Frank Sikora

Jazz Harmony

Think Listen Play

A Practical Approach

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Why yet another Harmony Book?

Ever since I decided to be a Jazz musician, I have been intrigued by the beauty and logic of harmonic systems. It isn't only the intellectual side of things that catches my interest. What fascinates me most of all is the subtle interplay of musical hues and colours, the blending of different textures, the shifting of energy levels, the swell and surge of tension, the way harmonic shapes pulsate – a kaleidoscope of swirling sounds and patterns that has drawn me in from day one. On a less poetic note, I eventually became a dedicated music teacher with a strong desire to share my insights. I started writing this book more than 20 years ago. With hindsight, I have to admit that I've become rather wary (and just a bit weary ☺) of this endeavour. Countless pages of manuscript and just as many postponed publishing dates later, I have come to realise just how questionable, if not preposterous, the attempt can be to capture something that, by its very nature, lives and breathes change and individuality. Improvised music is inherently difficult to put into words. While theory tries to describe a common denominator in music, in other words "the rules", improvisation is more often than not living proof of the fact that it is quite admissible and, ultimately, gratifying to break these rules (and get away with it). In Jazz, theory seeks to define, categorise and verbalise an amazingly colourful and, at the same time, elusive world of sound that defies being approached too systematically.

In light of these reservations, I'd like to begin this introduction with my fundamental creed: ***"There is no truth in theory – only in music!"*** Music can exist perfectly well without theories and concepts to back it up. Music theory, however, cannot subsist without the real thing. Without the music, theory is no more than inanimate knowledge. Over the years, I have witnessed time and again that those who take to theory too literally are bound to fail miserably as musicians. Formalised thinking stifles music's vitality and diversity all too quickly. This is nothing new. As the German writer Friedrich Hebbel once said: "Bad poets with sharp minds turn out formula instead of character, system instead of passion". How true – and how applicable to music! Those who excel in theory are not necessarily accomplished and persuasive musicians. As the saying goes: "One can know everything but understand nothing".

Let's face it. Who hasn't got a pile of theory books stashed away in some corner? Who doesn't make a dash for the latest publications in the hope of enlightenment? But, let's be honest. Who can state with conviction that this abundance of knowledge has made a substantial difference? Who has ever really struggled through all this material, absorbed it aurally and, most importantly, to whom has it been helpful as a player? Over the many years of working with colleagues and students, I have come to accept that textbooks rarely inspire flexibility, creativity or personality and that piling up knowledge without practical application holds us back rather than helps us move on. Deep down inside, we all know that practising our instruments, working on our repertoire and collaborating with other musicians is so much more important than any piece of writing or academia could ever be. The magic formula is "learn by doing". The well-known bandleader Sun Ra coined a seemingly banal but nevertheless significant phrase: ***"The music is you!"*** The goal is ***your*** music. It's ***your*** job to carve out a niche in music and develop your very personal approach – a book is, at best,

a crutch. If we follow this line of thought to its logical conclusion, this book should never have been written (and, to tell the truth, I have often been on the verge of throwing the manuscript in the bin!). So, I guess I'll have to explain why, in spite of my reservations, I have decided to add yet another volume to the steadily growing pile of publications on the subject.

Think, listen, play – theory and practice

There are many well-structured theory books on the market, the majority of which fail to explain how theory translates to practice. On the other hand, there are countless workbooks and play-alongs that are dedicated to the practical side of things but lack the necessary theoretical background. This book attempts to bridge the gap between theory and practice. I don't want to limit myself merely to presenting theoretical facts, nor do I see the study of harmony as a purely intellectual or abstract process. To me, harmony is rather the description of a very real world of sound, which should remain just that – a world that tends to follow certain rules, guidelines and patterns but is nonetheless truly alive and dynamic. Theory in itself is only of limited value (particularly in Jazz). An analytical preoccupation with sound is a lifeless science if it has no bearing on the practical side of music. It is therefore my aim to establish as close a relationship as possible between ***theory***, the ***ear*** and our ***instrument***.

