

# **EXPANDING HARMONY AND MELODY THROUGH MODALITY**

*A reflective practitioner research by*

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# SUMMARY

*The topic of this research is the investigation that leads to create a structured system of techniques and exercises focused on the process of mastering modal playing on the double bass.*

*It's a process of discovery of new ways to expand my comping/soloing vocabulary in a modal fashion, so in this sense it's a research about how to practice.*

*The main finding of this research is basically a list of exercises and techniques that will provide me a constant source of inspiration and methods for all my life.*

# PREFACE

The topic of my research is the investigation on sounds derived from a modern approach to modal harmony. In this context modal harmony means the artistic trend that has its roots in ancient Greek culture, in the gregorian chants of Middle Age and that later on was used and developed by classical composers between the 19th and the 20th centuries such as **Ravel** and **Debussy**; modal harmony was then re-discovered by jazz musicians in United States during the 60s and was used more and more over the years for improvising and composing.

Having studied in the past modal music in an historical context, I'm aware that it's a very large area of the world music landscape and I'm not willing to cover it entirely. Therefore, my research is strictly related to **Ron Miller**'s books.

I got to know this great composer and educator (who taught at University of Miami for decades) while I was doing my jazz bachelor in Italy, and his books gave me a whole different and more structured view on modal jazz. Now, the reason why this topic is so relevant to me is that to me modal music basically means playing with colors and shades. Every scale or chord has its own intervallic degree of darkness or brightness, and Miller calculated scientifically them up to such a level that he could not only name them specifically (at the end of the book you get to know 35 different modes), but also put them in order from the darkest to the brightest. I feel that this approach really put me in the shoes of a painter, more than "just a musician" and the art of using modal colors it's pretty much about it, whether in composition or performing.

Making music following this path leads to the synesthetic process, which is about relating different kinds of language and expression. By mastering it, I can really be evocative and play with feelings and sensation, creating connections between modes and specific feelings.

I'd like to **thank** the teachers/musicians/friends who helped me during these 2 years:

**Ron Miller, Robert Harris, Paul Berner, Steve Altenberg and Murat Cengiz.**

# INTRODUCTION

In the corridors of jazz schools, the word “*modal*” is heard very often. But do we really have a clear idea of what *modal* means?

The oldest form of modes is found in the ancient Greek civilization, in which modes were somehow already shaped the same way we see them today. We’re essentially talking about the intervallic subdivision of the octave in different combinations, often deriving from the “fusion” of 2 tetrachords. Depending on the starting pitch and on the starting tetrachords, the modes would get names that we directly inherited in our current system (like Dorian or Phrygian). They say that music was so important in the Greek education system, that teachers and mentors would use melodies based on specific modes to instill different attitudes or skills into the students personalities depending on what their future social function was meant to be (warriors, politicians etc.).

Since I encountered them while studying history in middle school, modes always fascinated me. When my inner emotional connection with music started to be stronger, I began to dig deep into this field of theory and practical playing, as I felt that this system could provide me a structure, a key that I could use to open as many doors as I wanted as a musician.

But let’s go back to what *modal music* means. If I had to put in a very simple and comprehensive way, I’d define it as a musical context in which melody (primarily) and harmony (secondly) are ruled by the color derived from the relationship between a root (or tonic, or bass, or lowest pitch) and the other notes that constitute the mode itself and that are perceived in a very specific and unique way because of their position in the occurring intervallic structure.

In other words, the bass has the power. A melodic instrument could play the same C major scale several times and sound always different in an emotional sense if I kept changing my root with a low ranged instrument while comping it. This is because of a very simple physical law: the lower the frequency, the higher the amount of partials. By consequence, the bass note gives meaning to all the higher ones, because it’s physically “stronger” and “richer”. That’s how we listen to music, consciously or sub-consciously. And this is also the core of how *modes* work.

