out and to improve the written work, are more likely to use wide positions.

The musical score consists of two staves. The top staff uses a treble clef and shows chords: C (two dots), Am (one dot), Dm (two dots), G (two dots), and C (two dots). The bottom staff uses a bass clef and shows the bass line for each of these chords, illustrating wide position voicings.

VARIATION IN CHORD DENSITY

In this chapter we learn how to apply the chord extensions (such as: sus2, add2, omit3, sus4, \flat 5, 5, \sharp 5, +, aug, 6, 7, maj7, Δ , Δ 7, \flat 9, 9, \sharp 9, 11, \sharp 11, \flat 13, 13, alt, \emptyset , ...) that we could still ignore at the beginning of this book.

Why can extensions of the chords be ignored?

Too many musicians, especially beginners, mistakenly believe that the "density" of a chord (i.e., the number of different notes that make up the chord: triad, 4-note chord, etc.) is fixed in the chord symbol. This misunderstanding is understandable, because one can find symbols like **C** (triad), or **C7** (4-note chord), or **C7 \flat 9** (5-note chord), and even **C7 \flat 9/ \flat 13** (6-note chord) on sheet music. But every musician is free, when arranging a piece, to enrich the chords by adding extra notes, or to impoverish them by removing notes.

To know with certainty which notes can be added to a chord, one must take a course in jazz harmony.¹ But anyone can, simply **by ear**, try additions to a chord. If the chord sounds good with this extra note, it can be added. If, on the other hand, it doesn't sound too good, it's better not to add that note.²

To remove notes, one doesn't need a course at all. If you don't know what **7**, **7 \flat 9**, or **7 \flat 9/ \flat 13** means, you just ignore it. Any chord, be it with 4, 5, 6 or 7 notes, can always be reduced to its basic triad (admittedly with loss of richness and/or color).

Triads (three-note chords)

The standard position chart contains only the 12 major and 12 minor triads. (And also, at the bottom of the chart, 3 "grips" of 4-note chords, which in fact potentially represent 12 different diminished seventh chords that we will study later).

Major or minor

It's the **third** of the chord that determines whether it is major or minor.

	C
(Major)	
m (-) (minor)	

The **C Major** chord (in standard position)
 $= G (5) - C (1) - E (3) = C$

The **C minor** chord (in standard position)
 $= G (5) - C (1) - E\flat (\flat 3) = Cm$

¹ Readers interested in a jazz harmony course can download my book [Parent Scales and Chord Scales](#) for free.

² The harmony course nevertheless has an advantage over the uneducated ear. It allows one to learn to "taste" certain additions that may seem "strange" at first. A bit like teaching children to appreciate new culinary tastes.

PLAYING THE PIANO WITH CHORDS

The distance between C (1) and E (3) contains two whole tones => major third.

The **C Major** chord has a **major third (3)**.

The distance between C (1) and Eb (b3) contains 1 ½ tones => minor third.

The **C minor** chord has a **minor third (b3)**.

b3 means: lower the major third by a semitone => minor third.

See Semitone and whole tone intervals.

Theoretical overview

Root = 1	Major third = 3	Minor third = b3	Perfect fifth = 5 ¹
----------	-----------------	------------------	--------------------------------

Major triad	1 – 3 – 5	C
-------------	-----------	---

Minor triad	1 – b3 – 5	Cm
-------------	------------	----

Important practical note: Get in the habit of not using the word "major" to refer to a major triad.

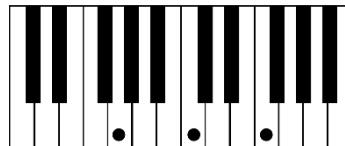
Instead, say "C" or "just C" (as we read the chord symbol). The word "major" will come in handy later on when referring to something else.

Sus4-chord

In practice, for a **sus4** chord, the major third (3) is raised by a semitone (to 4).

In theory, **sus**, short for "suspended"², means that the major third (3) is **replaced** by the perfect fourth (4). A basic rule to remember:

The major third and the perfect fourth never sound good together in the same chord.



Csus4 in standard position

G (5) – C (1) – F (4)

Theoretical overview

Perfect fourth = 4 ³

sus4 chord	1 – 4 – 5	Csus4
------------	-----------	-------

¹ The fifth can only be perfect (= normal), diminished, or augmented. It is never major or minor.

² This "suspension" is called a "delay" (retard) in French. Usually (not always), the fourth (4) is a note from the previous chord that is left hanging (= suspended) to "resolve" with delay in the new chord.

Example of suspension: **F – Csus4 – C**. The note F (root 1 of the F chord) is left in suspension (becomes the perfect fourth 4 of the Csus4 chord) to resolve with delay to E (major third 3 of the C chord).



³ Like the fifth, the fourth can only be perfect (= normal), diminished, or augmented.

Diminished fifth and augmented fifth

The triads have ...

A **root (1)** that cannot be modified without changing the chord itself.

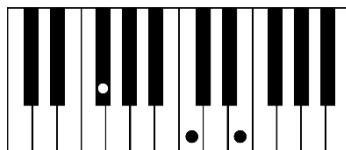
A **third**, which can be major (3) or minor ($\flat 3$).

A **fifth**, which can be perfect (5), diminished ($\flat 5$) or augmented ($\sharp 5$).

Logical practice

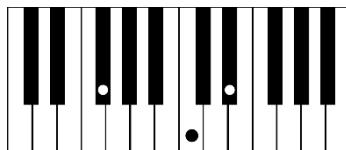
The diminished fifth ($\flat 5$) => lower the fifth by a semitone.

C \flat^5 (in standard position)



G \flat ($\flat 5$) – C (1) – E \flat (3)

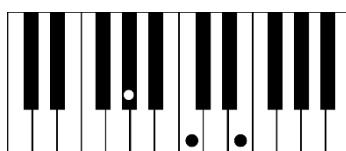
Cm \flat^5 (C°, Cdim) (in standard position)



G \flat ($\flat 5$) – C (1) – E \flat ($\flat 3$)

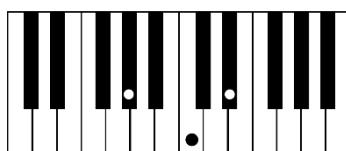
The augmented fifth ($\sharp 5$) => raise the fifth by a semitone.

C \sharp^5 (C+, Caug) (in standard position)



G \sharp ($\sharp 5$) – C (1) – E (3)

Cm \sharp^5 (in standard position)



G \sharp ($\sharp 5$) – C (1) – E \flat ($\flat 3$)

BEWARE! These two extensions, $\flat 5$ and $\sharp 5$, must be written in superscript (in ^{small above}) not to be confused with **C $\flat 5$** (C flat with "only the fifth") and **C $\sharp 5$** (C sharp met with "only the fifth"). Guitarists use this type of 5-chords (with only the fifth) that they call "power chords" and that are actually quite comparable to the Basses in fifths.

Common practice

In common practice, these triads are actually incomplete 4-note chords.

(See Four-note chords: the seventh chords later in this chapter.)

One sometimes encounters **C+ (Caug, C $\sharp 5$)**, the **C augmented triad**, as an "intended" triad ¹, although it is in fact always the dominant seventh chord with added tension $\flat 13$ (see The tensions), and without a fifth: a 4-note chord.

¹ John Lennon is someone who often uses augmented triads in his compositions.

PLAYING THE PIANO WITH CHORDS

We also see quite often **C° (Cdim)**, the **C diminished triad**, which is actually almost always played as a diminished seventh chord: a 4-note chord.

C^{b5} (C major with diminished fifth) and **Cm^{#5}** (C minor with augmented fifth) are virtually non-existent.

Theoretical overview

Diminished fifth = b5	Augmented fifth = #5
Augmented triad ¹	1 – 3 – #5
Diminished triad	1 – b3 – b5

C+ (or **Caug, C^{#5}**)
C° (see *Diminished seventh chords*.)

There is no mention in music theory of the other two "non-existent" possibilities.

Triads in a nutshell

Root with ...	Third	Fifth
C	Major (3)	Perfect (= normal) (5)
Cm (C–, Cmin)	Minor (b3)	Perfect (5)
Csus4	Fourth (instead of third) (4)	Perfect (5)
C+ (Caug)	Major (3)	Augmented (#5)

This short list contains only the most common triads.

Other triads are thinkable, but they are rarely used.

Four-note chords: the seventh chords

Theory

A 4-note chord is obtained by stacking thirds on the root up to the seventh:

C (1) – E (3) – G (5) – B (7) (See *The root position is a stack of thirds*.)

From C to E there's a third. 1 (C), 2 (D), 3 (E)

From E to G there's still a third. 1 (E), 2 (F), 3 (G)

From G to B there's a third yet again. 1 (G), 2 (A), 3 (B)

A third on a third on a third is a stack of thirds.



¹ Unlike the dominant seventh chord (a 4-note chord) with an augmented fifth, the augmented triad is a symmetrical chord. This means that the distance between the degrees is always the same, namely a major third. From C to E there are two whole tones (= a major third), from E to G# there are also two whole tones, and from G# to C there are two whole tones again. The augmented triad is a stack of major thirds.

Therefore, each note of the chord can be the root of its own augmented triad:

C+ = C – E – G#

E+ = E – G# – B# (= C)

G#+ = G# – B# (= C) – D## (= E)

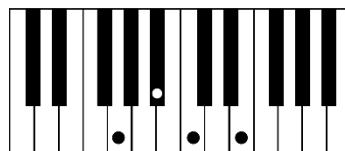
The seventh

The **seventh** is most often minor ($\flat 7$ = normal, seventh by default), but can sometimes be major (7 = special), or diminished ($\flat\flat 7$ = very special, rare).

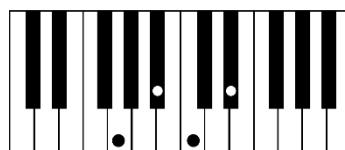
The seventh “by default” (minor 7th or $\flat 7$)

Formula: Add the note that is one WHOLE tone below the root.

C7 (standard position)

G (5) – B \flat ($\flat 7$) – C (1) – E (3)

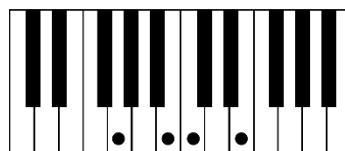
Cm7 (standard position)

G (5) – B \flat ($\flat 7$) – C (1) – E \flat ($\flat 3$)

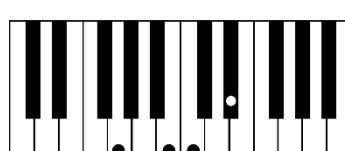
The major seventh “special” (7)

Formula: Add the note that is a SEMITONE below the root.

(In other words: Add the note that "sticks" to the root.)

Cmaj7 (C Δ) (standard position)

G (5) – B (7) – C (1) – E (3)

Cmmaj7 (Cm Δ) (standard pos.)G (5) – B (7) – C (1) – E \flat ($\flat 3$)

Theoretical overview

Minor seventh = $\flat 7$

Major seventh = **7**

The dominant seventh chord

1 – 3 – 5 – $\flat 7$

C7

The minor seventh chord

1 – $\flat 3$ – 5 – $\flat 7$

Cm7

The major seventh chord

1 – 3 – 5 – 7

Cmaj7 (or C Δ)

The minor chord with major seventh

1 – $\flat 3$ – 5 – 7

Cmmaj7 (or Cm Δ)

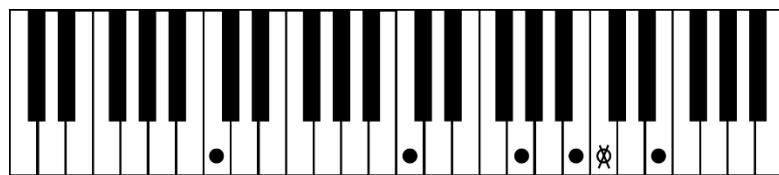
Important note: In spoken language (reading the chord symbols aloud) the word "major" (**maj**) always refers to the "special" **major seventh (7)** of the chord (never to the "normal" major third). On the other hand, the word "minor" (**m**) always refers to the "special" **minor third ($\flat 3$)** of the chord (never to the "normal" minor seventh).

PLAYING THE PIANO WITH CHORDS

Remove the root

In all of these 4-note chords, there is "friction" between the root and the seventh just below it, either a whole tone ($B\flat - C$) or a semitone ($B - C$) apart. Jazz musicians call this friction a "bite" to indicate that this is actually an interesting sound option. But, depending on the style of music one plays, and also on one's own taste, one may prefer to avoid that friction. In particular, the semitone friction, on **maj7** chords, may be disturbing to some.

To avoid the friction, one simply omits the root – which is a doubling of the root in the bass (left hand) – from the right-hand grip. It is therefore not really removed, and the chord, now in a wide position, no longer presents any friction.



Cmaj7 in wide position

This overgeneralization can help in making choices:

The wide position, without a root in the right hand, is typically "classical".

The close position, with "bite" in the right hand, is typically "jazz".

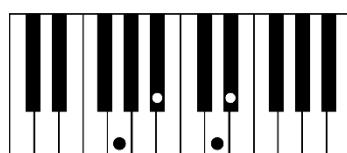
But from a purely pedagogical point of view, I advise my beginner students to always use the close positions (with bite), because the wide positions can lead to confusion between different chords.

The above **Cmaj7** does indeed look like an **Em/C** chord, which can be very confusing for beginners!¹

Hide the bite

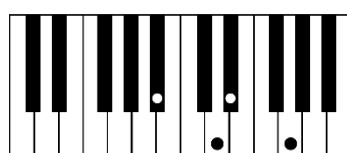
Instead of removing the root, the friction can be hidden "in" the chord.

For example: the **E♭maj7** chord.



E♭maj7 in standard position

In this position, the bite between D and E♭ is too audible, and possibly disturbing, because it's on top of the chord. By playing the chord in a higher position (moving the lower note G up an octave) we hide the bite in the middle of the chord, which makes it much less audible, and therefore less disturbing.

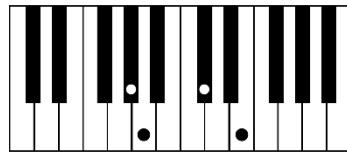


E♭maj7 1 position higher

A bite at the bottom of a chord is not disturbing because it is hidden between the chord (above) and the bass (below, in the left hand). Example:

¹ With experience, **Em/C** can actually be a shortcut to remember how to play a **Cmaj7** chord.

PLAYING THE PIANO WITH CHORDS



Amaj7 in standard position

Diminished seventh chords

This leaves us with the third type of "very special" seventh which occurs only in "diminished seventh" chords. We've already met this type of chord at the bottom of the chart.

	C – Eb (D#) – F# (Gb) – A	C# (Db) – E – G – Bb (A#)	D – F – Ab (G#) – B
° (Dim)			

In the diminished seventh chord all degrees (except the root) are altered:
minor third ($\flat 3$), diminished fifth ($\flat 5$) and diminished seventh ($\flat\flat 7$).

It's a "symmetrical" chord, which means that the distance between the degrees is always the same.

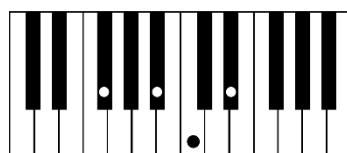
From C to Eb	there's 1 ½ tone	(= a minor third)
From Eb to Gb	there's 1 ½ tone	(= a minor third)
From Gb to Bbb (= A)	there's 1 ½ tone	(= a minor third)
From Bbb (= A) to C	there's 1 ½ tone	(= a minor third)

The chord is a stack of minor thirds. Therefore, each note of the chord can be the root of its own diminished seventh chord, which explains why we only need 3 "chord grips" to be able to play the 12 existing diminished seventh chords.

Hence also the header for each chord: **C° = Eb° (D#°) = F#° (Gb°) = A°** (etcetera).

Half-diminished chords

The half-diminished chord also has all degrees (except the root) altered:
minor third ($\flat 3$), diminished fifth ($\flat 5$) but with a seventh by default ($\flat 7$).



Cm7^{b5} (C°) (standard pos.)

Gb ($\flat 5$) – Bb ($\flat 7$) – C (1) – Eb ($\flat 3$)

The most common chord symbol (**m7^{b5}**) is very clear about the chord degrees:

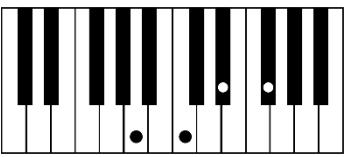
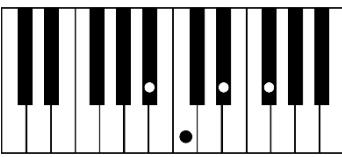
- m** = the symbol for the minor third => $\flat 3$
- 7** = the symbol for the minor seventh => $\flat 7$
- $\flat 5$** = the symbol for the diminished fifth => $\flat 5$

PLAYING THE PIANO WITH CHORDS

The other, less common, chord symbol – a **crossed-out** "degrees of temperature" symbol (\emptyset) – graphically represents the "**half-diminished**" chord (as compared to the \circ – not crossed out – which represents the diminished chord).