Think – An understanding of theory and its vocabulary makes us aware of the enormous reservoir of sounds we have accumulated, internalised and intuitively made use of over the years, and it helps us tap into the multitude of musical memories that lie dormant within us. More importantly, it provides us with the necessary tools to continuously expand our horizons, pointing us towards ideas and concepts not yet within reach. Cultivating our knowledge of theory serves a twofold purpose. Not only does it enhance our ability to describe, explain and categorise the many deeply ingrained songs and recordings that define our musical heritage and personal roots, it is also the key to a whole new world of sound waiting to be discovered and investigated. Music theory is a means of research that will help us move on into the realm of what-ifs and could-bes. It is an exciting playground full of delightful possibilities that should inspire and entice us to explore, experiment, conceive, design, shape, fantasise, invent, create and, above all, have fun.

Listen – Once we are aware of the possibilities and opportunities the study of theory has to offer, we should feel the urge to acquaint ourselves with the sounds that correspond to a particular theoretical concept. Our main objective is a library of mental images, which translates our knowledge of theory into imagined music and establishes a link between the many sounds we've grown up with and the ones we have yet to discover. Just as I assume every Jazz musician to be inherently curious, I would expect the inquisitive ear to be on a perpetual lookout, "on a mission", reassessing what we are already familiar with while scavenging for new and intriguing sounds, probing into the more remote corners of our repertoire and exploring uncharted territory. Ultimately, it's the ear that controls the fingers – the more flexible and versatile the ear, the better we can control the expressive potential of our instruments and the more goal-oriented and successful our daily practice will become.

Play – This book should provide an approach that hopefully will be more practical than what you have been exposed to up until now. Above all, it aims to clear up one fundamental misunderstanding:

The study of harmony = Grammar = Rules

Jazz = Improvisation = Spontaneity

Rules ≠ Spontaneity

Rules do not automatically contradict spontaneity! Theory offers choices. It is up to you to decide which of these choices you want to implement on your instrument. The study of harmony is not meant to channel and control our playing. Neither does it purport to define what is "right" or "wrong", nor should it dictate what to play while improvising. Rather, Jazz harmony attempts to describe what could be called the "lowest common denominator" extracted from the countless improvisations Jazz history has handed down to us. An understanding of harmony shows us that a large part of our daily musical lives is subject to certain rules and conventions. This book will help you understand how these principles work in practice. It would be foolish to ignore them – regardless of whether you apply or deliberately decide to avoid them (one has to know the tradition before it can be thrown overboard). This book aims to show that applying rules will not inhibit your musicality. On the contrary, always consider the possibility that the music you create may sound good just ***because of the rules***.

Ultimately, it's not the rules that are the problem; it's what we make of them. Those who slavishly cling to rules readily hand over their responsibilities as musicians to the mechanics of theory. Of course, the music itself will always define, to a certain degree, what is suitable and appropriate. Just as every style has its "dos and don'ts", which you should respect if you want to sound eloquent in a particular idiom, there are many harmonic situations that call for a very specific melodic vocabulary or "grammar", which you have to observe and master if you don't want your solos to sound awkward. But, if you ***only*** follow the rules, your improvisations will quickly degenerate into sounding like the mindless carrying out of musical duties. The more you allow your world of sound to be determined by concepts and definitions, the more often your knowledge will stand in your way and the less spontaneous your approach to music will become. I call this "paralysis through analysis". Therefore, it is essential to know the rules but not to see them as being set in stone. This book wants you to understand music, but it also expects you to question and expand on this knowledge time and again as a player.

The use of terminology

We are all aware that communication takes place at a non-verbal level in music. Theory attempts to translate sounds into words. And, as theory goes, it tends to be overly exact and meticulous when it comes to choosing appropriate vocabulary. This is most probably the reason why most music courses focus on harmony first, bypassing the more ambiguous topics such as swing feel, phrasing, sound, timing, etc. – things that are generally accepted as being personal and subjective and thus difficult to quantify. Harmony is ***the one*** subject that seemingly provides us with facts that are readily learnable or teachable. It suggests that there is such a thing as a clear-cut "yes or no", "right or wrong" and "good or bad" in music. As a result, an understanding of harmony and terminology deceives us into believing that

we have actually (and quite literally) come to grips with the true nature of music. What a tragic misconception! Words are, at best, an abstract copy of the real thing. The more precise definitions become, the more they limit our flexibility, and the greater the danger of our colourful world of sound turning rigid with the use of formulae.