# RON MILLER AND HIS DEFINITION OF MODALITY:

*"A quality of the unequal division of the octave in which each scale step has its own harmonic/melodic definition"*

Having studied in the past modal music in an historical context, I'm aware that it's a very large area of the world music landscape and I'm not willing to cover it entirely. Therefore, my research is strictly related to Ron Miller's books.

In this beautiful definition, other important informations are found.

- Modality is a quality, it helps us seeing (and of course hearing) differences between scales and chords.
- It's a product of the **unequal** division of the octave; this means that, at least according to Ron Miller, modality is not about symmetric scales.
- If every mode reveals a different and unique division of the octave, then every scale step in it will have a very specific harmonic/melodic definition, or **taste**.

While all of this already intrigues me on a pure speculative level, it even gets to pure joy when I absorb more and more of it practically, by practicing and playing! It really translates into expanding my personal palette of colors as musician, and more importantly as a listener. The more sounds I know, the more sounds I can recognize and enjoy on both emotional and intellectual levels.

The aim of my research is to find ways that will give me a methodic access to as many new modes/sounds as possible, in the context of my instrument (the doublebass).

# **ACHIEVEMENTS**

- **IMPROVING MY PRACTICE ON THE DOUBLEBASS**
- **IMPROVING MY LISTENING SKILLS**
- **EXPANDING MY FINGERBOARD KNOWLEDGE**
- **HAVING A LIST OF NEW EXERCISES THAT I WILL ALWAYS GO BACK TO IN MY DAILY PRACTICE ROUTINE**
- **RECORDING MYSELF ON A DAILY BASIS, THEREFORE PERFECTING MY SOUND, INTONATION AND TIMING**
- **PRODUCING A SERIES OF MODAL BASS LINES SAMPLES**
- **BEING IN CONTACT WITH RON MILLER WHICH MEANS GETTING FEEDBACKS DIRECTLY FROM THE AUTHOR OF SOME OF MY FAVOURITE THEORY BOOKS**

# **RESEARCH QUESTION**

- **HOW TO INCORPORATE THE SOUNDS OF CONTEMPORARY MODAL HARMONY IN MY PLAYING?**

What I want to develop by answering to this research question is my harmonic and melodic vocabulary, and consequently my performing and composing skills. What I mean by “sounds” is specifically voicings, and the related chord scales (or modes). The word “contemporary” links to the current system of connotation of modes in the western world, which is of course only one of the existing systems in the world.

The way the question is asked sets up a research regarding practicing, it’s a research about “what” but also “how”. This implies that my task is to elaborate strategies of finding the best ways to practice modes on the doublebass, resolving for instance challenging fingering

situations and steadily working on intonation. On the other hand, a substantial work on piano is necessary in order to train my hearing and composing skills. What I want to achieve, in other words, is a better artistic version of myself, as a musician capable of holding a system of sounds in his head, ready to be used at the right moment, when the painting of sounds has to be painted on the canvas of silence.

## **SUB-QUESTIONS**

- **How to play effectively a mode on the doublebass while comping or soloing?**
- **What shapes or fingerings work better for every mode in the context of my instrument?**
- **How to practice modes on the bass?**
- **What are the best sources in the music literature to listen to in order to absorb this language?**

## **RESEARCH METHODS**

- Studying the acoustic sources (main scales)
- Finding/creating exercises
- The samples project
- Listening as much modal music as possible
- Reading as many related books as possible

# THE RESEARCH PROCESS

## *I. Where I started*

At the beginning of the master program, I already knew where I wanted to put my focus in my study field. I had already started reading Miller's book a couple of years before; I had even started writing some music while trying to use new colours/voicings, or melodies inspired by new modes. Therefore my mindset when I started the master was perfectly split in 2 halves: **the bass player and the composer**.

My plan was to learn Miller's system on a pure intellectual level, while practically mastering it on the bass and on the piano. I still have this big picture, but at the time it lacked accuracy and method. That's what I was about to figure out.