- | | | |
|-------------|-------------------|---|
| \circ | (diminished) | minor third – diminished fifth – diminished seventh |
| \emptyset | (half-diminished) | minor third – diminished fifth – minor seventh |

Below are the two types of chords in comparable positions:

 <p>C°</p>	 <p>Cm7^⁵</p>
--	--

Theoretical overview

Diminished seventh = $\flat\flat 7$

Diminished seventh chord

1 – $\flat 3$ – $\flat 5$ – $\flat\flat 7$

C° (or **Cdim**, **C°7**, **Cdim7**)

Half-diminished chord

1 – $\flat 3$ – $\flat 5$ – $\flat 7$

Cm7^⁵ (or **C^⁰**)

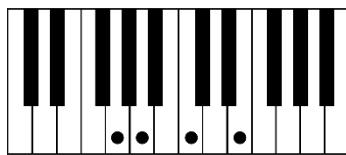
Triads with added tension

There are 4-note chords that do not have a seventh, and that, according to the musical theory, are in fact triads ... to which we add a tension. (See [The tensions](#).)

Added tension 6

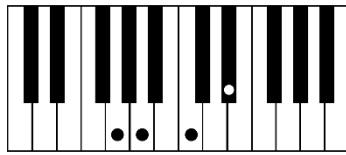
Formula: Add the note that is a **WHOLE** tone above the (perfect) fifth.

C6 (in standard position)



G (5) – A (6) – C (1) – E (3)

Cm6 (in standard position)

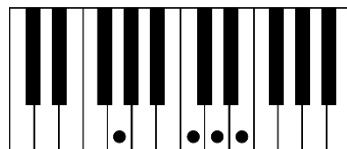


G (5) – A (6) – C (1) – E \flat ($\flat 3$)

PLAYING THE PIANO WITH CHORDS

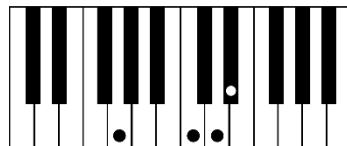
Added tension 2

Formula: Add the note that is a WHOLE tone above the root.



C2 (in standard position)

G (5) – C (1) – **D (2)** – E (3)



Cm2 (in standard position)

G (5) – C (1) – **D (2)** – Eb (b3)

These chords, **C2** and **Cm2**, contain "clusters", the three joint notes C D E (or Eb). In order to avoid the cluster, we can remove the root in the right hand, since it is already being played in the bass (left hand) anyway. (See [Remove the root](#)).

Sus2-chord

A chord symbol of the type **Csus2** is often found. By analogy with the [Sus4-chord](#), this **sus** symbol indicates that the third (3 or b3) must be replaced by the second (2).

But, unlike the fourth (4), which never sounds good with the major third (3), the second can actually sound really nice with the third, whether it's major (3) or minor (b3). **Csus2** is therefore only a variant that can be played over the chords of **C** or **Cm**, but the implication that the third should be omitted is theoretically incorrect.

Let me clarify with this example of a pianist playing with a guitarist:

The pianist plays	The guitarist plays	The resulting chord	Sounds
Csus2	C	C2	Harmonious ✓
Csus2	Cm	Cm2	Harmonious ✓
Csus4	Cm	Cmadd4 (see below)	Harmonious ✓
Csus4	C	Cadd4 (see below)	Conflict X

So, I personally never use the **sus2** symbol because it contradicts the rules of harmony.

ADD and OMIT

The words **Add** and **Omit** are also sometimes found in chord extensions. I never use these words, as they are usually quite useless.

Cmadd4 (see example above) can more easily (and more legibly) be written as **Cm4**, similarly **Cadd6 = C6**, **Cadd2 = C2**. Moreover, in some cases (see **Cadd4** with conflict X above) **add** is in contradiction with the rules of harmony.

Omitting chord notes is always a choice, never a requirement (from a theoretical point of view). In this sense, **omit** is also a rather useless symbol.

Theoretical overview

 Major second = **2**

 Major sixth = **6**

 Added sixth chord ¹

1 – 3 – 5 – 6

C6

Minor triad with added sixth

 1 – \flat 3 – 5 – 6

Cm6

Major triad with added second

1 – 2 – 3 – 5

C2

Minor triad with added second

 1 – 2 – \flat 3 – 5

Cm2
Four-note chords in a nutshell

The most common seventh chords are ...

	Triad with ...	Seventh
C7	Major (1-3-5)	Minor (\flat 7)
Cmaj7 (CΔ)	Major (1-3-5)	Major (7)
Cm7	Minor (1- \flat 3-5)	Minor (\flat 7)
Cm7$^{\flat 5}$ (C\emptyset)	Diminished (1- \flat 3- \flat 5)	Minor (\flat 7)
C° (Cdim, C°7, Cdim7)	Diminished (1- \flat 3- \flat 5)	Diminished ($\flat\flat$ 7)

The following chords are “jazzier”.

	Triad with ...	Seventh
C7sus4	Sus4 (1-4-5)	Minor (\flat 7)
C7+ (C7$^{\sharp 5}$)	Augmented (1-3- \sharp 5)	Minor (\flat 7)
C7$^{\flat 5}$	Major \flat 5 (1-3- \flat 5)	Minor (\flat 7)
Cmmaj7 (CmΔ)	Minor (1- \flat 3-5)	Major (7)
Cmaj7$^{\sharp 5}$ (C$\Delta$$^{\sharp 5}$)	Augmented (1-3- \sharp 5)	Major (7)

Triads with added tension (=> 4-note chords too).

	Triad with ...	Tension
C6	Major (1-3-5)	Six (6)
Cm6	Minor (1- \flat 3-5)	Six (6)
C2	Major (1-3-5)	Two (2)
Cm2	Minor (1- \flat 3-5)	Two (2)

The list is not complete. There are still other, less common, 4-note chords.

¹ These are the “classical” names for the chords. Pop musicians usually just say “six chord”, “minor six chord”, “two chord” and “minor two chord”.

Five-note chords: ninth chords

Theory

A 5-note chord is obtained by stacking thirds on the root, up to the ninth:

C (1) – E (3) – G (5) – B (7) – **D (9)** (See [The root position is a stack of thirds.](#))

From C to E there's a third. 1 (C), 2 (D), 3 (E)

From E to G there's still a third. 1 (E), 2 (F), 3 (G)

From G to B there's a third yet again. 1 (G), 2 (A), 3 (B)

From B to D there's another third. 1 (B), 2 (C), 3 (D)

A third on a third on a third on a third is a stack of thirds.



The ninth

The ninth can be major (**9** = "normal"), minor (**b9**) or augmented (**#9**).

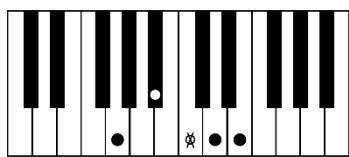
The "normal" (major) ninth (9)

The "normal" ninth can be played over any type of chord.

Here are the most common ninth chords:

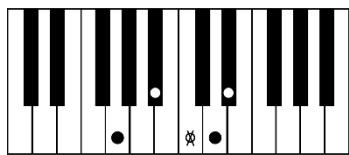
Formula: Replace (in the right hand) the root with the note that is one WHOLE tone above.

C9



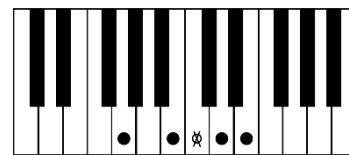
G (5) – B_b (**b7**) – E (1) – **D (9)** – E (3)

Cm9



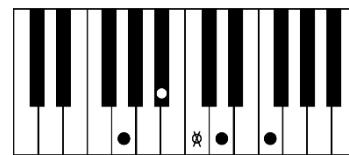
G (5) – B_b (**b7**) – E (1) – **D (9)** – E_b (**b3**)

Cmaj9 (C^Δ9)



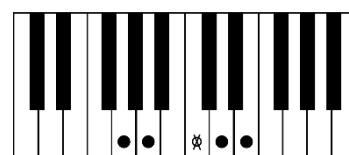
G (5) – B (7) – E (1) – **D (9)** – E (3)

C9sus4



G (5) – B_b (**b7**) – E (1) – **D (9)** – F (4)

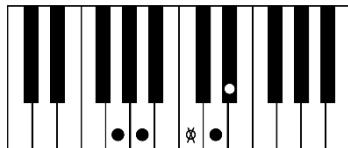
C^{6/9}



G (5) – A (6) – E (1) – **D (9)** – E (3)

PLAYING THE PIANO WITH CHORDS

Cm^{6/9}



G (5) – A (6) – C (1) – D (9) – Eb (b3)

As a reminder: The root is not really deleted because it is played in the bass (left hand). The root (in the bass) + the 4 notes in the right-hand, together, form a 5-note chord.

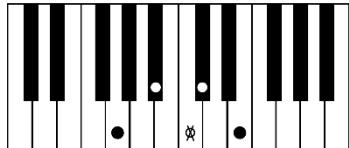
One can, and sometimes one should, try to play these chords in other positions in order to avoid too much friction between consecutive notes in the right hand. (See Hide the bite.)

Flat ninth (minor ninth) (b9)

Can only be played on dominant seventh chords.

Formula: Replace (in the right hand) the root with the note that is one SEMITONE above.

C7^{b9}



G (5) – Gb (b7) – C (1) – Db (b9) – E (3)

With the root in the bass => 5-note chord.

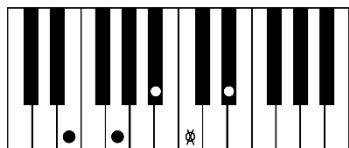
Sharp ninth (augmented ninth) (#9)

Can only be played on dominant seventh chords.

Formula: Replace (in the right hand) the root with the note that is 1 ½ tone above.

This type of chord is best played with the "sharp 9" on top of the chord.

C7^{#9}



E (3) – G (5) – Bb (b7) – C (1) – D# (#9)

With the root in the bass => 5-note chord.

Five-note chords in a nutshell

The most common ninth chords are ...

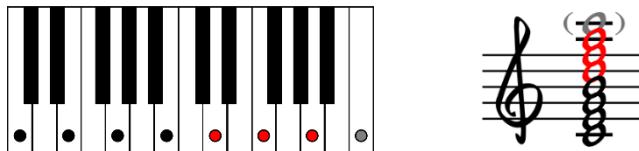
(Other ninth chords are possible.)

	4-note chord	with ...	Ninth
C9	Dominant seventh (1-3-5-b7)	Major (9)	
C7^{b9}	Dominant seventh (1-3-5-b7)	Minor (b9)	
C7^{#9}	Dominant seventh (1-3-5-b7)	Augmented (#9)	
Cm9	Minor seventh (1-b3-5-b7)	Major (9)	
Cmaj9 (C^{A9})	Major seventh (1-3-5-7)	Major (9)	
C9sus4	7sus4 (1-4-5-b7)	Major (9)	
C^{6/9}	6 (1-3-5-6)	Major (9)	
Cm^{6/9}	Minor 6 (1-b3-5-6)	Major (9)	

The tensions

The ninth, which we just learned for building 5-note chords, is a tension. The 5-note chords are therefore chords with added "tension 9". We've also seen the added "tension 6" and "tension 2" in the paragraph on [Triads with added tension](#).

In the stack of thirds, all notes **above the octave** are tensions:
the **ninth** (or **second**), **eleventh** (or **fourth**), and **thirteenth** (or **sixth**).



C (1) – E (3) – G (5) – B (7) – **D (9)** – **F (11)** – **A (13)** – (C, 15 = 1)

Below the octave				Above the octave			Doubling
C	E	G	B	D	F	A	(C)
Root	Third	Fifth	Seventh	Ninth (Second)	Eleventh (Fourth)	Thirteenth (Sixth)	(Root)
1	3	5	7	9 (= 2)	11 (= 4)	13 (= 6)	(15) (= 1)

9 is the same as 2

We use **2** when this tension is added to a triad. For example: **C2, Cm2**.

We use **9** when this tension is added to a seventh chord (dominant seventh or major seventh), which therefore always implies the presence of a seventh, even when not explicitly requested by the chord symbol. For example: **C9, C7^{b9}, C7^{#9}, Cm9, Cmaj9, C^A9, C9sus4, ...**

The exceptions to this rule are the chords **C^{6/9}** and **Cm^{6/9}**, ninth chords without a seventh.

Six- and seven-note chords

Six- and seven-note chords are quite rare because they contain so many (too many) notes.

The stacking of thirds gives the following theoretical reasoning:

6-note chord = C (1) – E (3) – G (5) – B (7) – D (9) – **F (11)**.

7-note chord = C (1) – E (3) – G (5) – B (7) – D (9) – F (11) – **A (13)**.

But in practice, you will have to make a choice between the chord notes you want to keep, or not, and the tensions you want to add, or not.

Leave chord notes out

As already mentioned several times in the previous paragraphs, it's always possible to suppress the **root** in the right hand, since it is played in the bass (left hand).

Removing the **perfect fifth** is also always a good option, without any noticeable loss of sound or color, thanks to an acoustic phenomenon called the "harmonic partials". To learn more about the "harmonic series" (of partials), read my book [Parent Scales and Chord Scales](#).

One always tries to keep the **third** and the **seventh**, because it's these degrees that determine the typical color of the chord: normal third (major) or minor, normal seventh (minor) or major. These degrees are called the "guide tones", the notes that "guide" the ear into recognizing the type of chord being played. However, it will not always be practically possible to keep them in the chord.

The tensions (continued)

Tension's choice

Generally, one will not play all tensions (9, 11 and 13) simultaneously, but rather make a choice. This choice is left entirely to the artistic freedom of the musician. Tensions are therefore rarely found noted on the score. Jazz pianists, who like to play with a lot of tensions, are always trying to find "jazzy voicings" with a good balance between chord notes and added tensions. These are specialized voicings that are beyond the scope of this book. We'll see some good tips later (see Hybrid Chords). But first...

You could read at the beginning of this chapter: "*To know with certainty which notes can be added to a chord, one must take a course in jazz harmony¹. But anyone can, simply by ear, try additions to a chord. If the chord sounds good with this extra note, it can be added. If, on the other hand, it doesn't sound too good, it's better not to add that note.²*"

Here is a short list of useful rules – a “tool kit” – for adding tensions to chords.

What tensions on what chord type?

On dominant seventh chords (e.g., C7) **all tensions are possible**. BUT ...

- You have to choose between 9 **or** ♯9/#9 – 11 **or** ♯11 – 13 **or** ♭13.
- Tension 11 is only possible with suppression of the major third (= **sus4**).
- To avoid too many consecutive semitones (#11 – 5 – ♭13) the fifth is removed.

For other chord types

- Tension 9 is **always** possible.
- Tension 11 is only possible on **minor** chords (m). (or **sus4** on major chords)
- Tension ♯11 is only possible on **maj7** chords (Δ).
- Tension 13 is **always** possible.
- Tension ♭13 is only possible on **m7^{b5}** chords.

... as long as the tension sounds correct in the larger tonal context. (**Use your ear!**)

11 is the same as 4

We use **4** almost always juxtaposed to **sus**. **Sus4** indicates the replacement of the major third (3) by the perfect fourth (4), this in any type of chord. For example: **Csus4**, **C7sus4**, **C9sus4**, ...

The use of the number **11** suggests the presence of a seventh, and possibly also a ninth, even when these are not explicitly requested by the chord symbol. For example: **C11**, **Cm11**.

¹ Readers interested in a jazz harmony course can download my book [Parent Scales and Chord Scales](#) for free.

² The harmony course nevertheless has an advantage over the uneducated ear. It allows one to learn to "taste" certain additions that may seem "strange" at first. A bit like teaching children to appreciate new culinary tastes.

PLAYING THE PIANO WITH CHORDS

However, with **C11** one must still omit the major third (= **sus4**). Therefore, one prefers the chord symbol **C9sus4** that we encountered earlier and which is exactly the same chord, as sus4 more clearly indicates that the third must be omitted.

The fourth can be **perfect** (= normal, 4), but also **augmented**. It is then always noted **#11**.

For example: **C7^{#11}**, **Cmaj7^{#11}**, **C9^{#11}**, **Cmaj9^{#11}**, ...

13 is the same as 6

We use **6** when this tension is added to a **triad**. For example: **C6**, **Cm6**.

The use of the number **13** suggests the presence of a seventh, and possibly also a ninth, even when these are not explicitly requested in the chord symbol. For example: **C13** (**Cm13** is not a common chord, but is also possible.)

The tension 11 in the chord **C13** is avoided because of the conflict with the major third.

If you want to add the tension 11 or #11 it is better to write the chord **C13sus4** of **C13^{#11}**.

The sixth can be **major** (= normal, 6), but also **minor**. It is then always notated **b13**.

For example: **C7^{b13}**, **C7^{b9-b13}**, ...

The altered dominant chord (alt)

The **alt** symbol is typically jazz. It's the abbreviation of **altered**.

It is only used for dominant seventh chords.

C7alt implies a **C7** chord where **all tensions are altered** with a sharp or a flat:

b9, #9, #11 and b13 (to be added at your choice).

Hybrid chords

"Hybrid" chords are very useful simplifications for chords with a lot of tensions (and omitted chord notes). **D/C** can be seen as a **C** chord without a third, fifth or seventh, but with the tensions A (13) – D (9) – F# (#11).