Unfortunately, the study of harmony has become the territory of many narrow-minded spirits who busy themselves with definitions rather than content or substance, who attempt to label every minute detail of every sound with exact names. Since it is easy to squabble over terminology, theory quickly degenerates into nitpicking or splitting of hairs. If it's all about ***how*** you describe things and not about ***what*** you are actually describing, if definitions become more important than their content, then music loses its meaning. Of course, you can't avoid certain musical facts, but arguing about whether a scale is called "HM5" or "Mixolydian (♭9/♭13)" or "Spanish-Phrygian" appears to be outrageously foolish. This mindset has no place in my world. A sound is a sound is a sound… – no matter what you call it.

It goes without saying that I have to use specific terminology in this book. But I do not want this terminology to be understood as incontrovertible and indisputable fact. You will find other books on harmony, some of which use a different nomenclature – perhaps not that significantly different, but different enough for the poor souls and afore mentioned nitpickers in need of unequivocal terms to run amok. As long as the terminology used in this book is consistent (and it is), I'm perfectly happy. In the end, this book is not about words. My aim is to talk about music without undermining its beauty and transience – knowing that much of what makes good music can never be expressed in writing. So, please, don't get too caught up in definitions and don't let terminology get in the way of your music. This book will be useful as long as you are not searching for precise answers and definite solutions. Read it with a good mixture of naïve detachment and critical distrust. I hope I have put up enough warning signs to help you avoid falling into the trap of taking everything you read as the literal, undeniable truth.

Intellect and instinct

It is said that we experience music with our feet, hearts and minds – in this order! How does music affect the average listener who has virtually no theoretical background, who doesn't have the knowledge, let alone the vocabulary, to understand or describe music on an abstract level? Most people respond to sound in a physical way, perceive music as energy, tension, movement, colour, density… They are touched emotionally, enchanted, enthused, react to moods and atmosphere, to "what comes across". Theoretical considerations play no part in this experience. This is particularly true of Jazz. Like no other style, Jazz has the power to grab us both physically and emotionally – players and audiences alike.

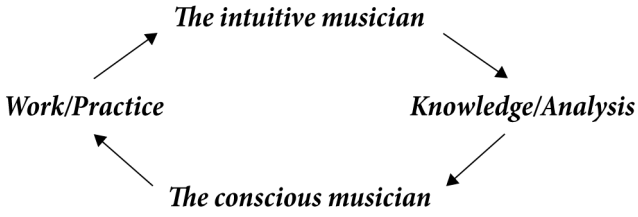
From a musician's point of view, theory gets in the way when it comes to actually making music. Improvisation, as one of the most fundamental elements of Jazz, thrives on the "here and now", the desire to create something magical on the spur of the moment. It relies on intuitive communication with fellow musicians and the willingness to risk venturing into unfamiliar territory without preparation or guarantee of success. This is why some Jazz musicians see theory as something that hampers the spontaneity so essential to improvised music. They see it as an obstruction or interference, even a handicap. And these critics are, at least partly, in the right. In order to perform successfully, it's better not to think about it

too much while doing it. Pondering the pros and cons of a line while you're playing doesn't really help the cause.

On the other hand, if intuition seems to be so much more important to making music than cerebral deliberation, why do I propose the sequence "think – listen – play" as the guiding principle of this book? Remembering how I myself got involved in music, and talking to the many colleagues and students I have collaborated with over the years, I am fully aware of the fact that nobody enters the world of music with theory in mind. When you experience music for the first time, as a baby, you listen. Then, as a child, you sing along with your parents or your favourite recordings. Eventually you learn an instrument and it's not until much later (perhaps because you want to go into music professionally) that you really begin to think about music at an abstract level. The natural way of relating to music follows the evolutionary principle of "listen – play – think". So, why would I deliberately subvert the course of nature? What is to be gained by upsetting the natural order of things?