I would spend hours and hours on the piano playing the voicings I would find in the book, and I would try to hear and sing every mode. But at the same time, I needed to keep the same level of awareness as a bass player, therefore I would also practice the same material on the doublebass, especially scales on the entire range of it.

The **first problem** coming out of this situation was the amount of work I had planned to do: too much for a 2 years long program! It's easy to see it from where I am now, almost at the end, but during the first year I didn't and I just kept pushing in all directions. I started then discussing this issue with my research coach, Steve Altenberg.

At the same time, the school gave me a teaching job for the Melodic Drill course in the bachelor program (Solfege A), which was a great source of inspiration and a big chance to improve my hearing skills, and of course my students' as well!

I had already established a dialogue with Ron Miller himself, whom I was in touch with via email and Facebook; he showed enthusiasm for my research and he's been always very available from the very beginning of it.



## *II. The Steps*

**FIRST YEAR** (Focus on the major scale and its modes)

- BASIC DOUBLEBASS TECHNIQUE: JOSEPH PRUNNER
- READING RON MILLER'S FIRST BOOK
- FIRST LAB ENSEMBLE
- FIRST EXERCISES SERIES
- THE SAMPLES PROJECT IDEA AND RON MILLER'S FEEDBACK

**SECOND YEAR** (Focus on melodic and harmonic minor scales and their modes)

- THE NY SEMESTER: LESSONS AND NEW EXERCISES
- MORE FOCUS AND RESTRICTIONS
- SECOND LAB ENSEMBLE (DUO)

## 1. DOUBLEBASS TECHNIQUE

I always wanted to have an excellent technique on my instrument, and I always worked hard on it. Thanks to many years of classical training, I started the master program with a pretty solid intonation and bowing technique, but in order for me to get to the next level of melodic playing, I needed to improve my fingerboard knowledge, which simply means knowing where all the notes are on the instrument, in every octave and in every position. The best book I've found that I could use to achieve this goal, is **Joseph Prunner's book** about scales. It's actually divided in 2 volumes. I put more effort on the second one, which is about diatonic and chromatic scales in fixed position, therefore entirely about the thumb position (the highest 3 octaves of the doublebass). Prunner's method can be very tough in the beginning (in fact, it is) because of his extensive use of the thumb position in some lower unusual positions where usually the left thumb is not used, but with practice and perseverance it pays back and it gave me a lot of flexibility and confidence. This step was and still is crucial for my research, and it is the foundation of all the others.

## 2. READING RON MILLER'S FIRST BOOK

Ron's method is the most scientific one about modes. It requires a lot of concentration and patience, in fact It's only for perseverant readers; but it develops its own concepts and points with logic, and by providing demonstrations and proofs when possible. It focuses on the modal harmonization of 5 basic scales, or **acoustic sources**:

- Ionian (major scale)
- Ionian b3 (melodic minor)
- Ionian b3 b6 (harmonic minor)
- Ionian b6 (harmonic major)
- Ionian b3 #5 (melodic minor augmented)

One of the main reasons why I decided to study this book, is that I feel it gives me solid anchors to build a universe of modes in my brain, by

providing specific names for each one of them and for very specific logic reasons. Once you start getting used to Ron's nomenclature, you also become capable of understanding the intervallic structure of a mode you didn't know before, by just hearing or reading its name.

The example I always like to make is that usually jazz musicians like to refer to the 7<sup>th</sup> mode of the melodic minor scale as to *altered scale*; but this name quite doesn't help you in understanding what really the mode is, does it? How about **Locrian b4**? If a student has been making all the necessary steps in the right order before, he will be able to figure out the intervals of this new mode perfectly by just hearing its correct name pronounced.