Here are some common examples of hybrid chords:

Hybrid chord	Bass	Chord degrees (in standard positions, except *)	Replaces the symbol
D/C	C (1)	A (13) – D (9) – F# (#11)	C13^{#11}, Cmaj9^{13-#11}
Gm7/C		G (5) – Bb (b7) – D (9) – F (11)	C9sus4, C11, Cm11
Bb/C		Bb (b7) – D (9) – F (11)	C9sus4, C11, Cm11
C#°/C		G (5) – Bb (b7) – C# (= Db, b9) – E (3)	C7^{b9}
Gb7/C *		Gb (= F#, #11) – Bb (b7) – Db (b9) – Fb (= E, 3) *	Calt, C7^{b9-#11}
Bbm7^{b5}/C		Bb (b7) – Db (b9) – Fb (= E, 3) – Ab (b13)	Calt, C7^{#11-b13}

All possible chord degrees at a glance

Chord tones

The root (**1**) cannot be modified. It is fixed.

The third can be major (**3** = normal) or minor (**♭3**).

The fifth can be perfect (**5** = normal), diminished (**♭5**) or augmented (**#5**).

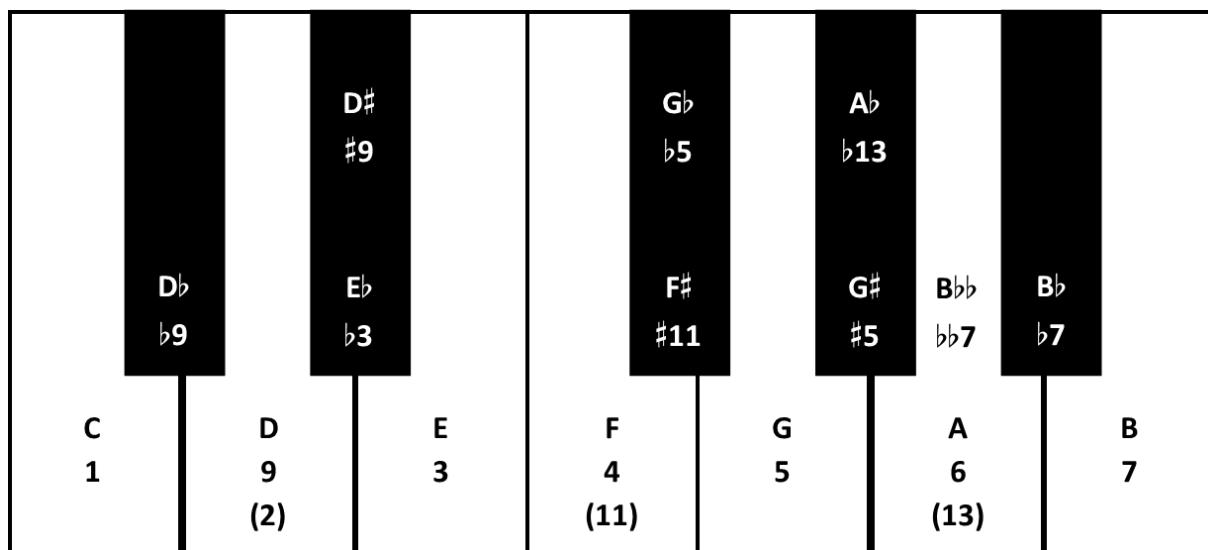
The seventh can be minor (**♭7** = normal), major (**7**) or diminished (**♭♭7**).

Tensions

The ninth can be major (**2** or **9** = normal), minor (**♭9**) or augmented (**#9**).

The eleventh can be perfect (**4** or **11** = normal) or augmented (**#11**).

The thirteenth can be major (**6** or **13** = normal) or minor (**♭13**).



Above are all the possible degrees for any chord with a **C** root.

For chords with a different root, one must always be very mindful of the key signature that that root has for its major scale.

D major scale with 2 sharps (F♯, C♯)

D	E	F♯	G	A	B	C♯	D
1	2	3	4	5	6	7	8=1
Thirds	3 = F♯		♭3 = F				
Sevenths	7 = C♯		♭7 = C		♭♭7 = C♭		

PLAYING THE PIANO WITH CHORDS

E major scale with 4 sharps (F#, C#, G#, D#)

E F# G# A B C# D# E
1 2 3 4 5 6 7 8=1

Ninths (seconds)	9 = F#	b9 = F	#9 = F \times ¹ (= F## = "G")
Thirds	3 = G#	b3 = G	
Thirteenths (sixths)	13 = C#	b13 = C	
Sevenths	7 = D#	b7 = D	bb7 = D \flat

F major scale with 1 flat (B \flat)

F G A B \flat C D E F
1 2 3 4 5 6 7 8=1

Elevenths (fourths)	4 = B \flat	#11 = B
---------------------	---------------	---------

Etcetera ... Learn by heart all the major scales with their key signature!

(See [Keys \(tonalities\) and key signatures.](#))

Chord symbols

	Degrees			Symbol	...
Chord notes	Root	1		A B C D E F G	With or without # or \flat
	Third	3 \flat 3	Major third Minor third	No symbol m	-, min, M1
	Fifth	5 \flat 5 \sharp 5	Perfect fifth Diminished fifth Augmented fifth	No symbol \flat5 +	<i>See below *</i> aug, #5
	Seventh	\flat 7 7 $\flat\flat$ 7	Minor seventh Major seventh Diminished seventh	7 maj7 <i>See below *</i>	Δ, Δ7, MA7
Tensions	Ninth	9 \flat 9 \sharp 9	Major ninth (or second) Minor ninth Augmented ninth	9 \flat9 \sharp9	2 on triad
	Eleventh	11 \sharp 11	Perfect eleventh (or fourth) Augmented eleventh	sus4 \sharp11	11
	Thirteenth	13 \flat 13	Major thirteenth (or sixth) Minor thirteenth	13 \flat13	6 on triad

Special symbols

- * ° °7, dim, dim7 combination of b3 b5 bb7
- ø m7^{b5} combination of b3 b5 b7
- alt dominant seventh with altered tensions b9 #9 #11 b13 (at your choice)

¹ × is the symbol for "double sharp" or ##.

VARIATIONS WITH APPROACH TONES

Approaches in the melody

The melody is based and build on the chords that accompany it. It moves from one chord note to the next. An "**approach**" is a note that is not part of the accompanying chord, but which approaches a chord note. The chord note being approached is called a **target note**. In theory, an approach should never last more than one beat, but longer approaches sometimes work too.

In melodic analysis, we distinguish between the "**approach note**" and the "**passing note**". And both can sometimes, but not always, be a "**tension**". These three concepts often overlap, which can be very confusing. So, to begin with, let's clarify the three concepts of (1) tension, (2) passage, and (3) approach.

Tension

A tension is a note that can be added to a chord (see the previous chapter *Variation in chord density*). In this sense, a tension can always be seen as an (additional) chord note, and therefore possibly also as a target note.

Passage tone

When on the **C** chord (C – E – G), the melody sings "C – D – E", the **D** is a **passing note** between the chord notes C and E. And D is also the tension 9 (or 2) that can be added to the chord.



When on this same **C** chord, the melody sings "E – F – G", the **F** is also a **passing note** between the chord notes E and G. But F is not an "allowed" tension on this chord.



Approach tone

When on the **C** chord, the melody sings "G – D – E", the **D** is an **approach note**. D is obviously not a passage between G and E, but it does approach the E from below. And D is of course still the tension 9 (or 2) that can be added to the chord.



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When on this same **C** chord, the melody sings "C – F – E", the **F** is an **approach note**. F is not a passage between C and E, but it approaches E from above. And F is still not an "allowed" tension on this chord.



To avoid confusion, in this chapter we'll speak only of **approaches**, without making any distinction with passing notes, and without taking into account if these approaches could be tensions, or not.

Chromatic approach

To approach a target note, the SEMITONE approach is always the best.
The semitone can approach the target note either up or down.

Sometimes this semitone approach sounds "strange", because the approaching note is not part of the key (tonality) of the song. This is called a **chromatic** approach.

On the **C** chord (C – E – G are the target notes)

Ascending: B to C – D \sharp to E – F \sharp to G

Descending: D \flat to C – F to E – A \flat to G



The accidentals (\sharp , \flat) indicate that these are **chromatic** approaches, that they are not part of the key.
B (to C) and F (to E) are not chromatic, but **diatonic**, they *are* part of the key.

Diatonic approach

Of course, a target note can also be approached in WHOLE tones, both ascending and descending.
But in this case, the approach must always be **diatonic**. It must always be part of the key of the song.¹

On the **C** chord (C – E – G are the target notes)

Ascending: B to C – D to E – F to G

Descending: D to C – F to E – A to G



Only B (to C) and F (to E) approach by semitone rather than by whole tone.

¹ Just like the tensions. See [What tensions on what chord type?](#)

Double approach

Double approaches are also possible, in all imaginable constructions: ascending, descending, ascending first and then descending, descending first and then ascending, mixing chromatic notes with diatonic notes, ...

On the **C** chord (C – E – G are the target notes)

Double ascending B♭-B to C – D-D♯ to E – F-F♯ to G

Double descending D-D♭ to C – F♯-F to E – A-A♭ to G

Ascending – descending B-D♭ to C – D♯-F to E – F♯-A♭ to G

Descending – ascending D♭-B to C – F-D♯ to E – A♭-F♯ to G

The craziest combinations are possible, even with more approach notes.

Trills and auxiliary tones

In the classical "trill", the approaches are repeated. A typical trill on the note C is:

C D C D C D etc. C is alternated with its upper diatonic note.

But there are trills with an upper chromatic note (C D♭ C), a lower diatonic note (C B C), a lower chromatic note (E D♯ E), the "grupetto" or double approach (C D C B C), ... The upper and lower trill notes are called "auxiliary notes". We'll learn very soon about "auxiliary chords".

Approaches in the chords

The word "voicing" implies that each chord note is a "voice", in other words a melodic note within the chord. We can therefore see each chord note as a target note.

Sus-chords

The **sus** chords, which we've studied before (see [Sus4-chord](#) and [Sus2-chord](#)), are in fact "approach chords". They approach the third of the chord from above (sus4) or from below (sus2). When a chord chart indicates that the **C** chord should be played, these chords can be used in the accompaniment as approach chords, even if they are not mentioned on the chart.

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The musical notation shows a sequence of four chords: Csus4, C, Csus2, and C. The first chord is labeled with a Roman numeral 4 above it, indicating the 4th degree of the scale. The second chord is labeled with a Roman numeral 3 above it, indicating the 3rd degree. The third chord is labeled with a Roman numeral 2 above it, indicating the 2nd degree. The fourth chord is labeled with a Roman numeral 1 above it, indicating the root note.

The F (4) of the **Csus4** chord approaches the E (3) of the C chord in bar 1.
The D (2) of the **Csus2** chord approaches the E (3) of the C chord in bar 2.

Sus2-effect

The **sus2** effect is a cliché that many pianists often use, especially in Pop music.

The musical notation shows a sequence of four chords: C, C, Csus2, and C. The first chord is labeled with a Roman numeral 4 above it, indicating the 4th degree of the scale. The second chord is labeled with a Roman numeral 3 above it, indicating the 3rd degree. The third chord is labeled with a Roman numeral 2 above it, indicating the 2nd degree. The fourth chord is labeled with a Roman numeral 1 above it, indicating the root note.

In this example the D (2) first approaches the third (E) from below, and then approaches the root (C) from above. There are a lot of variants with this sus2 effect. Be creative!

Auxiliary chords

It's also quite common to approach two different chord notes at the same time.

The combination of approaches is called an "auxiliary chord," like the “auxiliary” notes in trills.

The IV-auxiliary chord

The most commonly used auxiliary chord is the **IV-auxiliary**. It is heard so often, and in so many styles, that it has become a concept in itself, even though it is rarely, if ever, mentioned on the score.

An **F** is used as an auxiliary chord over a **C** chord.

F and A – from the F chord – are diatonic approaches to the third E, and the fifth G.

The musical notation shows a sequence of four chords: C, F/C, C, F/C, C, F/C, and C. The first chord is labeled with a Roman numeral 4 above it, indicating the 4th degree of the scale. The second chord is labeled with a Roman numeral 3 above it, indicating the 3rd degree. The third chord is labeled with a Roman numeral 2 above it, indicating the 2nd degree. The fourth chord is labeled with a Roman numeral 1 above it, indicating the root note.

F is the **IVth** degree of C. The use of the Roman numeral indicates that this is a chord: the IVth degree as a full chord, not the 4th degree as a single note.

The IV-auxiliary on the chord of G is – G (I), A (II), B (III), C (IV) – the chord of C.

The IV-auxiliary on the chord of F is – F (I), G (II), A (III), B♭ (IV) – the chord of B♭.

And so on.

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The I°-auxiliary chord

A **C°** (diminished triad) is also often used as an auxiliary chord on a **C** chord.

E♭ and G♭ – from the **C°** chord – are chromatic approaches to the third E, and to the fifth G.

C° is the **Ist** degree of **C**. The use of the Roman numeral indicates that this is a chord.

This also works with the **C°** as a diminished seventh chord (4-note chord). E♭ and G♭ – from the **C°** chord – are still chromatic approaches to the third E, and to the fifth G. But this time, there is also the A (or B♭) which approaches the seventh B♭ of the **C7** (note the B♭ in the key signature).

Here is a typical example (well known to all Blues pianists) of the use of the two auxiliary chords, **IV** and **I°**, on a **C7** chord. As a reminder: the score *only mentions* the **C7**.

You can create your own combinations of approaches. It will not always be possible to "name" them as an "independent" chord (like the **F**, **IV**-auxiliary, or the **C°**, **I°**-auxiliary on the **C** chord) because the result of the combination of approaches does not always resemble an existing chord. However, this does not prevent the use of these approaches. Be creative!

LEARNING TO PLAY SONGS BY EAR

Learning to play songs by ear is much easier than my students usually think. It's also much faster, and usually less frustrating, than learning to play from a (often unreliable) score found on the internet, or from an (equally dubious) tutorial on YouTube.¹

This requires practice, of course, and the first attempts can seem somewhat frustrating and time consuming. It's really about training your ear² and developing a good basic understanding of the chords. The more you do this, the easier it will become. You'll be able to recreate a song in just a few minutes.

Absolute and/or relative pitch

You don't need to have absolute pitch (= perfect pitch) to be able to play by ear. Many of my students think they'll never be able to do it, "because they don't know what notes they're hearing". Neither do I.

Suppose a glass is being tapped at the table. A person with absolute pitch – only 1 in 10,000 according to recent studies³ – immediately recognizes that note as an E♭ (for example). So, what do other people, like me, who do not have absolute pitch, do?

19 out of 20 people⁴, like me, have **relative pitch**. I sing the note of the glass. I go to the piano and play C (for example). I hear that C sounds lower than the note I am singing. I try D. I hear that D sounds lower too, a little too low. Then I try E. Now I hear that E sounds a little too high. The right note must be between D and E => E♭. There, I got it! It takes me more steps than someone with absolute pitch, but I don't need more than a minute to get the same result.

To find the rest of the piece, that first note is the starting reference. You don't need to repeat all the steps described above for each note, because you are looking for the second note **relative to** (compared to: Higher? Lower?) the first note. And then [Follow the contour](#).

A good knowledge of [Keys \(tonalities\) and key signatures](#) and [The intervals](#) will help you find the notes even more efficiently, without having to try every key on the piano at random. But you can do without it.

Finding the chords

Always look for the **chords first**, because the chords form the framework of the song. With the chords you can already accompany the whole song. But they will also be very useful to find the other musical elements such as melody, arpeggios, fills, solos, ...

¹ Not everything you find on the Internet is necessarily "bad". I've already found some very good scores and tutorials there. But most of what you find is often of very poor quality.

² The musical ear is like a muscle, the more you train it, the better it gets. And, if you don't use it, even if only for a few months, you lose it. There are some very good ear-training applications such as [EarMaster](#) and [Auralia](#). But learning to play songs by ear is still the best training.

³ [Publication \(2013\) of University of California, San Diego \(UCSD\)](#).

⁴ [Publication \(2007\) of Harvard Medical School, Boston MA](#).

PLAYING THE PIANO WITH CHORDS

Determining the song structure

Start by listening to the whole song. How many musical parts are there?

Below is a standard structure for a pop song.

Part of the song	Alternative names	Thematic analysis
Intro	Introduction	(Often, not always, A or B)
Verse	Stanza	A
Verse	Stanza	A
Pre-Chorus	Bridge	(From A to B)
Chorus	Refrain	B
Post-Chorus	Bridge	(From B to A)
Verse	Stanza	A
Pre-Chorus	Bridge	(From A to B)
Chorus	Refrain	B
Mid-Part	Middle or central part (Bridge ¹)	C
Chorus	Refrain	B
Chorus	Refrain	B
Outro	Conclusion, Finale, Coda	

Parts in grey are optional.

So, there are usually only three parts (themes A, B and C) of which one must find the chords. Many songs even have only two themes (A: verse and B: chorus). Other structures are of course always possible, but not very common.

Look for the chords for each part separately, not for all parts at the same time. There are often only four chords (statistical average) per part, sometimes less, and rarely more.

