

Agustín Castilla-Ávila

Writing Microtones for Guitar

In this article, I would like to present my ideas in a personal and biographical way. I will describe the situation of microtonal guitars I found as I decided to create a 36-division system and to compose for it. I will write about the decisions I made as a guitarist and a composer.

First, I would like to explain a few ways to obtain microtones on an ordinary guitar. They are:

1. by manipulating the tuning pegs using any microtonal interval;
2. by bending the string (like in blues guitar music);
3. by plucking between the left hand and upper nut (so that the proportions of the fret divisions are inverted) and
4. by using special scordatura changing the strings.

1 Practical problems with different microtonal guitars

There is a wide range of microtonal guitars using either fixed frets, movable frets, or fretless systems. They also provide a wide range of microtonal scales like equal divisions, just intonation, or Arabic or Middle Eastern scales (or any microtonal scale from any culture). I find all these instruments, especially those built in the twentieth century, to be very fascinating. But if we take a look at some microtonal guitars (i.e. John Catler's), most guitarists might find a practical problem with them: they have to deal more or less with a new instrument. They need to acquire a new one (which in many cases is more expensive than an ordinary one) and learn a specific technique for it. It means a great amount of money and time invested for a very small repertoire written for those instruments. In my own case, still as a guitar student at the Conservatorio de Sevilla back in the nineties, I was not planning to specialize in microtonal guitar repertoire. My aim was to be able to include some microtonal music in my programs. As we see in those guitars, the microtones are produced from fret to fret. I had to find my own way to produce the microtones effectively without changing my instrument or my technique: from string to string.

2 The guitar in sixths of a tone

I tried out several microtone intervals in different registers (i.e. quarter-tones, eighth-tones, or thirds of a tone on different equal strings) and I must say that the ones I prefer the most are the sixths of a tone (especially using six G strings). By doing so, all six open strings remain within a tone (from sixth to first strings: F-sharp minus a third, F-sharp minus a sixth, F-sharp, G minus a third, G minus a sixth, and G). On most of the microtonal guitars, playing open strings is the same as on ordinary guitars. Having the microtones between the strings gives a special resonance, which I personally like very much. This system using six equal strings is very open to tuning.

In the solo pieces *Tres Momentos Microtonales*¹ and *Sakura*² I use six G strings tuned at sixths of a tone from string to string. This allows a kind of bass and melody in a very effective way. In the same way, but with six bass E strings, the piece *Il Velo di Iside*³ is written. This work explores both the microtones in a low register and high-registered microtones produced by plucking between the left hand and upper nut.

After composing within the register only a little more than an octave and a fifth,⁴ I chose to enlarge the register by using two guitars – one with all E strings and the other all Gs, both tuned at sixths of a tone. The result is not only around two octaves and a half, depending on the guitar, but also a colour contrast; a set of six high E strings sound much sharper than one of the six G strings. *Das klingt sehr mikrotonalisch*⁵ is an example of my compositions for two microtonal guitars.

In order to have both the ordinary register of the guitar and all the microtones in between and its authentic resonance, my choice was to write *Rubaiyats*⁶ for

1 Agustín Castilla-Ávila, *Tres Momentos Microtonales* (2001), <http://www.youtube.com/watch?v=sTl6U9LkWG0>, played by Joseph Mirandilla (University of Santo Tomás, Manila, Philippines, July 31, 2012).

2 Agustín Castilla-Ávila, *Sakura* (2012), <http://www.youtube.com/watch?v=M3RGjUDowec>, played by Joseph Mirandilla (University of Santo Tomás, Manila, Philippines, July 31, 2012).

3 Agustín Castilla-Ávila, *Il Velo di Iside* (2013), a recording from an album *Possible Worlds*, vol. 3, played by Giacomo Fiore, Spectrapol Records (Bellingham, Washington, USA), 2014, <http://spectrapolrecords.bandcamp.com/album/possible-worlds-vol-3>.

4 Since from the sixth string to the first one there is only five sixths of a tone, the range depends on a guitar.

5 Agustín Castilla-Ávila, *Das klingt sehr mikrotonalisch* (2006), <http://www.youtube.com/watch?v=kH0i3DurLbk>, played by Cecilio Perera and Emerson Salazar (Solitär Saal, Universität Mozarteum Salzburg, Austria, January 25, 2008).