### 3. FIRST LAB ENSEMBLE

My first lab ensemble included Rafael Pereira Lima (alto saxophone), Nacho Fernandez de Frutos (guitar) and Jaemin Lee (drums). I decided right from the beginning to bring to every session a modal composition by a main author (Miller, Hancock, McCandless, Towner, Wheeler) in order to approach it with a session man mindset: you get the chart right when you need to perform or record the music, and you need to use all your knowledge to make it work right away. This turned out to be a lot of fun and a useful challenge. Eventually we would also try **Kenny Werner's** random harmony exercise (each one picks a random root and a random chord quality, and the result is a series of random chords to connect) and this was also a good try out for my skills in playing over changes that are far away from a functional context.

### 4. FIRST EXERCISE SERIES

- **Same root, different mode.** This very simple exercise consists of playing a scale starting from, for instance, the lowest note available on any instrument, and then once it's done, restarting again from the same root but with a different scale/mode.
- **Creating shapes and sequences using numbers.** Math is a beautiful tool to go beyond the horizon of what you can already see or imagine. I would associate a number to every note of a given mode (1,2,3 etc) and I'd create a pattern picking randomly 3 or 4 numbers out of the scale; then I would play the same pattern applying it to all the modes of the starting scale, in order to create a sequence. Of course the

variants are endless: you can create permutations of the first numerical sequence, for instance. Very good exercise for the left hand, and for finding interesting shapes and motifs.

- **The random harmony exercise.** I got this from Kenny Werner. It's a fun game to play alone or with friends (not the best one for birthday parties though!). Everyone picks a note randomly, which later will become the root of a random chord. Then all the random chords are put together and played in sequence, maybe with a randomly selected meter or pulse. Any result will sound interesting and hopefully unusual, and because of its randomness it will get the musicians to explore regions of their instruments (maybe fingerings) that they usually don't get to play on purpose.

## 4. THE SAMPLES PROJECT

This idea came from the urge to test and improve my skills as an accompanist in the context of modal harmony and challenging chordal vamps. In practical terms, what a bass player's main task in contemporary jazz is, is to whether play walking bass lines or to play other repetitive riffs (with variations) over tonal or modal chord progressions, very often over odd meters and with even 8s subdivision.

So I thought that recording a sample bass line for every mode I'd encounter, in an even 8s fashion with piano comping and using different time signatures, could be a nice practice as it simulates situations that occurs very easily nowadays. I therefore asked my good friend and colleague **Murat Cengiz** to help me in this project by providing me some piano comping for the samples and we started during the first year with the modes coming from the major scale. Once I was done with collecting all the 7 audio samples, I sent them to Ron Miller; I had actually also recorded some sample in which I would solo over the 7 modes, and I sent them as well. Ron's feedback was flattering and he encouraged me to continue on this direction. I then started working on the modes from the melodic minor scale and, once I got back from NY, I recorded them with the same method together with Murat.

The transcriptions of the first 14 bass lines samples follow in the next pages.

# MODAL BASS LINES SAMPLES

MODES FROM THE MAJOR SCALE

A. CAROSO

IONIAN



DORIAN



PHRYGIAN



LYDIAN



MIXOLYDIAN



EOLIAN



LOCRIAN



# MODAL BASS LINES SAMPLES

MODES FROM THE MELODIC MINOR SCALE

A. CARROSO

1 DORIAN MAJ7



5 PHEYGIAN MAJ6



7 LYDIAN AUGMENTED



11 MIXOLYDIAN #4



15 MIXOLYDIAN b6



19 LOCRIAN MAJ7



23 LOCRIAN b4



## 5. THE NY SEMESTER: LESSONS AND NEW EXERCISES

The NY experience put me in many interesting situations from which I learnt a lot; here I'm going to focus on the private lessons I got there as they're all related to my research. From each one of them I got a new exercise, plus during that period I came up with some new ones myself and here's the list of all of them:

a. **THE MAGIC INTERVAL (Matt Brewer)**

Try to target the intervals that sound the best or the most interesting ones within a mode and create shapes by just focusing on them. Then extend the shape over all the range of the instrument.