Listen to the bass

Next step is to listen carefully to the bass ². With a bit of luck, you can hear it clearly at the beginning of the song. But often it doesn't come into play until later in the song (some typical examples ³).

Always use audio fragments with a clearly audible bass so you can sing along with it. Singing is essential. It allows you to grasp, and retain, the sound. Then, while continuing to sing, try to play the bass on the piano.

¹ The use of the word "bridge" for the "middle part" is a bad habit of pop musicians.

A "bridge" does what a bridge should do, and that's being a (optional) "transition" between thematic parts – in this pop song example, between the verse (A) and the chorus (B), or vice versa. So, the pre- and post-choruses are the real bridges. They can be, and usually are, really short (like 4 bars).

The middle part (usually 8 or 16 bars) is not a transition, but a new contrasting and essential theme (C) of the song, which is almost always played between two choruses.

² Listening to the bass, the lowest notes of the music, is like "looking at a person's feet". Don't be distracted, or seduced, by the melody, by "the person's face".

³ When a song starts with only the guitar, the bass is difficult to hear. If the song starts with the piano alone, the bass is already a little more audible. It is only when the bass guitar comes in that the bass is clearly audible.

The "first" bass tones are the roots of the chords

The most important bass notes are the notes played on the first beat of the bar (or chord change). These are the roots of the chords. Match this "first" bass note (e.g., **C** in the left hand) to a chord (**C** in the right hand). If the major chord (**C**) doesn't sound right, try the minor chord (**Cm**). One of both should be the correct chord. Repeat the procedure with the other "first" bass notes. And that's it!

There can be some pitfalls, however. With *Slash-chords*, the bass doesn't play the root, but another degree of the chord. Usually, it's the third or the fifth, exceptionally the seventh. A calculation is then necessary to find the right chord. For example, **C** in the bass can be ...

- The root of **C** or **Cm**.
- The minor third of **Am** or the major third of **Ab**.
- The (perfect) fifth of **F**.
- The (normal/minor) seventh of **D7** or the major seventh of **D**bmaj7****.

If you still can't find the chord with this method, you are probably dealing with *Hybrid chords* (or chords with a lot of tensions). A beginner will usually need help in this case. But with a well-trained ear, it is possible to sing all the notes that fit the audio fragment (the bar) separately, in order to be able to reconstruct the chord.

Determining the key of the song

If¹ you can determine the key of the song, it will make your search much easier. When you know that the song is in **C major**, you first look for the notes that exist in the scale of **C major** (only the white keys).

To find the key, you have to find, by singing and trusting your musical intuition, **the note that sounds like the end of the song** (the *finalis*). That note is **the tonic**, the central note, the most important note of the key around which all the other notes orbit, the first and last note of the scale.

When we know the tonic, we still have to determine if the key is **major or minor**. Just try the major scale, starting from the tonic, to hear if it fits the song. If not, it must be the minor scale.
(See *Keys (tonalities) and key signatures*.)

Notice! This doesn't mean that the song will use only the notes of the scale found. The composer is free to use other notes outside the key (chromatic notes) to create one (or more) surprise(s).

¹ This conditional "if" is intentional. It confirms that knowing the key is not a prerequisite for finding the chords, although it will certainly help.

The diatonic series

If you know the tonality (or key), here is a new theoretical concept useful to the search of the chords: the **diatonic series** (of chords in major). For my younger students, I use this unusual name, but easier to understand: **the scale of chords**.

In major, the scale of **diatonic chords** – those are chords that are built only with the notes that are diatonic to the key (only the notes of the key, or scale) – is always, in Roman numerals (the chords in C major are given as an example) ...

I ^(maj7)	II ^m ⁽⁷⁾	III ^m ⁽⁷⁾	IV ^(maj7)	V ⁽⁷⁾	VI ^m ⁽⁷⁾	VII ^{m7^{b5}}
C	Dm	Em	F	G	Am	Bm7 ^{b5}

The **Roman** numerals indicate that we are dealing with chords. These are the degrees that the chords have in the scale of chords, **counted from the tonic** (first note of the **key**, and also first chord of the series).

We can see, in brackets and in superscript next to the Roman numbers, **Arabic** numerals that indicate the degrees of the chord **counted from the root** (first note of the **chord**). They indicate the potential (optional) seventh for each chord. Today's radio pop makes little use of, and even avoids, sevenths. But these sevenths will come in handy for other styles of music.

The **main chords** in this series (the three major chords) are the **I, IV and V** (C, F and G). These are the most commonly used chords.

The **VIm** (Am), a subsidiary or complementary minor chord, is also very common.

The other subsidiary chords, **II^m** (Dm) and **III^m** (Em), are sometimes used, but less often.

You'll probably never encounter the **VII^{m7^{b5}}** (Bm7^{b5}) chord in pop songs (though you will in jazz!).

As with the notes of the scale (see [Determining the key of the song](#) above), the following principles also apply to the chords in the diatonic series:

- When you know that the song is in **C major**, you first look for the [notes] chords that exist in the [scale] diatonic series of **C major** (only the white keys).
- Notice! This doesn't mean that the song will use only the [notes] chords of the [scale] diatonic series found. The composer is free to use other [notes] chords outside the key (chromatic [notes] chords) to create one (or more) surprise(s).

If the song is written in a **minor key**, for example in A minor, one uses exactly the same diatonic series but starting from degree **VIm** (Am). And chances are that the **III** chord (Em above) will now be one of the main chords, and that it will be major rather than minor (E⁽⁷⁾).

*Learn all the major and minor keys, and their key signatures, by heart.
(See [Keys \(tonalities\) and key signatures](#).)*

Finding the melody

You can usually already sing the melody (with or without lyrics, found on the Internet) before you even look for the chords. You can now, with the chords, accompany your singing on the piano. But, if you want to learn how to play the melody on the piano, follow these tips.

Once you've found all the chords, finding the melody is actually pretty easy. The melody is based on the chords that accompany it. It moves from one chord note to the next. The first thing to do is to determine whether the melody sings one (or more) of the three notes of the accompanying chord.

But beware, between and around the chord notes, the melody also often uses approach notes and passing notes (see the previous chapter Variations with approach tones for more explanation on this subject).

Don't forget to sing the melody during your research. Singing is essential. It allows you to grasp, and retain, the sound.

Arpeggios, fills, solos, ...

The other musical elements also depend on the chords. That is, they either play the chord (e.g., Arpeggios) or, like the melody, they play on and around the chord notes (fills, solos, etc.).

The knowledge of the most common techniques we learned in the previous five chapters on **rhythm**, **dynamics**, chord **positions**, chord **density**, and **approaches** should also help you understand precisely what you are looking for by ear.

ADD THE MELODY

Where to find the melody?

Chances are, you will first learn to play (accompany) many songs from a chord chart without playing the melody. But later on, you might be eager to try adding the melody to your piano arrangement.

Please note! It is NOT usual to play the melody on the piano when the song is also sung.¹ As a pianist, it is then best to stick to the accompaniment only.

But, where to find the melody?

By ear

The previous chapter describes in detail how to learn to play songs, including the melody, by ear. If you can sing the songs, you can find them by ear on the piano. This is what most pop and jazz pianists do.

Lead sheet

All of the sample scores shown later in this chapter are the first two bars of the song "Always Remember Us This Way" by Lady Gaga. (See also [The chord sheet](#).)

You can find "lead 2 sheets" on the market that give only the melody (with or without lyrics) with the chords noted above, like this one:

Musical notation for the song "Arizona". The key signature is A major (no sharps or flats). The time signature is common time (indicated by the number 4). The melody starts on A (A major chord) and moves to F (F major chord). The lyrics are: THAT AR - I - ZO - NA SKY BURN-ING IN YOUR EYES... YOU LOOK

Unfortunately, it's not that easy to find such scores for the most recent songs. On websites that sell sheet music, you can always try using the search terms "song title + lead sheet".

For older songs, there are some excellent compilation books, like these:

- Pop evergreens [101 Hits for Buskers](#) (many books)
 - Traditionals and Jazz standards [Fake Books](#) (many books)
 - Jazz standards [The Real Book](#) (many books)

¹ This is obviously not forbidden. But a good accompanist offers the singer as much free space as possible to sing his or her own interpretation of the melody. Playing and singing the melody together requires a strict discipline from both musicians to be well in place together (well in sync).

² The main vocal or melody of a song is called the "lead".

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Vocal and Piano sheet

It is more common to find scores with one staff giving the melody ("vocal") and the chords¹ (in short, a lead sheet) and two staves with a piano arrangement.

Sometimes, only the accompaniment is included in the piano arrangement, as below.

But most often, the melody is incorporated into the accompaniment, as in this score:

Both types of sheet music are very impractical, as it takes 6 to 7 pages for a song. The piano arrangements are rarely of good quality (and often difficult to understand musically), which leads us in the end to read only the staff with the melody and the chords, in other words ... to read a lead sheet.

But, if you can't find a lead sheet for a song, you can buy this type of score, and cut out only the melody to make your own lead sheet (of only 2 pages).

¹ Very often chords are also written in guitar tabs. These are the little graphic blocks below the chord symbols. They are of no use to pianists.

PLAYING THE PIANO WITH CHORDS

Piano sheet

Finally, there are also arrangements for solo piano (only two staves) in which the melody, the chords and the bass are divided between the two hands.

Am 1 4 Am 5
 1. That Ar-i-zo-na sky
mp night, burn-ing in your eyes...
 1 po-ets try'n to write...
 You We

The musical score consists of two staves. The top staff is in G major (treble clef) and the bottom staff is in C major (bass clef). The key signature changes from G major to F major at the end. The time signature is common time (indicated by '4'). The vocal line starts with a dotted half note followed by an eighth note, then a sixteenth-note pattern. The lyrics 'That Ar-i-zo-na' are followed by a dynamic marking 'mp'. The next section begins with a sixteenth-note pattern followed by a dotted half note. The lyrics continue with 'sky night,' and then 'burn-ing in your eyes...' followed by a short rest. The final section begins with a sixteenth-note pattern followed by a dotted half note. The lyrics continue with 'po-ets try'n to write...', followed by a short rest. The score ends with 'You We'.

But, as in the "vocal and piano sheets", these piano arrangements are often of rather poor quality. It's better to learn to make and play your own piano arrangements, adding the melody either entirely by ear, based on the chords you already know, or from a lead sheet.

LH Chords | RH Melody

When playing an accompaniment, the bass is played with the left hand, and the chords with the right hand. To learn how to add the melody, it is better to start with the simplest possible arrangement: **chords in the left hand**, and **melody in the right hand**.

You'll still be missing the bass. We will come back at this later.

Block chords

For a first attempt, you can stick to block chords (LH) on each first beat of the bar (or chord change).

As a reminder: A standard chord position is a position centered on middle C. Therefore, it is almost always necessary to play the melody one octave higher than notated. Sometimes it is possible to play the chords in a slightly lower position (between middle and lower C) in order to play the melody "loco" (i.e., in the octave as notated on the score). But, as soon as you go beyond lower C, the chords start sounding too "muddy".

Musical score for "Arizona" featuring a treble clef staff and a bass clef staff. The key signature is A major (no sharps or flats). The time signature is common time (indicated by a '4'). The lyrics are: THAT AR - I - ZO - NA, SKY, BURN-ING IN YOUR EYES_, YOU LOOK. Chords shown above the staff are Am and F.

You can then try to play the chords on each beat of the bar (see [Basic rhythm of accompaniment](#)). You will then have to determine exactly where – i.e., on which beat of the bar – the notes of the melody (or the syllables of the sung text) are located. On a score like the one below, this is clearly visible, but when you work by ear, you have to rely on your sense of rhythm and, if necessary, go back and listen to the original song.

PLAYING THE PIANO WITH CHORDS

Musical score for "Arizona" featuring a treble clef staff and a bass clef staff. The key signature is A major (no sharps or flats). The time signature is common time (indicated by '4'). The vocal part starts with a single note followed by a eighth-note pattern. The lyrics "THAT AR - I - ZO - NA" are written below the notes. The chords Am and F are indicated above the staff. The bass part consists of eighth-note patterns. The lyrics "SKY", "BURN-ING IN YOUR", "EYES...", and "YOU LOOK" are written below the bass notes.

Alberti bass (arpeggios)

The "Alberti bass" is a type of accompaniment that consists in arpeggiating the chords, still in standard positions, according to a constant and repetitive pattern:

low note – top note – middle note – top note (other patterns are conceivable)

Musical score for "Arizona" featuring two staves. The top staff is in A major (Am) and the bottom staff is in F major. The lyrics are: THAT AR-1-ZO-NA SKY BURN-ING IN YOUR EYES YOU LOOK.

This kind of accompaniment sounds obviously very "18th century classical" (Mozart, Beethoven, ...). But for some pieces, it can really be an appropriate accompaniment.

The big disadvantage of these simple arrangements is the lack of bass.

LH Bass and Chords | RH Melody

LH Arpeggios

Left hand arpeggios offer the possibility to combine bass and chords in the left hand.

Example 1: incomplete chords, only the root (= the bass), the fifth and the octave.

PLAYING THE PIANO WITH CHORDS

Example 2: full chords in wide position, root (= the bass), fifth and third above the octave.

Musical score for "Arizona" in 4/4 time. The top staff shows a melody in A major (Am) with lyrics: "THAT AR-1-ZO-NA SKY BURN-ING IN YOUR EYES YOU LOOK". The bottom staff shows a bass line in F major (F) with lyrics: "FIRE IN THE SKY BURN-ING IN YOUR EYES YOU LOOK". Chords are indicated above the staff: Am, F.

Arpeggios can be used to create an infinite number of patterns. The arpeggios of the classical-romantic composer Frederic Chopin (1810-1849) are wonderful examples of creative, beautiful and graceful arpeggios, following impeccable voice leading. However, the two simple examples above, with a fixed pattern (root-fifth-octave and root-fifth-third), are more practical for a first reading or arrangement.

Boogie and Blues Riffs

We cannot forget to mention the Blues and Boogie "riffs" as a cliché left-hand "comping". Riffs are short melodic patterns, played in the lower register of the piano, which always start from the root of the chord (= the bass). They are built, like the melody, on and around the chord notes using passing notes and approach notes (see *Variations with approach tones*).

These riffs are not really appropriate to accompany *Always Remember Us This Way*, because that song doesn't sound bluesy enough. The examples below are boogie riffs well known to all blues pianists, based (here) on only two chords (**C7** and **F7**), and sometimes played in "shuffle" (see *Ternair, Shuffle and Swing*).

The musical score consists of four staves of bass notation. Staff 1 (top) starts with 'RIFF 1 C7' and ends with 'F7'. Staff 2 (second from top) starts with 'RIFF 2 C7' and ends with 'F7'. Staff 3 (third from top) starts with 'RIFF 3 C7' and ends with 'F7'. Staff 4 (bottom) starts with 'RIFF 4 C7' and ends with 'F7'. The music uses a common time signature and includes various note values such as eighth and sixteenth notes.

Boogie and Blues is a style school in itself, too extensive to explore in this book. For readers who would like to learn to play Boogie and Blues, I can definitely recommend the excellent book [Improvising Blues Piano](#) by Tim Richards.

PLAYING THE PIANO WITH CHORDS

The stride

Alternating bass and chords in the left hand is called, in jazz, the "stride" technique¹. To avoid repeating the same bass too often, the root is alternated with, usually, the fifth. The other chord degrees, the third and/or the seventh, can also be used as "auxiliary" basses.

Of course, you can also choose to play the bass only on the first beat of the bar.

LH Bass | RH Chords and Melody

Melody "on top"

If you choose to play the chords with the melody in the right hand, it's important to keep in mind the "role of the melody": the melody is always **above** the chords, hence the expression "melody on top".

The "melody on top" technique is very versatile, it fits most styles of music very well. It frees the left hand from having to play the chords as well, so that it can play the bass more freely.

To apply this technique, you need to have a good knowledge of chord composition (of the different notes that make up the chord – see Variation in chord density) and of all the possible positions (see Variations in chord position).

¹ This technique is not however typically jazz. Some classical composers of the beginning of the 19th century, like Franz Schubert (1797-1828) and Frederic Chopin (1810-1849), already made extensive use of it in their compositions.

PLAYING THE PIANO WITH CHORDS

The melody of *Always Remember Us This Way* requires too many jumps in the right hand when the chords are added. The melody of *My Way*¹ is better suited to illustrate (and start with) this technique.

- Play the full chord² on the first beat of each bar (or at each chord change) in such a position that the melody note is "on top" of the chord. Then play the following notes of the melody, within the bar, simply without the chord.

The musical notation shows a piano score with two staves. The top staff is for the right hand and the bottom staff is for the left hand. The key signature changes from F major (one sharp) to A minor (no sharps or flats), then to C minor (two sharps), and finally to D major (one sharp). The melody consists of eighth and sixteenth notes. The lyrics are: "AND NOW THE END IS NEAR, AND SO I FACE THE FINAL CUR-TAIN MY". The chords above the melody are labeled F, Am, Cm, and D respectively.