The biggest threat to the purely intuitive musician is ***stagnation***. Musicians who only act on instinct rarely manage to venture out of the rut because they are caught up in their habitual likes and dislikes. Because they tend to stick to what feels comfortable they have a hard time grasping and carrying off new ideas. There are musicians who have an uncanny feeling for sound on an intuitive level but whose conscious and analytical ear remains comparatively underdeveloped. These musicians handle familiar situations with extreme confidence but are overwhelmed when something unexpected or unaccustomed comes their way. When running into problems, they are unable to "think" music, to understand what and where the stumbling blocks are, ***why*** they are stumbling blocks in the first place and how to overcome them.

Once established, routines foster predictability, predictability fosters comfort and comfort fosters routines. In order to break this vicious cycle, we have to make a conscious effort and take ourselves beyond our boundaries time and again. Only if we venture out of our comfort zone will we discover, experience and learn to handle new things. Only if we break our habits will we keep moving and improving. ***We only learn what we find out for ourselves.*** So, the first step is to evaluate our status quo, our strengths and weaknesses. We have to be aware of where we stand. The second step is deciding where we want to go. This is where theory comes into play. It helps us set goals and shows us how to incorporate them into our practice schedule. The final step is to work on new sounds and practise them until they are firmly anchored in our subconscious and have become part of our intuitive vocabulary. In this way, we encourage a perpetual learning process, integrating the new with the old:



This is how you avoid standstill. Musicians such as Bill Evans and John Coltrane consistently lived this process. They devised theoretical systems, experimented with new concepts and worked them into their compositions and improvisations. Then they would go on stage with

new material (in some cases, they even took the risk of recording it). Finally, they listened back to what they had played, continued to work on what appealed to their aesthetic preferences and discarded what didn't.

So, let's accept the fact that improvisation is not just a matter of "feelings". Jazz is no longer a primitive force that erupts from the depths of the soul, unfettered and unexamined. It was certainly possible to go with gut instinct in the early days of Jazz, when melodies and chord progressions were simple enough for musicians to get by on ears alone without prior theoretical knowledge. There were no schools, no textbooks and very few qualified teachers who might have helped along the way. One just listened to colleagues, transcribed records and played concerts. This is no longer sufficient, considering the complexity and variety of the modern Jazz repertoire. You cannot turn history back to its archaic roots. These days, one increasingly has to "think" music. A conscious awareness of sound is vital for focussed and successful practice, though feeling and intuition should always remain our primary goals.

Of course, we would also improve simply by hanging out and playing with other musicians. If we could rehearse and play concerts on a daily basis, we would learn by osmosis. New sounds would gradually seep into our subconscious, merge with our old repertoire and end up at the tips of our fingers sooner or later. For this to happen, though, it would be essential to immerse oneself in a musical environment that constantly provides the ear with new challenges. But, let's be realistic: Who has the chance to rehearse every day, let alone with good (preferably better) musicians? This is why we have to develop the ability to learn without being dependent on external influences. Here, again, theory is the key. If we know how music works, then we know what to practise without having to rely on the help of others.

As musicians, we actually have to integrate two apparently conflicting demands. On the one hand, we have to practise consciously, control what we're doing, develop our perception of sound and diligently transfer all of this onto our instruments. On the other hand, however, we have to act and react intuitively in the heat of the moment while performing. Accordingly, our musical routines should alternate between these two opposing worlds. We need our ***intuitive ear*** to ***make*** music. We need our ***analytical ear*** to ***learn*** music. The intellect is essential for grasping new concepts. But, as soon as we go on stage, we have to yield to intuition and rely on instincts and reflexes.

In the end, our goal should be to strike a balance between the heart and the mind. There's a quote by an unknown author that says it in a nutshell: ***"Think with your heart and feel with your mind".*** Everything we do is partly intuitive and partly rational. The proportions may vary from one person to the next. However, no one is ever entirely analytical, and no one is entirely intuitive. That's why this book takes a holistic approach by addressing both intellect and emotions. I hope this book will help you to both feel and understand music without bringing the two into conflict.