For example, try to find all the tritones within a mode and play them stacked over the whole range of the instrument.

b. **MOTIVIC TRANSPOSITION OVER A GIVEN MODE (Johannes Weidenmueller)**

A very good exercise to improve your fingerboard knowledge and your melodic possibilities.

c. **OCTAVE TRANSPOSITION OF SOME NOTES OUT OF A PATTERN. (Johannes Weidenmueller)**

This is something that guys like Mark Turner worked a lot on. It's a very simple but powerful concept to refresh the sound of any idea.

d. **TRIADS PAIRS OR STACKED TRIAD (John Patitucci)**

What John does to avoid sounding like most of the bass players do, is abstracting all the triads contained in a mode and combining them in many different ways, and in all inversions.

We worked together on some examples and he wrote something down for me about it.

e. **PRACTICING OVER A DRONE (self-taught)**

I simply happened to download an app for android called "Tanpura droid" and I started to practice modes with the bow over a drone. Very helpful for intonation and meditation!

f. **THE MAPPING EXERCISE (self-taught)**

I figured out that symmetry could be helpful in mastering the fingerboard of the bass, especially when I'm dealing with some many scales in all keys! So I figured out a simple alternative way to practice

modes on the bass which follows a simple visual approach as opposed to a more root/octave/scalewise one.

## 6. MORE FOCUS AND RESTRICTIONS

As I started realizing how vast the investigation about practicing modes on the bass is, I decided to restrict my research only to this specific topic. That's when my research clearly became **practice-oriented** in my mind, and that's why I took the composing aspect out (at least for a while). Furthermore, at the beginning I was aiming to cover all the material coming from the 5 acoustic sources used by Miller in his book; this turned out to be too much for only 2 years of study, so I decided to focus on the first 3 **basic** scales: Ionian, Ionian b3 and Ionian b3 b6.

## 7. SECOND LAB ENSEMBLE

Once I got back from NY I was told I could also change my lab ensemble, so I decided to continue with a duo setting in order to focus the sessions on my intonation and my capability to blend with the sound of the piano. So I involved once again Murat in this, with whom I kept working on the modal repertoire assisted by the coaching of Steve Altenberg.

### *III. Where I arrived*

I truly believe that this whole process brought me to a better version of myself. Feeling totally comfortable in dealing with mostly of the compositions I get to play from other people (from my fellow students to the most famous jazz composers), being able to get more easily to the most "tasteful" notes over a given chord on any octave of my instrument and most importantly **being aware of what has to be done next in my practice for many years to come**, are all great achievements to my perception! Again, it's obviously an infinite process so there is no end, but that's the exciting part!

I feel that this method shortens the "distance" between me and the



resourceful symbols that I see on any chart: they're just hints, doors to be opened in order to access a **universe of sounds and structures in which the directions to be taken are depending on my instinct, creativity and knowledge**; and of course, **discipline** is also an important aspect of one's development, and going through this investigation definitely improved mine.

## DISCUSSION

My main research question was: *“How to incorporate the sounds of contemporary modal harmony in my playing?”*... and I definitely found an answer! The answer is a strategy consisting of several steps (or exercises) which are listed above, and all I need to do is to keep persevering on the same path. The core of the research was to find a more structured answer to the issue of “How to practice modes on the doublebass”, since I don't believe there is enough literature (meaning method books) about this topic, and I think my investigation has been successful.

I'll try now to have a look at it from a more objective and critical point of view.

Among the **strong points** of my research I find:

- **The specificity**, because the field of it is not so wide and I managed to even restrict it during the 2 years.
- **It's based on one specific bibliographic source.** This could be apparently a weak side, but I do believe that considering my goal it helped in not getting confused or overwhelmed by too many sources. I had researched the literature about modal harmony a lot during my bachelor studies, and I already knew what my favorite book was as I started. It felt like having a solid foundation where to start from!
- **The author of book has become a mentor by distance in real life!** As I said previously, I've been in touch with Ron Miller for years now and this research intensified my exchange with him.
- **It made me a better performer.** Because of all the practice that I had to go through I improved as a musician and that's what this research is all about.