- When the melody note is not a chord note – as in bar 3 (A on **Cm**) and bar 4 (G on **D**) – it's best to remove the chord note that is in friction with the melody (the G on **Cm**, the F# on **D**).³ Very often (but not always), the melody will resolve with delay on the deleted chord note – as is the case here on both occasions (A on **Cm** resolves to G, and G on **D** resolves to F#).
- The right hand being too busy playing the melody, it can no longer play its rhythmic comping role. The left hand therefore takes over this role by playing all the beats of the bar (see Basic rhythm of accompaniment) with a simple arpeggio pattern (see LH Arpeggios above).

¹ *My Way* is an adaptation of the song *Comme d'Habitude* published in 1967 by Claude François (singer and lyricist), and written by Jacques Revaux and Gilles Thibaut (music). This melody had a worldwide success two years later in the English version sung by Frank Sinatra (lyrics by Paul Anka).

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² Leaving some chord notes out can be an option, and sometimes it is even a necessity.

See Leave chord notes out.

³ As a reminder, friction occurs when two adjacent notes (semitone or whole tone apart) are played together.

PLAYING THE PIANO WITH CHORDS

Mixed techniques

For *Always Remember Us This Way*, below, I use mixed techniques.

The musical score consists of two staves of piano music. The top staff is in A major (Am) and the bottom staff is in F major. The lyrics are:

THAT AR-1-ZO-NA SKY BURN-ING IN YOUR EYES YOU LOOK

AT ME AND, BABE, I WAN-NA CATCH ON FIRE IT'S BUR-RIED IN MY

The music features arpeggiated chords in the left hand and melodic lines in the right hand.

- The left-hand arpeggio accompanies with an incomplete chord (root, fifth, octave; no third) in continuous eighth notes.
- The right hand completes the chord where the melody has gaps, i.e., on each 2nd and 3rd beat of the bar (the LH plays the root, the RH plays third and fifth). Except ...
- In bar 3, with a C chord, we have a melody without gaps. The right hand doubles each C of the melody with an E (third absent in the LH).

NOTE READING FOR PIANISTS

In this second part of the book, we review the concepts that are essential for learning to read and write music in classical notation.

MUSICAL WRITING – PITCH (TONE HEIGHT)

You need to be able to read the notes in "pitch" or tone "height". This means knowing whether a specific note is a C, D or another note, and at what precise height that C, D or other note is on your keyboard.

Tone or note?

In music, people use the words "tone" and "note" quite often interchangeably. This can be confusing for beginners. Both words seem to mean the same thing. Well yes, more or less.

A tone is a sound, a sound that one can sing, a sound with a precise pitch. Some sounds cannot be sung because they don't have a specific pitch. These are not tones, but "just" sounds (e.g., drum sounds).

The word "note" comes from "notation" and refers to writing. **A (musical) note is a notated tone**. That's why "tone" and "note" can be used interchangeably, without much distinction.

The staff

To specify the pitch of the sound on the score, a **staff** is used – i.e., a "ladder" with **5 lines** – on which the sounds can be noted in height. As a staff, with only 5 lines, quickly turns out to be too short, there's the possibility to write notes on, below or above **ledger lines** (or additional lines).

In the example below, you can see notes on a staff, from bottom to top: on the 2nd ledger line – under the 1st ledger line – on the 1st ledger line – under the 1st line – on the 1st line – in the 1st space (in between lines) – on the 2nd line – in the 2nd space – on the 3rd line – in the 3rd space – and so on ...



The grand staff (11-line system)

On a piano, and in the humanly singable register, there are many more notes than in the example above. A single staff, with only 5 lines (and a few ledger lines), is not enough to write all possible notes. So, we need a larger "ladder". We use a double staff, a system (= a combination of staves) with 11 lines: **the grand staff** (the "11-line system" in Dutch).

NOTE READING FOR PIANISTS

The middle C, represented below in yellow on a piano keyboard, is taken as a starting point for writing the notes.



Middle C is written on a ledger line between the two staves. The upper staff is logically used for the high notes, and the lower staff for the low notes. Hence the **11-line system**:

5 lines at the bottom + 1 ledger line for middle C + 5 lines at the top = 11 lines.

Middle C is notated twice. But it is exactly the same sound, the same (yellow) key on the keyboard, twice the same C. The only difference is the hand that plays this key.

On the one hand, this C is located near the upper staff, the staff of high notes. The high notes, located to the right of the yellow key, will logically be played with the right hand. So, we will play this C with the right hand. This gives, in ascending order:

Middle C D E F **G A B **High C** D E F **High G** A B **Contra-C****

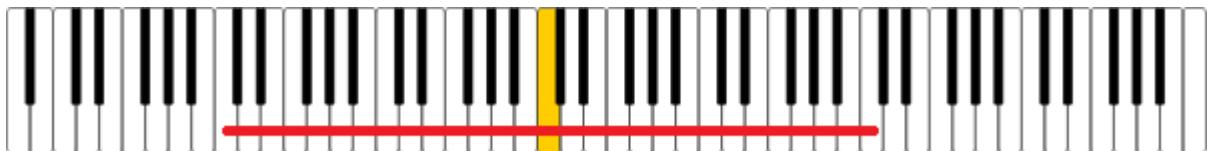
Contra-C means "the C **on the other side** of the staff" (compared to middle C).

The notes written above in bold and underlined, the white notes on the staff, are the reference notes. We'll come back to them very soon.

Middle C is written, on the other hand, near the lower staff, the staff of low notes. The low notes, located to the left of the yellow key, will logically be played with the left hand. So, we play this C with the left hand. This gives, descending:

Middle C B A G **F** E D **Low C** B A G **Low F** E D **Contra-C**

All these notes, high and low together, already allow us to note all the tones that are humanly singable: from the lowest possible note for a male singer to the highest possible note for a female singer. The red line on the keyboard below indicates this human singing range.

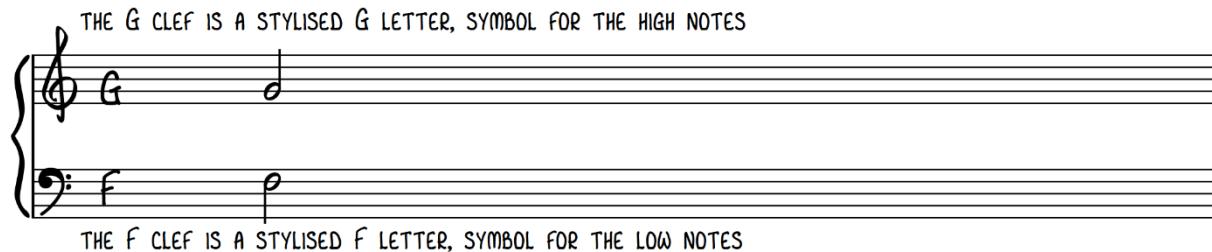


There are obviously still a lot of notes missing, playable on the piano, which are even lower and even higher. We'll come back to that soon.

The clefs

Men are able to sing from lower contra-C to middle C (the yellow key), and women from middle C to upper contra-C¹. When distributing sheet music to the singers of a mixed male-female choir, it is quite unnecessary to give each singer the music on two staves. The men are given only the lower staff, and the women only the upper staff.

To separate and distinguish the two staves, we use **clefs**. The **G clef for the high notes** (for women) and the **F clef for the low notes** (for men).



The **G-clef**, or treble (= high notes) clef, and in other languages, the soprano clef (from the Italian "sopra" meaning "above") or the violin clef (the highest of the stringed instruments), is located on the 2nd line² "up" (starting from middle C). Its name, **G** (G-clef), comes from the note G which is located on exactly that same line. It symbolizes the upper register, the part of the piano to the right of middle C (the yellow key).

The **F-clef**, or bass (= low notes) clef, is also located on the 2nd line, but this time "down" (from middle C)³. Its name, **F** (F-clef), comes from the note F which is located on exactly that same line. It symbolizes the lower register, the part of the piano to the left of middle C (the yellow key).

The reference notes

Middle C is a reference note, because it is the starting point for all musical writing.

The **G**, which gives its name to the G-clef, and the **F**, which gives its name to the F-clef, are obviously also reference notes.

¹ This is a useful generalization for understanding music writing. But, in reality ...

Most female voices are capable of singing lower, and sometimes much lower, than middle C. And, they rarely reach the upper contra-C, although some female voices exceptionally sing even higher.

Most male voices are able to sing higher, and sometimes much higher, than middle C. And, they rarely reach the lower contra-C, although some male voices exceptionally sing even lower.

² "Located on the 2nd line" actually means "written starting from the 2nd line". This is not very visible for the G-clef. For the F-clef, however, one does clearly see the "start" of the clef, a bold dot on the 2nd line (down), from which the clef is being written. And, the two dots on the right (remaining from the horizontal lines of the letter F) also "surround" that 2nd line.

³ In traditional classical theory, this clef is called "**4th line F clef**", i.e., counting the lines from bottom to top instead of "starting from middle C". That ill-chosen name – though understandable from the perspective of traditional music pedagogy – thereby completely ignores the very logic of the 11-line system.

NOTE READING FOR PIANISTS

With their octave notes (**high C, high G, high contra-C and low C, low F, low contra-C**) we have enough reference notes to be able to find all the other existing notes. These other notes are only one step – sometimes two steps – above or below the reference notes.

MIDDLE C	CLEF NOTES	HIGH AND LOW C	HIGH G AND LOW F	CONTRA-C'S
1ST LEDGER LINE	2ND LINE	3RD SPACE	"STICK" TO THE STAFF	2ND LEDGER LINE
BETWEEN STAVES	UP (= G)	(UP AND DOWN)	ABOVE (= G)	ABOVE
	DOWN (= F)		BELOW (= F)	BELOW

Learn these reference notes by heart and you will now be able to read all the notes in "pitch".

Octave signs

To be able to write piano notes that fall outside of the singable register – lower than the lower contra-C, and higher than the upper contra-C – we have two options:

1. We can use even more ledger lines.

However, this makes it more difficult to read (see the 1st bar in the example below):

(contra-) C D E F G A B C	in G-clef
(contra-) C B A G F E D C	in F-clef

2. In order to avoid the use of too many ledger lines, we can use octave signs. They indicate that the notes we read should be played an octave (or two octaves) higher or lower, thus making it easier to read.

- **8va**, short for "ottava alta" ("one octave higher"), means that all notes below the dotted line should be played one octave higher. These notes therefore sound exactly the same as the notes in the first bar (with many ledger lines).

- **15ma**, short for "quindecima alta" ("one fifteenth higher"), means that all notes below the dotted line should be played two octaves¹ higher. These notes therefore sound even higher – one octave higher – than the notes in the first two bars.
- **8vb**, short for "ottava bassa" ("one octave lower"), means that all notes above the dotted line should be played in one octave lower. These notes sound exactly the same as the notes in the first bar.
- **15mb**, short for "quindecima bassa" ("one fifteenth lower"), means that all notes above the dotted line should be played two octaves lower. These notes therefore sound even lower – one octave lower – than the notes in the first two bars.
However, this last symbol is very rarely (never?) used for the piano because the notes written in red in the example above don't exist on a piano.

Follow the contour

In music theory classes, students are taught to read and sing music by naming each note on the score. This method is justified when one wants to be able to check whether the student "knows his notes well".

However, naming all the notes has a strong tendency to inhibit the playing and the singing. Music writing is designed so that you can **see** at a glance, and even almost **hear** (with experience, you'll be able to hear mentally), how a melody evolves. This is called the **contour** of the melody.

Take the melody of *My Way* (see [Melody "on top"](#)) as an example.

The red line represents the contour of the melody.



The pianist gains, both in agility and understanding, by thinking "fingers" rather than "note names". This way, he also learns to **feel** the contour of the melody in his fingers.

Here is roughly what a pianist thinks when he plays the melody of *My Way*:

1. The first note is a **C**. I need to be able to "name" that note.
2. I play this note with my (right) **thumb**, because the next note is much higher on the piano keyboard.
3. The second note is an **A**. I must (still for now²) be able to "name" this note.
4. I play this note with my **little finger**.
5. From there, I just have to follow the **contour** of the melody.
 - a. I repeat the first two notes, go down one step, then up one step.
This gives the fingering: thumb (1), little finger (5), ring finger (4), little finger (5).
 - b. I repeat the four previous notes. Same fingering: 1 5 4 5.

¹ Some readers may find it strange that 8 symbolizes one octave, and 15 two octaves. This seems to go against mathematical intuition. But, if we count all the notes in two octaves, we arrive at 15. Of course, because an octave is in fact made up of 7 different notes plus 1 (the doubling of the first note in the octave): $7 + 1 = 8$. This gives on two octaves: $7 + 7 + 1 = 15$.

² An advanced pianist is able to accurately estimate, and feel in his fingers, the distance between two notes. He no longer needs to name this second note.

NOTE READING FOR PIANISTS

- c. I go down one step, up one step, down again, repeat that last note, and (attention! **black key**) I go down: 4 5 4 4 3
- d. Thumb ...



The contour is therefore essential to learn and understand a melody, and thinking in "fingers" is much easier and more efficient than thinking in "note names".

But the contour alone will not be enough to be able to read music well. A pianist will read all the more easily when he knows The intervals and the Keys (tonalities) and key signatures.

And, of course, when he's able to read the rhythm as well.

RHYTHMIC NOTATION (TONE DURATION)

In addition to pitch, you must also be able to read the **duration** of the notes. The alternation of the note durations determines the rhythm of the music.

Note values

- The longest note encountered is called the WHOLE note.
The WHOLE note fills the whole bar in 4/4 meter.
 - Two HALF notes fill, together (half each), that same bar of 4/4.
 - Four QUARTER notes together also fill the bar, giving their name to the 4/4 meter.

And so, one can continue, in principle infinitely:

- Eight EIGHTH notes
 - Sixteen SIXTEENTH notes
 - Thirty-two THIRTY-SECOND notes
 - Sixty-four SIXTY-FOURTH notes
 - Hundred twenty-eight HUNDRED TWENTY-EIGHTH notes
 - ...¹

In practice, we rarely go beyond the 16th notes.



Rests

With each note value also comes a rest of equivalent duration. At rests, one must stop playing or singing, one must be "silent".²



Bar unit

The note that fills the bar is called the **bar unit**. As we saw above, the WHOLE note fills the whole bar of 4/4. So, the WHOLE note is the bar unit in the 4/4 meter.

Count unit

One uses the 4th note as the **count unit** in the most common (simple) meters: one 4th note = one count, or **one beat**. I often hear students talk about notes of "one second" instead of "one beat".

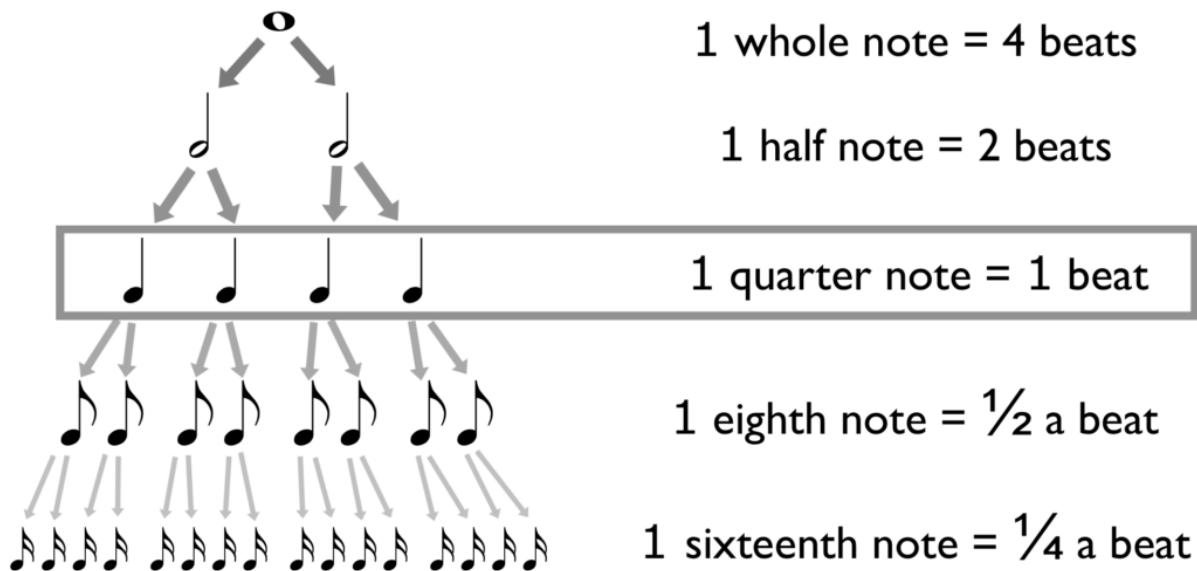
This is true when the music has a "tempo" (Italian for "speed") of $\text{♩} = 60 \text{ bpm}$ (60 beats per minute => the 4th notes beat at a speed of 60 times per minute), which corresponds exactly to the number of

¹ The smallest note value I ever encountered on a score was the 128th note.

² To illustrate, in French, rests are called “silences”.

seconds per minute. But if the music has a tempo of $\text{♩} = 120 \text{ bpm}$ (this tempo is actually more usual than 60 bpm), one 4th note will last only half a second. So, the exact duration of the notes will always depend on the tempo of the piece.

What's more important is how the different note values **relate to each other**: twice or four times (or eight times, or sixteen times, etc.) larger, or twice or four times (etc.) smaller. Using the 4th note as the count unit is convenient because, from there, one can easily switch to twice and four times longer/larger/slower, but also to twice and four times shorter/smaller/faster.