6 Agustín Castilla-Ávila, *Rubaiyats* (2008), <http://www.youtube.com/watch?v=xjd-zEXorXo>, played by Sara Hilger, Mariana Salgado, Barbara Giusto, Emerson Salazar, Pedro Izquierdo and Agustín Castilla-Ávila (Bösendorfersaal, Universität Mozarteum Salzburg, Austria, October 26, 2008).

six microtonal guitars, each of them consisting of six times each strings with the same 36 division tuning.

Most of the guitarists who played my microtonal pieces had no experience with this kind of music. Since the frets are not manipulated, it has been easy for all of them to adapt their playing to this system. This is one of the biggest advantages of it. I have not yet written for any of those microtonal guitars with a special fret system for two reasons. On the one side, microtonal guitar music is just a small part of my work. And on the other side, I believe there is still much to develop with scordatura microtonality. What I find most fascinating about it is the resonance of the instrument. I use this kind of guitar as a bridge between contemporary music and music from different cultures, where microtones are used (Arabic, Japanese, etc.).

This scordatura microtonal system is very flexible and can be easily adapted to established microtonal systems on other instruments (quarter-tone piano, quarter-tone accordion, etc.). In the composition *Canto de Nezahualcóyotl* for quarter-tone marimba and quarter-tone guitar (2018), I again used six third strings tuned at quarter-tones having a G on the first string (see Example 1).

5

Mar. *pp*

Gtr. *pp* 5

8

Mar. *p*

Gtr. *p* 5

Example 1: Castilla-Ávila's *Canto de Nezahualcóyotl*, mm. 5–11

Sometimes I composed using variations to this system in different pieces and combine it with different ways to obtain microtones. In *Tres Tristes Tríos*,

I distribute the sixths of a tone among three guitars without changing the strings at all (Example 2).

Moderato ♩ = 70 ca.

⑥ ⑤ ④ ③ ② ①

-1/3 -1/6 0 -1/3 -1/6 0 GUIT. 1

0 -1/3 -1/6 0 -1/3 -1/6 GUIT. 2
Fix Capotasto on fret 1

-1/6 0 -1/3 -1/6 0 -1/3 GUIT. 3
Fix Capotasto on fret 2

TAMBORA

SIMILE

pp

PPP

PRESS AND RELEASE

PRESS AND RELEASE

RIGHT-HAND INDEX TAPPING (HAMMERING)

SIMILE

TAMBORA

SEMPRE pp

TAPPING (HAMMERING)
RIGHT HAND IS MAINTAINED AT THE MOMENT OF HAMMERING

pp

pp

Example 2: Castilla-Ávila's *Tres Tristes Tríos*, mm. 1–9

In other compositions like *Die Nacht der Wellen* (2015) or *Hurrian Song* (2015), two strings are tuned very low (using ordinary strings) in order to get three consecutive ones with distances of sixths of a tone. In the case of *Die Nacht der Wellen*, the strings (from sixth to first) follow: D, D + 1/6, D + 1/3, G, B, E. In *Hurrian Song* the scordatura follows: E, E + 1/6, E + 1/3, G, B, E. While in *Cerises* for solo guitar (2018), the tuning follows: E, B - 1/6, G - 1/3, C-sharp, G-sharp - 1/6, D-sharp - 1/3.

3 Notation: Transcription or tablature?

One of the big problems of writing with the use of this microtonal guitar I had to challenge was the notation. Since most guitarists are familiar with different kinds of tablature, I created one indicating the string and the fret (the head of the note to indicate ordinary, harmonic, percussive, etc.). It is very neutral as there is no strong association between the notes and the sounds produced. I used this system in compositions such as *Tres Momentos Microtonales* (Example 3).

Using transcription is a possibility for the guitarist to learn the piece quickly. It depends on the textures – thick textures are much better for the performer when they are transcribed. But here the association between the written note and its sound might be a bit confusing for players, as they must recognize the notes in completely new positions. I used transcription in compositions such as *Sakura* (Example 4).

ANDANTE MOSSO MA MOLTO FLESSIBILE

MICROTONAL GUITAR (9 STRINGS)

4 5 4 5 4 5 4 5 7
6 5 5 4 4 3 3 2 1

0 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7
1 2 1 3 1 4 1 5 1 6 2 3 3 4 3 5 6

UN POCO RALL.