And now the **weak points** of it:

- **I didn't manage to produce material about fingerings.** This was one of the starting sub-questions but I ended up focusing on the assimilation of the new sounds by singing and playing without paying too much attention to the fingerings; or, in other words, I didn't work in order to produce written material about fingerings specifically.
- **Discarded elements:** Miller's book is based on 5 basic acoustic sources but because of not having enough time I restricted the research on the first 3 ones. Also, the sample project at the beginning was meant to be about soloing as well and I started recording soloing samples along with the comping ones, but this turned out to be too much work for the amount of time I had.

### *Further opportunities for research in the future*

- **Fingerings.** There is so much to be found about fingerings in the context of contemporary music, especially when it comes to modes, or symmetrical scales, or extended chords. I believe that every bass player finds his own way to "survive" through this very complex "jungle" anyway, but the literature that has been produced so far refers mostly to the classical repertoire. It would be interesting to write more essays/books about this topic.
- **Soloing using triads to simplify any progression.** I'll never repeat enough myself by saying that triads on the double bass are a very challenging thing to play! Especially when you connect them like rings in a chain, in different positions and inversions. Nonetheless, they're a powerful tool to open up the sound of any challenging chord progression and make it sound clear on our very dark sounding instrument. This topic is by itself a huge one!
- **Polymodality.** This could be a bridge between modality and chromaticism. What musical effect do I obtain by superimposing a mode to another one coming from a different acoustic source? What about modes with more than 7 notes?

# SOURCES

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## RECORDS (JUST A FEW, OF AN ENDLESS LIST)

- *Kind of blue* (Miles Davis, 1959)
- *Mingus Ah Um* (Charles Mingus, 1959)
- *Giant Steps* (John Coltrane, 1959)
- *Olè Coltrane* (John Coltrane, 1961)
- *Impressions* (John Coltrane, 1963)
- *Inner urge* (Joe Henderson, 1964)
- *Night Dreamer* (Wayne Shorter, 1964)
- *Juju* (Wayne Shorter, 1964)
- *Speak No Evil* (Wayne Shorter, 1965)
- *The Soothsayer* (Wayne Shorter, 1965)
- *Etcetera* (Wayne Shorter, 1965)
- *Maiden Voyage* (Herbie Hancock, 1965)
- *E.S.P.* (Miles Davis, 1965)
- *Transition* (John Coltrane, 1965)
- *Nefertiti* (Miles Davis, 1967)
- *The colours of Chloe* (Eberhard Weber, 1973)
- *Native Dancer* (Wayne Shorter, 1974)
- *Solstice* (Ralph Towner, 1975)
- *Gnu High* (Kenny Wheeler, 1975)
- *Bright size life* (Pat Metheny, 1975)
- *My song* (Keith Jarrett, 1978)
- *Elm* (Richie Beirach, 1979)
- *Magico* (Egberto Gismonti, 1980)
- *Nomad* (Tribal Tech, 1989)
- *In the door* (Joey Calderazzo, 1991)
- *Illicit* (Tribal Tech, 1992)
- *Face First* (Tribal Tech, 1993)
- *Reality Check* (Tribal Tech, 1995)
- *1+1* (Wayne Shorter/Herbie Hancock, 1997)
- *Alegria* (Wayne Shorter, 2003)
- *Manhattan Dialogues* (Dave Liebman, Phil Markowitz, 2005)
- *Beyond the sound barrier* (Wayne Shorter, 2005)
- *Where do we go from here?* (Kenny Wheeler, John Taylor, 2005)
- *What now?* (Kenny Wheeler, 2005)
- *Sojourn* (Otmaro Ruiz, 2008)
- *Without a net* (Wayne Shorter, 2013)