So, let's go back to the initial question – why would I want to add to the plethora of publications? Thanks to the many students and colleagues who urged me on despite my doubts, I have come to believe that my approach is rather unique. Linking theory, ear training and practical application and presenting the three areas of study all-in-one is something no other harmony book does. Balancing the analytical and the intuitive by infusing theory with emotion is also rarely found. In addition, my deep distrust of overly parochial and high-principled theoreticians allows me to view the topic more critically than most theory teachers because, in the end, I will always choose music over theory. I would like to present the study

of harmony in a more sensual and playful way than it is commonly done, and it is my intention to encourage methodical thought without losing sight of the spirit and spontaneity of Jazz. Let me know if I have succeeded!

One last piece of advice: Don't feel compelled to work your way through this book chapter by chapter. Instead, start with the sections on ear training ("Listen") and improvisation ("Play") as soon as possible. Feel free to skip around as you please. Your learning curve needn't move sequentially from A to B to C, etc. Sometimes, if you get stuck, it is more effective to move on to something else and return to the initial problem at a later point. More often than not, you will find that your brain has sorted out the issue in the meantime. I'll leave it to you how you want to approach the various topics presented in this book. Enjoy!!!

Think

"The more ways
you have of thinking about music,
the more things
you have to play in your solos."

Barry Harris

"Knowledge is freedom
and ignorance is slavery."

Miles Davis

First Steps

I'd like to begin with a short anecdote one of my students told me many years ago. In a nutshell, this story illustrates everything I'd like to say in the next 600 or so pages.

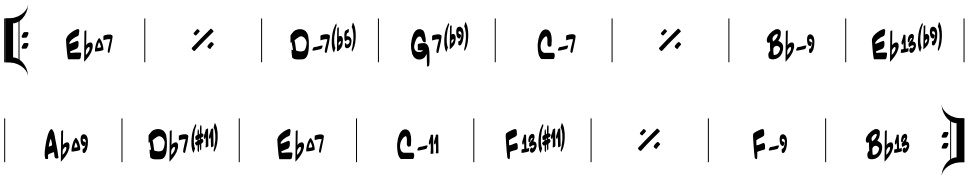
During the first session of a master class with saxophonist John Ruocco, John asked the following question: "What does the symbol Fmaj7 mean?" One of the participants wrote on the board:

Fmaj7 = F-A-C-E

John erased this and replaced it with:

Fmaj7 = Sound

And that's exactly what I'm all about! Have a look at the following chord progression:



What do you associate with this chord progression? What music do you hear in your mind? Can you conjure up specific sounds simply by looking at the chord symbols? Are they more than just an abstract collection of notes? Do you recognise a particular piece? Does the progression relate to anything you've already played or practised? What seems familiar at this point, what feels obscure? Could you write down the notes of each chord? Can you feel how the tensions add to the underlying four-note structures and how they influence the basic sound of the harmonies? What scale material does each chord imply? Could you notate it? Can you hear melodic phrases, guide tone lines or voicings that go with this chord progression? Are you aware of the formal ups and downs of the changes? Does the progression give you a feeling of development? Do you understand how the chords relate to each other functionally? Could you analyse them? Do you sense the push and pull of the chord progression, the harmonic energy, the feeling of tension and release? Can you sense harmonic phrases, sections, cadences, resolutions, points of rest, a climax…? Are your fingers itching to improvise over this chord progression on your instrument? Can you hear a bass line, a drum groove or possibly even a full band? Anything else…?? Anything at all…???

Every accomplished Jazz musician who sees this progression on paper will not only ***understand*** it intellectually, but also ***hear*** it internally. Only if these symbols trigger sounds in our minds and inspire us to pick up our instrument will we be able to ***play*** convincingly:

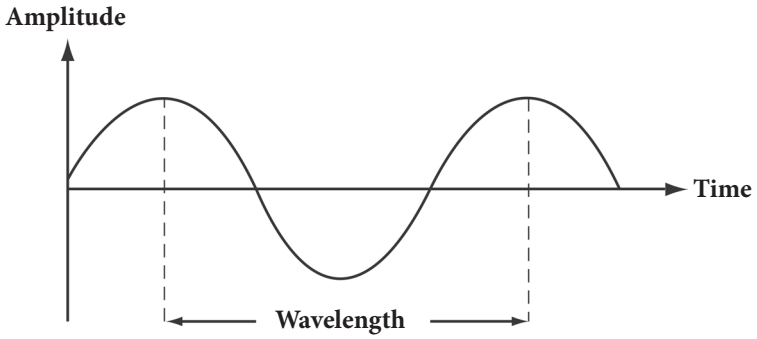
Symbol → *Sound* → *Instrument*
Understand → *Hear* → *Play*

Over the course of this book, I'd like to show you how to get from symbol to instrument, from understanding to playing. Ultimately, you should be able to not only "think" music, but also to imagine what a symbol sounds like and to make it happen on your instrument.