Simple meter (Simple time signatures)

Depending on the type of dance or "sway" the composer wishes to give to his music, he will use a different meter. Simple meters are the "regular" time signatures.

4/4 meter

The most common meter (which was also mentioned earlier) is the 4/4 meter.

- Number of beats: 4 (the upper digit, the numerator)
 - Count unit: 4th note (the lower digit, the denominator)
 - Bar unit: Whole note
 - Examples of style or dance: too many to mention



It is important to note that the time signature of 4/4 is also often indicated by a **C**.



Natural binary accentuation "in 4"

The different beats in the bar are sensed differently when one plays or dances.

This has everything to do with the "sway" of the music.

The 4/4 meter has a **binary** (two-part, or even) **accentuation**. That type of accentuation occurs naturally when one counts "**1 2 1 2 1 2 1 2**", or says "**left right left right left right**" when marching, and that's why it's called the "natural" accentuation. The binary accentuation "in 2" alternates a STRONG beat with a weak beat: STRONG – weak – STRONG – weak – STRONG – weak – etc.

But in the 4/4 meter, with four beats, one also distinguishes the STRONG beat (the 1st beat at the beginning of the bar) from the HALF STRONG beat (the 3rd beat in the middle of the bar).

Because, in alternation with (only) the 1st beat, the 3rd beat feels weak.

See bar 2 below: binary accentuation "in 2" => STRONG – weak (actually, HALF STRONG).

While the 3rd beat feels STRONG compared to the 4th beat.

See bar 1 below: binary accentuation "in 4" => STRONG – weak – HALF STRONG – weak.

The STRONG beat is indicated with the symbol for the "martellato accent", >.

The HALF STRONG beat is indicated with the symbol for the "tenuto accent", –.

The weak beats, the 2nd and the 4th falling in between, are not given an accent.



The binary accentuation "in 4" (STRONG – weak – HALF STRONG – weak) is the most common accentuation in music. It can be found at all levels of note values, and in all types of meters.¹

The hypermeasure

The highest rhythmic level – at the level of the bar unit – is a block of 4 bars: the "**hypermeasure**" (half a musical phrase²). At this level, one can feel a very slow sense of meter "in 4"³, with a binary accentuation "in 4".



¹ Except ... see further 3/4 meter et Compound meter (Compound time signatures: 6/8, 9/8 and 12/8).

² Which implies that there are in fact rhythmic levels higher than the hypermeasure: "phrases" and "parts".

- The musical phrase: 8 bars 2 x 4 bars
- The musical part: 16 bars 4 x 4 bars 2 musical phrases

Notice that the binary grouping continues to exist at these levels (2x or 4x).

³ "Hypermeasure" actually means "the meter above the meter".

NOTE READING FOR PIANISTS

Descending, level by level, from the hypermeasure, one gets the same binary accentuation "in 4" at each and every level. This is why the smaller note values, the subdivisions of the beats, are grouped by 4, from the 8th notes onwards.

A musical score for five staves of a piece titled "The Star-Spangled Banner". The score consists of five staves, each with a treble clef and a common time signature (indicated by the number 4). The first staff contains four measures: the first measure has two eighth notes (the first with a stem up, the second with a stem down), the second measure has one eighth note (stem up), the third measure has one eighth note (stem down), and the fourth measure has one eighth note (stem up). The second staff contains four measures: the first measure has two eighth notes (both stems up), the second measure has two eighth notes (both stems down), the third measure has two eighth notes (both stems up), and the fourth measure has two eighth notes (both stems down). The third staff contains four measures: the first measure has two eighth notes (both stems up), the second measure has two eighth notes (both stems down), the third measure has two eighth notes (both stems up), and the fourth measure has two eighth notes (both stems down). The fourth staff contains four measures: the first measure has two eighth notes (both stems up), the second measure has two eighth notes (both stems down), the third measure has two eighth notes (both stems up), and the fourth measure has two eighth notes (both stems down). The fifth staff contains four measures: the first measure has two eighth notes (both stems up), the second measure has two eighth notes (both stems down), the third measure has two eighth notes (both stems up), and the fourth measure has two eighth notes (both stems down).

It is important to have a good understanding of accentuation when learning rhythms. Without this accentuation, one can easily get lost in the meter and in the rhythm.

Depending on musical styles, accent shifts can occur (see [Syncopations](#)). But even those accent shifts will continue to be felt in relation to the natural accentuation.

3/4 meter

- Number of beats: 3 (the upper digit, the numerator)
 - Count unit: 4th note (the lower digit, the denominator)
 - Bar unit: The dotted half note (see Dotted notes and rests)
 - Examples of style or dance: waltz, minuet, mazurka, ...

A musical score for a single instrument. It features a treble clef, a key signature of one sharp (F#), a common time signature (indicated by 'C'), and a 3/4 time signature (indicated by '3/4'). The score consists of two measures. The first measure contains three eighth-note strokes on the second line of the staff. The second measure begins with a bar line, followed by a dynamic marking 'p.' (piano) above a vertical bar, and ends with a measure repeat sign (double bar line with dots) above another vertical bar.

Natural ternary accentuation "in 3"

The 3/4 meter has a **ternary accentuation** (three-part, odd). This type of accentuation occurs naturally when counting "1 2 3 1 2 3 1 2 3" => ternary accentuation:
STRONG – weak – weak – STRONG – weak – weak – STRONG – weak – weak – etc.

But, at the levels above or below the beats (the quarter notes), we can still perceive a binary accentuation.

Indeed, what is striking here is that we find at each level, a mixed ternary and binary accentuation, between the main accentuation and the underlying accentuation:

Level	Way of counting											
Hypermeasure	1	2	3	2	2	3	3	2	3	4	2	3
Beats	1	2	3	2	2	3	1	2	3	2	2	3
8 th notes	1	2	2	2	3	2	1	2	2	2	3	2
16 th notes	1	2	3	4	2	2	3	4	2	2	3	2

2/4 meter

- Number of beats: 2 (the upper digit, the numerator)
- Count unit: 4th note (the lower digit, the denominator)
- Bar unit: The half note
- Examples of style or dance: march, samba, ragtime, ...

The 2/4 meter has, in principle, a binary accentuation "in 2", STRONG – weak. But at all levels, one tends to feel an accentuation "in 4". This is why it is often so difficult for a listener to hear the difference between one bar of 4/4 and two bars of 2/4.

The accentuation "in 2" is most pronounced in marches, and well felt when marching (**left**, right, **left**, right, ...). The two other styles mentioned, samba and ragtime, are also marches. The samba is the music to which the samba schools of Rio de Janeiro march during their world-famous carnival procession. Ragtime is a (piano) style inspired by the marches of the American marching bands.

Thus, while playing such marches, one will try to keep emphasizing the binary accentuation "in 2" at the beats level (on the 4th notes). But the accentuation "in 4" tends to take over.

2/2 meter ("alla breve", "halftime")

It's not uncommon to choose another count unit, instead of the quarter notes. The most common simple meter using another time unit is the "alla breve" (classical term) in 2/2, usually indicated by a "crossed out C" . Also known as the "halftime feel" in jazz.

- Number of beats: 2 (the upper digit, the numerator)
- Count unit: The half note (the lower digit, the denominator)
- Bar unit: The whole note
- Examples of style or dance: Usually (but not always) this bar is used to raise an original 4/4 meter to a higher level of accentuation. This gives, on the one hand a calmer/slower accentuation, which on the other hand allows a higher tempo.

The tie

In the 4/4 meter, we have ...

- The quarter note = 1 beat
- The half note = 2 beats
- The whole note = 4 beats

What if one wants to write down a note of 3 beats?

There are two options: (1) the tie and (2) the dot (see Dotted notes and rests below).

The tie allows us to link any note values together to lengthen the note. The tie is quite often confused by beginners with other "bow" types¹ on the score. One must always look carefully to see if the following two conditions are met:

1. The bow runs from notehead to notehead (does not hover over a whole series of notes).
2. The two connected notes must be of the same pitch (twice C in the example above).

Syncopations

A tie will very often (not always) announce a **syncopation**. Syncopation occurs when an unaccented note (weak beat or subdivision) is extended **beyond** a STRONG beat (or subdivision). Syncopation creates a sensation of forward movement of the accent. This is known as an **anticipation**² of the beat (or accent).



Bar 1: The last, weak, eighth note of the first group (of 4 eighth notes) is extended **beyond** the first, STRONG, eighth note of the second group. The STRONG accent is anticipated by one eighth note.

Bar 2: Here are some less visible syncopations, not using the tie, but existing note values. We see here, twice, that the second weak (8th) note (of what should have been two groups of 4 eighth notes), is prolonged **beyond** the third HALF-STRONG (8th) note (not visible on the score).

The HALF-STRONG accent is anticipated, twice, by an eighth note.

The expression "ragtime" (an early jazz style with many syncopations) gives us a good idea of the effect syncopations cause. There is a strong tendency, when counting the bar, to place the counts on the syncopations rather than on the beats, creating the impression of a "ragged time" (or meter).³



Dotted notes and rests

We saw earlier the dotted HALF note as the bar unit for the 3/4 meter.

A dot, **after** a note, increases the duration of the basic note by half its original value.

For example: A HALF note (2 beats) with a dot (add half = + 1 beat) becomes a note of 3 beats.

¹ Other "bow" types: the legato slur (indicating that the notes should be played in a continuous sound, well linked together), the phrasing (indicating a phrase, or half a phrase, from beginning to end), the rhythmic bow (indicating that the notes should be played in a continuous rhythm until ...), ... In music, you'll find bows with many different meanings, but the basic idea is always the same: to group the notes into a musical unit.

² "Anticipate" literally means "to take ahead", "to play ahead" in music.

³ The same idea is found in the Dutch expression "breeknoten" (breaking notes) as an alternative name for syncopations. The rhythm, or meter, is "broken" (rather than "ragged").

Compound meter (Compound time signatures: 6/8, 9/8 and 12/8)

In simple meter, we have ...

- The quarter note = 1 beat
- Two eighth notes = the beat subdivided in two
- Four sixteenth notes = the beat subdivided in four

What if one wants to subdivide the beat in three? There are two options: (1) the compound meter and (2) the triplets (see *Triplets, Duplets (and “multiplets”)* below).

For each time signature in **simple meter**, with a **binary subdivision** (beat subdivided in 2) ... there is a time signature in **compound meter**, with a **ternary subdivision** (beat subdivided in 3).¹

6/8 meter

- Number of beats: 2
- Count unit: the dotted quarter note
- Beat subdivision: 3 eighth notes
- Composition: 2 beats, each subdivided in 3 eighth notes = 6 eighth notes



The ternary accentuation “in 3” we saw before for the 3/4 meter – STRONG, weak, weak – is felt here at the level of the eighth note subdivision. This is the reason why the subdivisions are grouped by three (or sometimes six) on the score.

¹ It gets complicated!

There are binary time signatures (even number of beats) with binary subdivision: 4/4, 2/4, 2/2, ...

There are ternary time signatures (odd number of beats) with binary subdivision: 3/4, ...

Binary time signatures with ternary subdivision: 6/8, 12/8, ...

Ternary time signatures with ternary subdivision: 9/8, ...

NOTE READING FOR PIANISTS

On other levels, we find the binary accentuation "in 2" or "in 4" again.

The image contains four staves of musical notation. The first staff shows a dotted half note followed by three pairs of eighth notes. The second staff shows a dotted half note followed by two pairs of eighth notes. The third staff shows a dotted half note followed by four pairs of eighth notes. The fourth staff shows a dotted half note followed by five pairs of eighth notes. Each staff uses a treble clef and a common time signature.

9/8 meter

- Number of beats: 3
- Count unit: the dotted quarter note
- Beat subdivision: 3 eighth notes
- Composition: 3 beats, each subdivided in 3 eighth notes = 9 eighth notes

The image contains five staves of musical notation. The first staff shows a dotted half note followed by three groups of three eighth notes. The second staff shows a dotted half note followed by two groups of three eighth notes. The third staff shows a dotted half note followed by four groups of three eighth notes. The fourth staff shows a dotted half note followed by five groups of three eighth notes. The fifth staff shows a dotted half note followed by six groups of three eighth notes. Each staff uses a treble clef and a 9/8 time signature.

12/8 meter

- Number of beats: 4
- Count unit: the dotted quarter note
- Beat subdivision: 3 eighth notes
- Composition: 4 beats, each subdivided in 3 eighth notes = 12 eighth notes

A musical score in 12/8 time with a treble clef. The score consists of eight measures. Measure 1: Four dotted quarter notes. Measure 2: Groups of three eighth notes. Measure 3: Groups of three eighth notes. Measure 4: Groups of three eighth notes. Measure 5: Groups of three eighth notes. Measure 6: Groups of three eighth notes. Measure 7: Groups of three eighth notes. Measure 8: Groups of three eighth notes.

Triplets, Duplets (and “multiplets”)

If we want to subdivide the beat into three, where it would normally be subdivided into two, we group the subdivision by three by clearly noting on the score a "3", thus indicating that it's a **triplet**. In musical language, this is called a "three against two" rhythm. (See [Polyrhythm](#).)

A musical score in 4/4 time with a treble clef. The first measure is labeled "SUBDIVIDED IN 2" and shows four eighth notes. The second measure is labeled "SUBDIVIDED IN 3" and shows six eighth notes grouped into three triplets, each marked with a "3" below the notes.

Conversely, the beat can be subdivided into two, where it would normally be subdivided into three. Simply group the subdivision by two by clearly noting a "2" on the score, thus indicating that it is a **duplet**. In musical language, this is called a "two against three" rhythm.

A musical score in 12/8 time with a treble clef. The first measure is labeled "SUBDIVIDED IN 3" and shows six eighth notes. The second measure is labeled "SUBDIVIDED IN 2" and shows four eighth notes grouped into two duplets, each marked with a "2" below the notes.

Triplets and duplets can be applied to all levels of note values. And there are also **quadruplets** (e.g., "four against three"), **quintuplets** (e.g., "five against four"), **sexuplets** (e.g., "six against four"), **septuplets** (e.g., "seven against six"), etc.

Mixed meter (combined time signatures)

Mixed meter (combined time signatures) is also possible. When a piece continuously alternates a 3/4 meter with a 2/4 meter, we prefer to write a 5/4 meter to avoid having to change the time signature at each new bar. All **combinations** of time signatures are conceivable, though it remains exceptional.



Counting

To be able to **place** all these note values, with or without tie or dot, syncopations, triplets and other "multiplets", ... in simple, compound or mixed meter, one will have to count, *count, count, count, COUNT!* (... as I so often note in my students' notebooks).

When we watch musicians play, we feel like they're not counting (anymore), but ... we see them swaying, dancing, nodding, stomping, clapping, swinging, ... and that's how they (still) count. When learning a piece of music, one can perceive, even as a beginner, how the "rational" counting automatically turns into a "sensory" counting as soon as one starts to know the piece better. This is called the **sense of rhythm**.

Many beginning musicians try to learn a rhythm from a score by relying solely on their sense of rhythm, without counting. They then sometimes play surprisingly beautiful rhythms ... that have absolutely nothing to do with the piece written on the score. Therefore, it's essential to always start by counting "rationally" in order to be able to place the notes correctly in the meter, and thus learn the right rhythm. If you want to avoid counting, there is only one more or less reliable method (unfortunately not given to everyone), and that is ...

Playing rhythms by ear

Repeating a rhythm **by ear** is usually much easier than learning to play it by sight (from a score). So, never hesitate to go listen to how a rhythm should be played. Search for the song, on YouTube, Spotify or other platforms, and "just" repeat the rhythm you hear.

But not everyone can play easily by ear. That leaves us with only one option: **counting**, in a "rational" way.

Counting the subdivisions

A musician doesn't need to be able to count beyond four. The rhythm is always grouped by 2, by 3 or by 4, thus allowing to feel the correct binary or ternary accentuation, with **STRONG (S)**, **HALF STRONG (H)** and **weak (w)** beats (or subdivisions).

By 2 **S w – S w – S w – S w**

By 3 **S w w – S w w – S w w – S w w**

By 4 **S w H w – S w H w – S w H w – S w H w**

NOTE READING FOR PIANISTS

If one wants to keep track of the beats, subdivisions are usually counted with "and," as on the first staff below (1 e & a, 2 e & a ... = **one** e and a, **two** e and a, ...).

One can also opt to count in the subdivision itself, as on the second staff above.

Again, it is recommended not to go beyond four.

Compound meters are composed with groups of three: 2 groups of 3 (in 6/8) – 3 groups of 3 (in 9/8) – 4 groups of 3 (in 12/8). Never count to 6, or 9 or 12. This is very inconvenient.

Mixed meters will have their own combinations of groups of 2, 3 and 4.

TA ka Di mi (rhythmic words)

The Indian **TA ka Di mi** replaces the actual counting with **rhythmic words** representing groups of 2, 3 and 4. This system is much more intuitive than our arithmetic counting. The words allow us to switch very quickly, almost instantly, from the "rational" to the "sensory".

TA = the beat unit (or accent), the "1" of each group, the first syllable of each word.