0 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7
1 2 1 3 1 4 1 5 1 6 2 3 3 4 3 5 6

UN POCO RALL.

mf p mf pp

7 7
0 1 2 3 4 0 0 1 2 3 4 0
6 5 4 3 2 1 6 5 4 3 2 1

12 12 12 12 12 12
1 1 1 1 1 1
2 3 4 5 6

RUBATO

A TEMPO RUBATO A TEMPO

1 12 12 12 12
1 1 1 1 1 1
2 3 4 5 6

mf mp

19 12 12 12 12
1 1 1 1 1 1
2 3 4 5 6

RUBATO

A TEMPO RUBATO A TEMPO

1 12 12 12 12
1 1 1 1 1 1
2 3 4 5 6

mf p

26 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7
2 1 3 1 4 1 5 1 6 2 3 3 4 3 5 6

UN POCO RALL.

7 0 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7
1 2 1 3 1 4 1 5 1 6 2 3 3 4 3 5 6

A TEMPO

UN POCO RALL.

A TEMPO

7 6 7 6 7 6 7 6 0
3 2 3 2 3 2 3 2 1

mf pp pp mf

DECISO

Example 3: Castillo-Ávila's *Tres Momentos Microtonales*, mm. 1–32

MICROTONAL GUITAR

MODERATO ♩ = 70 ca.

f UN POCO LIBERO

UN POCO MENO MOSSO

mf A TEMPO

HARM. 5 HARM. 4 HARM. 3[°] HARM. 4 HARM. 3[°] HARM. 7

HARM. 12 HARM. 5 HARM. 4 HARM. 3[°] HARM. 5 HARM. 4 HARM. 3[°] HARM. 4

MISTERICOSO

mp

Example 4: Castilla-Ávila's *Sakura*, mm. 1–17.

Concerning the notation, I mainly focused on practical aspects to help the performer learn the composition. Sometimes I provide an ossia line with the sounding pitches, (or at least some of them), especially when I use this system in chamber pieces or in pieces with singer, like in *Dos Sonetos* for mezzo-soprano and guitar (Example 5).

4 Prepared guitars and other ways to get microtones on the guitar

As a composer, I also like the guitar microtones produced by plucking between the left hand and upper nut. By doing so, the resonance body of the instrument is avoided. I am not at all against the evolution of the instrument (especially concerning the volume) since the Torres guitars around 1850. But when I listen to these very powerful guitars today, I have the feeling that we have lost the intimate character of them. This is the aesthetic reason why I keep writing intimate guitar pieces “without” resonance body. Sometimes I also use preparations – preferably with guitaristic elements such as fix capodastre on the 10th fret or a cloth under the strings – so that the sounding part of the string will be connected to the upper nut like in the composition *Caged Music 3* (Example 6).⁷

7 Agustín Castilla-Ávila, *Caged Music 3* (2006), <http://www.youtube.com/watch?v=bCKGTO4yIVE>, played by Atheneum Guitar Trio (Atheneum Conservatory, Athens, Greece, May 5, 2012).

M-S. *p*
 fue que se a-par - tó de su pre - sen - cia. su a-mo, y no le ha

Gtr. C.IV *f* Harm. 12 *mp* *p*

M-S. *f* *pp*
 lla - ba, y es-to-sien - te: mi-rad has-ta do lle -

Gtr. *mf* *mp* *f* Harm. 7 Harm. 7 *p*

Example 5: Castilla-Ávila's Soneto II: A la entrada de un valle from the cycle Dos Sonetos, mm. 39–48

• = 70 ca.

SOURCE-HEADED NOTES
 TO BE PLOCKED BETWEEN
 CAPOTASTO AND UPPER NUT
 (THEY WILL NOT SOUND AS WRITTEN)

QUIT. 1
 WITH CAPOTASTO
 ON TENTH FRET *p*

QUIT. 2
 WITH BLU TAP
 ON THE STRINGS *mp*

QUIT. 3
 WITH A CLOTH
 UNDER THE STRINGS *mp*

TAPPING

CROSS-HEADED NOTES
 TO BE HAMMERED (TAPPING)
 UN POCO MARCATO

Gtr. 1 *mp*

Gtr. 2 *mp*

Gtr. 3 *mp*

Example 6: Castilla-Ávila's Caged Music 3, mm. 1–2.

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