Tonality

Let there be sound

In all musical cultures, the fundamental structures and principles of sound can be traced back to the laws of physics. ***Music is oscillation!*** A tone is the result of an elastic body (e.g. a string, bell, plate, column of air, etc.) put into a state of regular – ***periodic*** – vibration transmitted through air (or any other medium). Our ear interprets the alternating compression and decompression of air molecules (pressure waves) as a specific pitch. Irregular – ***aperiodic*** – oscillations are perceived as noise. The faster the oscillation or the shorter the oscillating body, the higher the pitch. The following diagram illustrates the characteristics of the most basic waveform – the ***sine wave***:



A tone is characterised by the following attributes:

- ***pitch*** – number of periodic oscillations per second = ***frequency***; the frequency is measured in ***Hertz*** (Hz), named after the physicist Heinrich Hertz (1857-1894);
- ***volume*** – the amplitude or "peak deviation from zero" of the oscillation, commonly referred to as ***sound pressure level*** and measured in ***decibels*** (dB);
- ***colour*** – the path of the motion within the oscillations, the particular waveform (e.g. sawtooth, square, etc.), the physical properties of the material/matter oscillating as well as the constructive principles of a particular instrument.

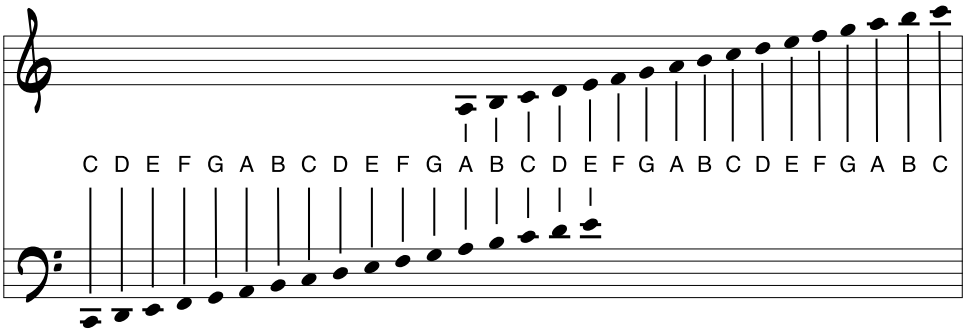
Perception of sound by the human ear is limited to the frequency range of about 16 to 20000 Hz. Below 16 Hz, the ear no longer perceives a tone, but rather a pulse (infrasound vibrations). The ability to hear higher frequencies fades with increasing age – down to about 5000 Hz at the age of 60. However, studies have shown that loss of hearing acuity occurs faster and earlier these days. Extreme volumes in discos and the use of headphones dramatically accelerate this loss of sensitivity. Sudden Sensorineural Hearing Loss (SSHL) and tinnitus

("whistling in the ear") have become common diseases of our civilisation. I highly recommend you take utmost care of your hearing and have yourselves examined regularly by a doctor. With the aid of an audiogram you can easily find out what shape your ears are in.

The grand staff

In English-speaking countries and in Northern Europe the first seven letters of the alphabet (A-B-C-D-E-F-G) represent a steadily rising sequence of pitches or notes called ***naturals***.