Group of 2 (binary)	TA ka	(or slower, TA Di)
Group of 3 (ternary)	TA ki te	
Group of 4 (binary)	TA ke Te ke	(or slower, TA ka Di mi)

Here is how to apply the rhythmic words (other combinations are conceivable):

NOTE READING FOR PIANISTS

There is also a word for a group of 5: **TA di ge na tom**. Groups of 5 are extremely rare in Western Music, and when used, they're often seen as a combination of **3+2 (TA ki te TA ka)** or **2+3 (TA ka TA ki te)**, i.e., with an accent "somewhere in the middle".

From there, any combination is possible, even with possible accent shifts. For example:

Subdivided "in 6"	3+3	TA ki te TA ki te	or 2+4	TA ka TA ke te ke
Subdivided "in 7"	4+3	TA ke te ke TA ki te	or 3+4	TA ki te TA ke te ke etc.

Rhythmical words are flexible. They can, and should, be used and possibly modified creatively, until they render the rhythm you are trying to learn.

Rhythm exercises for the pianist

The metronome

Now that we've seen some counting tips, whether with numbers or with words, it's time to put rhythms into practice. Take a metronome that beats at 60 bpm for a quarter note. Each click of the metronome is a beat, or a TA. And try counting the following rhythms with numbers, then saying them with words. This will help you discover which system works best for you. It is very important that you stay in tune with the metronome, that each beat, or TA, falls perfectly on each click.

Exercise 1 - binary subdivisions (in 2 - in 4)

If the exercise was successful, you now know which system works best for you (for me, I choose the TA ka Di mi, without any hesitation). Now try to apply your counting system to the following exercises.

Exercise 2 - from binary to ternary (in 2 - in 3 - in 4)

Exercise 3 - binary to ternary (in 2 - in 3 - in 4 - in 6)

The musical score consists of three staves of eighth-note patterns. The first staff is in common time (4/4). The second staff is in common time (4/4). The third staff is in common time (4/4). Each staff has a 'REPEAT 3x' instruction above it. Measures are grouped by vertical bar lines. Measure groupings are indicated by the number '3' below each group of measures.

Tapping hands

Every musician should be able to do this kind of exercise. Now also learn to tap them with the hands on a table, always with a metronome, and always tap with a very clear accent on the "1" or "TA" of each group.

When tapping binary groups (of 2, of 4) the accent (the TA) always stays on the same hand:

By 2: **RIGHT** left **RIGHT** left **RIGHT** left **RIGHT** left ...

By 4: **RIGHT** left right left **RIGHT** left right left **RIGHT** left right left ...

With ternary groups (of 3) the accent will move from one hand to the other:

By 3: **RIGHT** left right **LEFT** right left **RIGHT** left right **LEFT** right left ...

Practice also on other types of meters, preferably with a metronome that gives the first beat of each measure (consult the metronome manual).

Don't forget the *Compound meter (Compound time signatures: 6/8, 9/8 and 12/8)* with a passage from ternary (normal) to binary (duplets and/or quadruplets).

Playing with a metronome

Get into the habit of playing your songs (and exercises) on the metronome. This is a must for all musicians. You never become a (good) musician if you can't play on a metronome.

I often hear my students complain, "This metronome is getting on my nerves!". The reason for this irritation always comes from the gap between the "rational" and the "sensory". You shouldn't *listen rationally* to the metronome, because it prevents you from concentrating on playing the piano. You must learn to *feel* (i.e., *hear*¹) the metronome. Take the time, before playing, to let the metronome affect your sense of rhythm, for example by nodding your head or swaying to the clicks of the metronome, and hold that movement while playing.

It's also very important to exercise at the right tempo. That is, "the right tempo for **you**", the "right practice tempo," not necessarily the tempo that is written on the score (which is the "finishing

¹ Hearing is not the same as listening. Hearing is passive (hence feeling), while listening is active.

NOTE READING FOR PIANISTS

tempo"). If you can't play at 100 bpm because it's too fast, try playing at 80 bpm. Is that too slow for you? Then try 90 bpm. Keep searching until you find the right tempo.

Another common complaint: "Yes, but this piece needs to be played with movement (with rubato). The metronome prevents me from performing with the correct interpretation!". Always keep in mind that you'll never learn to play a nice rubato well if you are not able, at first, to play the piece perfectly on the metronome.

Don't give up after one try. Keep going until you get it right.

Counting the "gaps"

As long as the rhythms are steady, as in the previous exercises (with complete groups of 2, 3, 4), you'll quickly feel the right accentuation. One quickly passes from the "rational" to the "sensory".

Then come the irregular rhythms, rhythms with "gaps", with beats or subdivisions that shouldn't be played. The notes that are played (that are said, that are tapped) are felt as "real", because there's action at the moment of playing them. But the gaps are felt as uncomfortable pauses of indeterminate duration. To feel the exact duration of the pause, it is necessary to "act in the gap", i.e., to compensate for the lack of action by a movement that we can feel in our body.

Exercise 4 – counting the gaps

The most obvious and easiest action is to simply **count aloud** in the gaps (and easier, only in the gaps). The advantage is clear: on the one hand you **know**, and understand, what you're saying (you're in the rational), and on the other hand you **feel** what you're saying (you're in the sensory) because your mouth is moving: there's action. But also nodding the head, tapping the foot, and even sniffing, ... are good compensatory actions to fill the gaps.¹

At slow tempi, for example on the beats (quarter notes), it's better to use monosyllabic words that take the place of the missing notes. In the following example, "TA" represents the finger action and should not be said, while "AND" and the numbers should be said/ counted.



Exercise 5 – filling the gaps

Another option, which may seem easier to some, is to use the left hand as a metronome. If the left hand plays a continuous rhythm at the smallest note value used in the score (quarter notes for the exercise above), it fills in all the gaps, and all you have to do is place the right-hand notes correctly over the left-hand notes.

¹ A pianist should avoid using the hands and arms for any purpose other than playing the piano. Do not shake them! It is of course OK to tap with the left hand during a right-hand exercise (and vice versa).

Rhythmic patterns

Exercise 6 – rhythmic patterns

At higher tempi, such as sixteenth notes, the creative use of **TA ka Di mi** is a better option. One can invent a word that corresponds exactly to each rhythmic figure one encounters on the score.

Some examples:

Exercise 7 – rhythmic patterns (using the left hand as a metronome)

Polyrhythm

Every pianist is sooner or later confronted with **polyrhythm**.

The word means "to play many (poly) different rhythms at the same time".

Exercise 8 - three against two

For example, he will have to play groups of 3 in the right hand, while he plays groups of 2 in the left hand, a "three against two" rhythm.

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To learn to play this kind of rhythm, you must first mathematically place the notes of the right hand (R) on the notes of the left hand (L). This is done using the **least common multiple (LCM)**, in this case of 2 and 3 = 6.

LCM = 6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
(or)	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Accentuation in 4/4	>			-			>			-			>			-			>			-		
Triplets RH	R		R		R		R		R		R		R		R		R		R		R		R	
LH	L		L		L		L		L		L		L		L		L		L		L		L	

You must take the time to perfect this rhythm. While you're still counting, play it slowly enough to place all the notes correctly on the counts. As you begin to feel the rhythm (gradually not counting anymore), let it speed up until it plays "on autopilot".

The resulting rhythm, the one you hear and feel when playing both hands together, is called the "composite rhythm". It's a very recognizable "three against two" rhythm that you need to remember in order to be able to reproduce it in the future.

TA ka Di mi, again, offers a more intuitive way to learn this rhythm. **TA ki te** is played with the right hand against **TA ka** with the left hand. All the **TA**'s (right and left) coincide perfectly, and each group (right and left) should be evenly distributed across the beat (from **TA** to **TA**).

The musical notation consists of two staves. The top staff is in treble clef and the bottom staff is in bass clef, both in 4/4 time. The top staff has three groups of three eighth notes, each group containing two notes. The bottom staff has two groups of two eighth notes, each group containing two notes. The lyrics 'TA KI TE' are written below the top staff, and 'TA KA' are written below the bottom staff, corresponding to the notes. The notes are grouped by vertical lines to show the subdivision.

When you accentuate the left hand (significantly louder than the right hand), you will feel the rhythm in 4/4 meter. Indeed, the left hand plays the binary subdivision of the beats, which is the "normal" subdivision in 4/4: the groups of two eighth notes (in the chart above on **1** and **4**). While the right hand plays a ternary rhythm, unusual for this type of simple meter: eighth note triplets (in the chart on **1, 3** and **5**).

When you accentuate the right hand (see chart *below*), you feel the rhythm in 12/8 meter. Because the right hand plays the ternary division of the beats, which is the "normal" subdivision in 12/8: the groups of three eighth notes (in the table on **1, 3** and **5**). The left hand plays a binary rhythm, unusual for this type of compound meter, in duplets (in the table on **1** and **4**).

LCM = 6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
(or)	1	2																						
Accentuation in 12/8	>		-		-		>		-		-		>		-		-		>		-		-	
RH	R																							
Duplets LH	L		L		L		L		L		L		L		L		L		L		L		L	

NOTE READING FOR PIANISTS

Exercise 9 - two against three

Now reverse the hands: "duplets" in the right hand and "triplets" in the left hand.

The example proposed here is in 12/8, with left hand accentuation. But here too, you can change the feel of the meter in 4/4 by accentuating the right hand instead.

Exercise 10 - four against three

A "four against three" rhythm is also quite common, one you also should be able to play.

(The chart below represents only one beat of the bar).

LCM = 12	1	2	3	4	5	6	7	8	9	10	11	12
(or)	1	2	3	4	1	2	3	4	1	2	3	4
Accentuation in 12/8	>				-				-			
Quadruplets RH	R			R			R			R		
LH	L			L			L					

The sense of meter, here, also depends on the hand that takes the accentuation.

Accentuation on the left: 12/8 meter

- | | |
|----------------------------------|------------------------------|
| LH in (three) eighth notes | (normal ternary subdivision) |
| RH in sixteenth note quadruplets | (unusual binary subdivision) |

Accentuation on the right: 4/4 meter

- | | |
|------------------------------|-------------------------------|
| RH in (four) sixteenth notes | (normal binary subdivision) |
| LH in eighth note triplets | (unusual ternary subdivision) |

Exercise 11 - three against four

Reverse the hands.

Other polyrhythms ("five against four", "seven against six", ...) are extremely rare, and also much more difficult to construct with the lowest common multiple. For this kind of rhythms, we'll prefer to try to distribute the groups of notes perfectly evenly from one metronome click to the next, or from one TA to the next. But to do this, you'll need to have a great deal of independence in both hands.

With these 11 rhythmic exercises, you'll be ready to tackle the most common rhythms.

OTHER READING SYMBOLS YOU NEED TO KNOW

Besides pitch (the note names) and tone duration (the rhythm), there are other important reading symbols that are often found on sheet music and that we've already discussed in this book.

You'll find, in the chapter *The chord sheet*, the *Tempo* indication, *Bar lines*, *Double bar lines*, *Bar numbers*, all kinds of *Repeat sign(s)*, a *Rhythmic notation* (without pitch), and the *Fermata* symbol.

We've also seen, in the chapter on *Variations in dynamics*, the notation for *Dynamic markings*, for *Lyrical accentuation* and for *Movement*.

You can find, on Wikipedia, a [List of Italian musical terms used in English](#).

KEYS (TONALITIES) AND KEY SIGNATURES

Knowing the keys – the scales – and their signatures is absolutely essential for any musician. It is essential, not only for theory (see below), but also for playing technique, for hand coordination and for finger velocity. In this book, scales are presented only in terms of theoretical knowledge.

Every musician must know "his" scales by heart (especially the major scales). You can find tips and tricks everywhere (on the internet, in books, etc.) to be able to find the scales (or recalculate their key signature), thus trying to avoid having to learn them by heart. My experience as a teacher, but also as a performing musician, tells me that these tricks aren't effective, ever. Nothing replaces the ready knowledge of the scales. So, beware of these tricks, and learn the scales by heart instead! And, the best way to learn by heart is to use your **senses**:

- Hearing:** Each type of scale (e.g., major, or minor¹) has a specific, recognizable melody.
- Sight:** Each scale also has a specific and recognizable pattern on the keyboard.
- Touch:** You have to learn to feel this specific pattern for each scale in the fingers.

For all the scales presented below, I only give the fingering for the right hand, and on one octave only (fingers: 1=thumb, 2=index, 3=major, 4=ring finger, 5=little finger). Play them from the bottom up, and from the top down. This way, you'll learn the scales by heart very quickly.

For technical exercises – with fingerings for the left hand, for both hands together, over several octaves, in parallel and in contrary motion, in sixths and tenths ... – please refer to books like [The Manual of Scales, Broken Chords and Arpeggio's for piano](#).

The 15 major scales

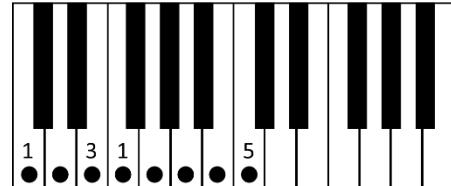
C Major – the model

no key signature

The **C major** scale, without key signature, is the model for all other major scales. They all sound "like C major", but then higher or lower. We'll analyze this major scale model, with its specific construction, in more detail in the next chapter.

The major scale is also the universal theoretical reference for the construction of other types of scales, for chords, and for (jazz) harmony.²

C D E F G A B C
1 2 3 4 5 6 7 8=1



¹ In musical language, one speaks of "any mode" rather than "any type of scale": major is a mode, and minor is another mode.

² In 19th century classical music theory, which is still taught in our classical music schools today, the minor scale is also considered as another reference. But since the ground-breaking theoretical work of the Austrian composer Arnold Schönberg (1874-1951), this principle of "double major/minor reference" is outdated. Although ...? To learn more, read my book [Parent Scales and Chord Scales](#).

NOTE READING FOR PIANISTS

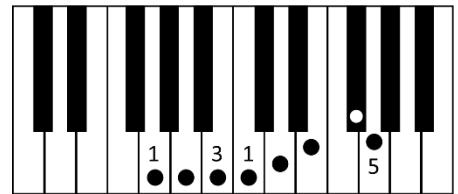
Keys with sharps

Learn the order of the sharps by heart: **F C G D A E B**

G Major – 1 sharp

F#

G A B C D E F# G
1 2 3 4 5 6 7 8=1

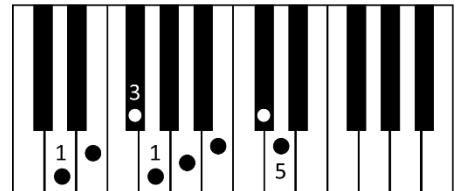


Note the key signature next to the clef: 1 sharp => F#. Note also the oblique path that the fingers follow on the keyboard in preparation for the black key F#. Remember the location of this black key (F#) => the 1st black key of the group of 3.

D Major – 2 sharps

F# C#

D E F# G A B C# D
1 2 3 4 5 6 7 8=1

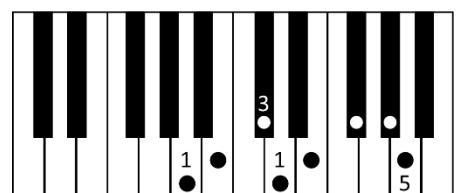


(Location of the black keys => the 1st black key of each group).

A Major – 3 sharps

F# C# G#

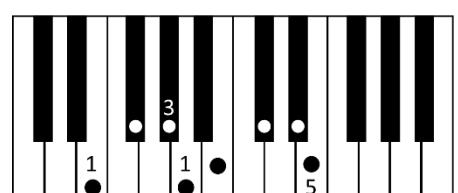
A B C# D E F# G# A
1 2 3 4 5 6 7 8=1



E Major – 4 sharps

F# C# G# D#

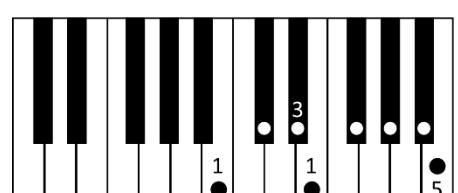
E F# G# A B C# D# E
1 2 3 4 5 6 7 8=1



B Major – 5 sharps

F# C# G# D# A#

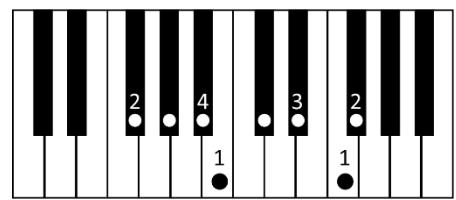
B C# D# E F# G# A# B
1 2 3 4 5 6 7 8=1



NOTE READING FOR PIANISTS

F# Major – 6 sharps

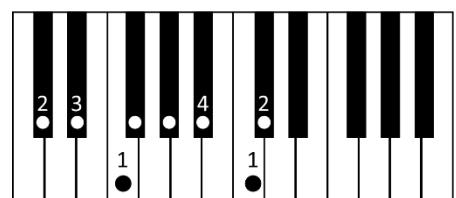
F# G# A# B C# D# E# F#
1 2 3 4 5 6 7 8=1



Pay attention to the fingering: start with the index finger, place the thumb each time on the first white key encountered.