In order to notate pitches, we use a system of five horizontal parallel lines called a ***staff*** (or stave). The ***grand staff*** consists of a pair of staves placed at a distance above one another connected by a vertical line on the left. Any staff can be extended upwards and downwards by adding short lines called ***ledger lines*** above and below either of the staves. The notes (the note heads) are either placed on a line or in the space between two adjacent lines. Two symbols referred to as ***clefs*** (French: *clef* = key) are placed at the beginning of each staff. A ***treble clef*** for the upper staff and a ***bass clef*** for the lower staff establish the position of the notes. The figure below illustrates the distribution of the naturals and how they appear on the grand staff:

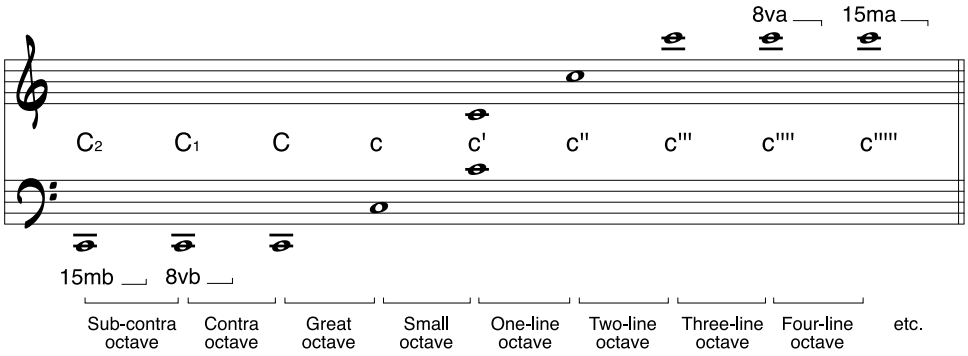


As you can see, the note names on the grand staff repeat periodically. The distance between two notes with the same name is called an ***octave*** (8 naturals). To avoid the use of too many ledger lines, we often notate single notes or series of notes an octave higher or lower than played, using the abbreviations "8va" (*ottava alta* = an octave above) and "8vb" (*ottava bassa* = an octave below). Double octave transpositions are marked with "15ma" and "15mb" (*quindicesima alta/bassa* = a "fifteenth" above/below; not "16va" or "16vb", a common mistake found in many textbooks and scores).

Note that the distance between the naturals is not always the same. Looking at a keyboard will help you understand this. The white keys are the naturals. You will notice that there are no black keys between the notes B and C or the notes E and F. The distance between the notes of these two pairs is half the distance of the notes in all other pairs (A-B, C-D, D-E and F-G). The note pairs without a black key between them are called ***semitones*** (also half-tones or half steps) and the others are called ***whole-tones*** or whole steps. The semitone is the smallest possible distance between two notes in our notation system, although smaller divisions are used in other cultures and contemporary compositions (microtonal music).

The framework of octaves

The octave is the "framework" or "defining" interval (measure of "musical distance") that subdivides our musical universe. Therefore, it merits special attention. Largely as a result of the work of the Benedictine monk Guido d'Arezzo (end of the 10th century), the note C (and no longer A) established itself as the most important reference note of the naturals. Starting with what is called the "Sub-contra C", this is how our system of notation is organised (C is always the lowest note of each octave segment; c′ is also referred to as ***middle C***):



There is quite a bit of confusion concerning the system of labelling octaves. The designation shown above is based on the Helmholtz system of pitch notation, which is used throughout this book. There are, however, several other systems in use. For example, scientific pitch notation starts with C0 (Sub-contra C) and moves on via C1, C2, C3, C4 (middle C) to C8 (c′′′′′ in the Helmholtz system) and beyond.

The above figure illustrates approximately the range within which most of our music is played. Sub-contra C can only be played on a church organ (using the 32-foot Principal = an organ pipe close to 10 metres long), and c′′′′′ can be found in the extreme upper range of a piccolo or violin, for example.

The chromatic scale

The naturals can be raised or lowered by means of ***accidentals***, thus creating the notes between the naturals known as ***chromatic notes*** (the black keys on the keyboard). Naturals are raised by a semitone using the ***sharp*** sign (♯) and lowered by a semitone using the ***flat*** sign (♭). All accidentals can be neutralised by the ***natural*** sign (♮). The name of a chromatic note is derived from either the natural above or below it (e.g. D sharp / D♯ = the note a half step above D, B flat / B♭ = the note a half step below B, etc.). As you can see, the same chromatic note can be reached by either raising the natural below or lowering the natural above by a semitone (e.g. C♯ = D♭, D♯ = E♭, etc.). Notes that are written differently but sound the same are called ***enharmonic equivalents***; the principle is referred to as ***enharmonic spelling*** (enharmonic = in agreement).