C# Major – 7 sharps

C# D# E# F# G# A# B# C#
1 2 3 4 5 6 7 8=1



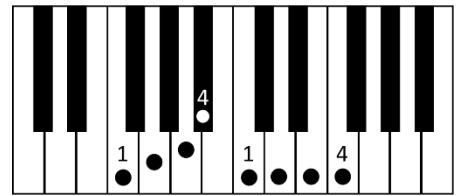
Fingering: start with the index finger, thumb each time on the first white key encountered.

Keys with flats

Learn the order of the flats by heart: **B E A D G C F**

F Major – 1 flat

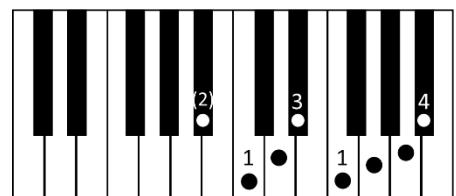
F G A Bb C D E F
1 2 3 4 5 6 7 8=1



For all the following scales (except for the very last one), which all start with a black key, the same fingering is applied as for F# and C# Major: start with the index finger, thumb each time on the first white key encountered.¹

Bb Major – 2 flats

Bb C D Eb F G A Bb
1 2 3 4 5 6 7 8=1



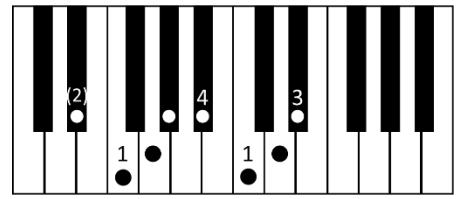
¹ Some fingerings are noted between brackets, because the usual (theoretical) fingering for these scales is "always 3rd finger on Eb and 4th finger on Bb". This is quite correct when playing over several octaves. However, starting to play these scales with a 3rd or 4th finger is neither logical, nor necessary, nor "natural".

NOTE READING FOR PIANISTS

E♭ Major – 3 flats

E♭ F G A♭ B♭ C D E♭
1 2 3 4 5 6 7 8=1

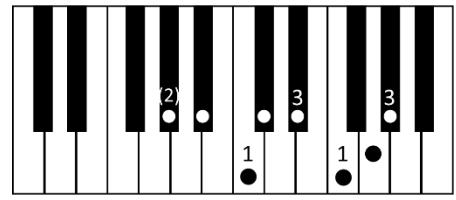
B♭ E♭ A♭



A♭ Major – 4 flats

A♭ B♭ C D♭ E♭ F G A♭
1 2 3 4 5 6 7 8=1

B♭ E♭ A♭ D♭

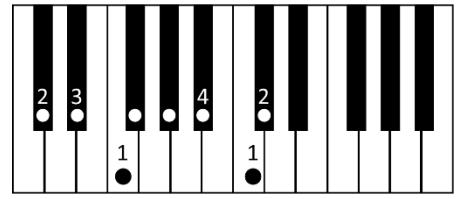


You've already learned the last three scales below under another name, in order, C♯, F♯ and B. There is indeed no difference in sound or fingering between D♭ and C♯, between G♭ and F♯, or between C♭ and B. Although these scales have different names, and are read differently on the score, they sound identical and they're played identically. They're **enharmonic** scales (meaning "in harmony").

D♭ Major – 5 flats

D♭ E♭ F G♭ A♭ B♭ C D♭
1 2 3 4 5 6 7 8=1

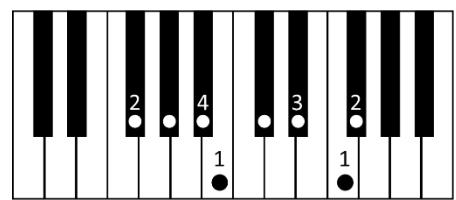
B♭ E♭ A♭ D♭ G♭



G♭ Major – 6 flats

G♭ A♭ B♭ C♭ D♭ E♭ F G♭
1 2 3 4 5 6 7 8=1

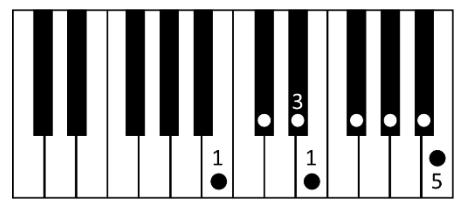
B♭ E♭ A♭ D♭ G♭ C♭



C♭ Major – 7 flats

C♭ D♭ E♭ F♭ G♭ A♭ B♭ C♭
1 2 3 4 5 6 7 8=1

B♭ E♭ A♭ D♭ G♭ C♭ F♭



The major scales in a nutshell

C _b	G _b	D _b	A _b	E _b	B _b	F	C	G	D	A	E	B	F#	C#
7 _b	6 _b	5 _b	4 _b	3 _b	2 _b	1 _b	0	1#	2#	3#	4#	5#	6#	7#
B _b		F#												
E _b			C#											
A _b				G#										
D _b	D _b	D _b	D _b					D#						
G _b	G _b	G _b							A#	A#	A#	A#	A#	A#
C _b	C _b								E#	E#	E#	E#	E#	E#
F _b									B#					

Remember the order of the sharps
flats F C G D A E B
 B E A D G C F

Notice that the order of the scales (top line of the chart) also follows this same order...
... of sharps (ascending)

(F_b) C_b G_b D_b A_b E_b B_b – F C G D A E B – F# C# (G#) (...)

... of flats (descending)

When you know all the major scales well, there's only one step towards **all the other modes** (the other types of scale) and towards **all the existing chords**. All you have to do is to adapt, and/or remove, the degrees of the major scale.

Minor scales

The natural minor mode

The **natural minor mode**¹ is the “minor reference mode”, because there's a specific key signature for each (natural) minor key (mode, scale).

The **natural minor mode** contains b3, b6 en b7.

Formula: Lower the 3rd, 6th and 7th degrees of the major scale by a semitone.

C Major	C	D	E	F	G	A	B	C
	1	2	3	4	5	6	7	8=1
C minor natural	C	D	E _b	F	G	A _b	B _b	C
	1	2	b3	4	5	b6	b7	8=1
D Major	D	E	F#	G	A	B	C#	D
	1	2	3	4	5	6	7	8=1
D minor natural	D	E	F	G	A	B _b	C	D
	1	2	b3	4	5	b6	b7	8=1

¹ The term “mode” (“fashion”, or “style”) is to be understood in the literal sense: this scale sounds “in the natural style”. Just as one can find scales that sound “in the Arabic, Oriental or Gypsy style”.

NOTE READING FOR PIANISTS

Etcetera ...

Here is the result after transforming the 15 major scales into natural minor scales:

Key signatures for the minor scales

Major scales														
C _b	G _b	D _b	A _b	E _b	B _b	F	C	G	D	A	E	B	F#	C#
7 _b	6 _b	5 _b	4 _b	3 _b	2 _b	1 _b	0	1 _#	2 _#	3 _#	4 _#	5 _#	6 _#	7 _#
A _b m	E _b m	B _b m	Fm	Cm	Gm	Dm	Am	Em	Bm	F#m	C#m	G#m	D#m	A#m
Minor (natural) scales														
B _b	B _b	B _b	B _b	B _b	B _b	B _b		F#						
E _b	E _b	E _b	E _b	E _b	E _b			C#						
A _b	A _b	A _b	A _b	A _b				G#						
D _b	D _b	D _b	D _b					D#						
G _b	G _b	G _b							A#	A#	A#	A#	A#	A#
C _b	C _b									E#	E#	E#	E#	E#
F _b														B#

For each key signature, there's both a **major scale** (top line of the chart) and a **minor natural scale**.

The scales, major and minor, that share the same key signature are called **relative scales**, meaning that "they share the same notes" (or the same "blood" as it were).

The minor scale starts on the sixth degree (6) of the major scale.

In C major, the sixth is A. A is the first note of the A minor scale.

The major scale starts on the third degree (b3) of the minor scale.

In A minor, the third is C. C is the first note of the C major scale.

The harmonic minor mode

The **harmonic minor mode** contains only b3 and b6.

Formula: Lower the 3rd and 6th degree of the major scale by a semitone.

E Major	E	F#	G#	A	B	C#	D#	E
	1	2	3	4	5	6	7	8=1
E minor harmonic	E	F#	G	A	B	C	D#	E
	1	2	b3	4	5	b6	7	8=1
 F Major	F	G	A	B _b	C	D	E	F
	1	2	3	4	5	6	7	8=1
F minor harmonic	F	G	A_b	B _b	C	D_b	E	F
	1	2	b3	4	5	b6	7	8=1

The melodic minor mode

The **melodic minor mode** contains only **b3**.

Formula: Lower the 3rd degree of the major scale by a semitone.

G Major	G 1	A 2	B 3	C 4	D 5	E 6	F# 7	G 8=1
G minor melodic	G 1	A 2	Bb b3	C 4	D 5	E 6	F# 7	G 8=1
A Major	A 1	B 2	C# 3	D 4	E 5	F# 6	G# 7	A 8=1
A minor melodic	A 1	B 2	C b3	D 4	E 5	F# 6	G# 7	A 8=1

These three minor modes – natural, harmonic and melodic – are important practice scales in classical music (see [The Manual of Scales, Broken Chords and Arpeggio's for piano](#)). They all contain **b3**, the minor third. Containing the minor third is the prerequisite for qualifying as a minor scale (or chord).

In addition to the four modes learned so far – major, natural minor, harmonic minor and melodic minor – there are many more modes that we will not see in this book (or in most classical schools for that matter). To learn more about all possible modes, you can read my book [Parent Scales and Chord Scales](#).

From major scale to chord

Just one example (taken at random from the chapter [Variation in chord density](#)).

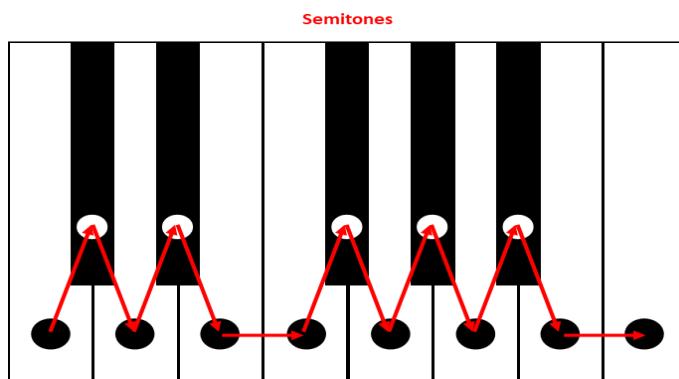
The half-diminished chord also has all degrees (except the root) altered: minor third (b3), diminished fifth (b5) but with a seventh by default (b7).

C Major	C 1	D 2	E 3	F 4	G 5	A 6	B 7	C 8=1
Cm7^{b5}	C 1		Eb b3		Gb b5		Bb b7	

THE INTERVALS

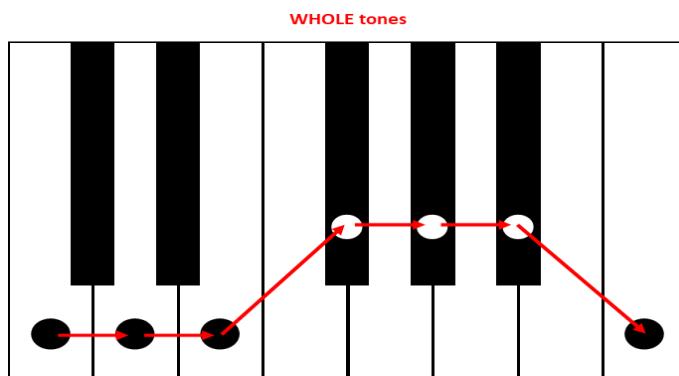
Semitone and whole tone intervals

An interval is the distance between two notes. The smallest interval is the **semitone**. It's the distance from one key of the piano to the next key, black or white.



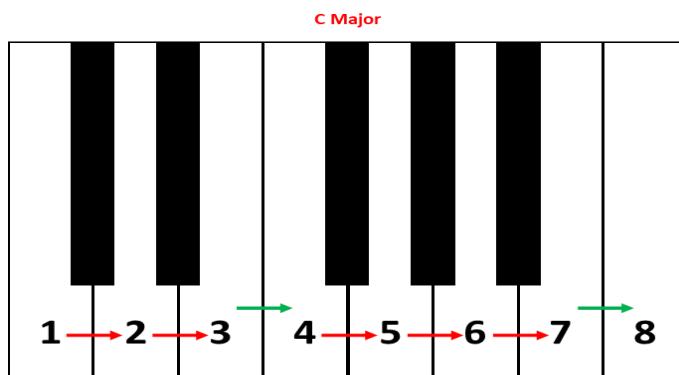
When you play all the semitones one after the other, you play the **Chromatic Scale**.

Two semitones together form a **WHOLE tone**.



When only WHOLE tones are played one after the other, you play the **Whole Tone Scale**.

The **Major Scale** – for which the "normal" C scale is taken as a model – is formed essentially with WHOLE tones, but with a **semitone between 3 and 4** and a **semitone between 7 and 8**.



Intervals between root and other scale degrees

In a scale, regardless of the type of scale (or mode), the distance between the root and each degree of the scale is given a specific interval name.

From root to	Interval	
2 nd degree	Second	
3 rd degree	Third	
4 th degree	Fourth	
5 th degree	Fifth	
6 th degree	Sixth	
7 th degree	Seventh	
8 th degree	Octave	= doubling of the root
9 th degree	Ninth	= octave + second
10 th degree	Tenth	= octave + third
11 th degree	Eleventh	= octave + fourth
12 th degree	Twelfth	= octave + fifth
13 th degree	Thirteenth	= octave + sixth
14 th degree	Fourteenth	= octave + seventh
15 th degree	Fifteenth	= two octaves

Reading intervals on the staff

The intervals are very recognizable when read on the staff.

The even intervals – second, fourth, sixth and octave – are **heterogeneous**:

They move from line to space, or vice versa.



The odd intervals – third, fifth and seventh – are **homogeneous**:

They move from line to line, or from space to space.



Intervals in the major scale

In the major scale, all intervals, starting from the root, are **major** or **perfect**.

Interval quality	Second major	Third major	Fourth perfect	Fifth perfect	Sixth major	Seventh major	Octave perfect
Degree	2	3	4	5	6	7	8

The intervals formed with the main degrees ¹ – the **tonal degrees 4, 5 and 8** – are **perfect**.

The intervals formed with the other degrees – the **modal degrees 2, 3, 6 and 7** – are **major**.

¹ Compare with the main chords I, IV and V in [The diatonic series](#).

Intervals in natural minor

In the natural minor scale (the minor reference mode), all intervals, starting from the root, are **minor or perfect**. Except the second, which is **major**.

Interval quality	Second major	Third minor	Fourth perfect	Fifth perfect	Sixth minor	Seventh minor	Octave perfect
Degree	2	$\flat 3$	4	5	$\flat 6$	$\flat 7$	8

Modal degrees 3, 6 and 7 are adapted. It's allowed to adapt the **modal** degrees to change **modes**, as here, to change from major **mode** to the minor **mode**.

The **tonal degrees** 4, 5 and 8 must remain **perfect** (or "pure" ¹, or "right" ²) to guarantee the stability of the tonality ³.

Quality of intervals

The **modal** intervals (second, third, sixth and seventh) can be **major or minor**.
the **tonal** intervals (**fourth, fifth and octave**) remain (in principle) always **perfect**.

Both types of intervals become ...

- **Diminished** when smaller than **minor or perfect**.
- **Augmented** when larger than **major or perfect**.

Modal intervals	<i>Diminished</i>	Minor	Major	<i>Augmented</i>
Tonal intervals		Perfect		

¹ In Dutch, the **perfect** intervals are called "rein", which means "pure".

² In French, the **perfect** intervals are called "juste", which means "right".

³ To learn more about tonality, read my book [Parent Scales and Chord Scales](#).

CLASSICAL SHEET MUSIC

The classical score is entirely notated in ... classical notation (and therefore, usually, without chord symbols). If you're able to read the notes and rhythms well (taking into account the key signatures), you can easily learn to play from a classical score. (See [Musical writing – Pitch \(tone height\)](#), [Rhythmic notation \(tone duration\)](#) and [Keys \(tonalities\) and key signatures](#).)

It is not strictly necessary to know the tonalities (except that you have to take into account their key signatures), the intervals and the chords to get a nice result. But this knowledge will make it much easier for you to read, and especially to understand the music you are playing (see [Keys \(tonalities\) and key signatures](#), [The intervals](#) and [PLAYING THE PIANO WITH CHORDS](#)).

In the classical tradition, the musician's own contribution to the music he's playing is limited to the interpretation, and only to the interpretation (see [Variations in dynamics](#)). Piano teachers tell their students: "Just play what's written on the score, no more, no less." There is no room for improvisation or fantasy. And this is understandable, because it is almost impossible to invent something better than what the great masters such as Bach, Mozart, Beethoven, Schubert, Chopin ... have written.

So, it's better to stick to the score so that you can learn from the great masters how to do it. But, if you also want to understand what you are doing, and grow in the art of piano playing, it will be necessary for you to analyze their pieces, to try to see how the music is constructed. And for that, you need a theoretical understanding of music. And the best way to approach music theory is [PLAYING THE PIANO WITH CHORDS](#).

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