Thinking through the guitar : the sound-cell-texture chain

Titre, M.

Chapter 10 Tambora Sounds

Contents

Chapter 10 Tambora Sounds

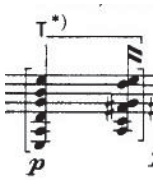
Tambora sounds come into existence when the strings are struck in a percussive manner, creating a pitched or an unpitched sound, depending on the manner of performance. This chapter shows ways in which the composer can handle the characteristics of the tambora sound, use it to build horizontal as well as vertical cells, and finally, how these cells can be creatively combined to form musical textures playable on the guitar.

10.1 Sound

There are two types of tambora sounds: pitched and percussive tambora sounds. In this section, each of these types is discussed separately.

10.1.1 Pitched tambora: pitch range

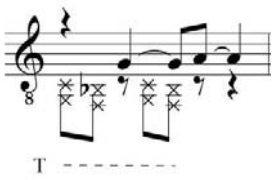
Figure 10.1 Six-note tambora



(SEQUENZA XI, BERIO)

For pitched tambora, the full range of the guitar can be used, as well as all natural harmonics. In all ranges, the tambora sound is a percussive sound produced by striking the strings with the right hand or the left hand. Pitched tambora sounds are usually scored for vertical cells of six notes (Figure 10.1), but vertical combinations of fewer notes are possible (Figure 10.2).

Figure 10.2 Tambora notation



In its usual form, the pitched tambora is produced by striking the inside of the thumb and the part of the hand directly near the thumb on the strings near the bridge, and immediately lifting the hand again in

order to release the sound. There are variations on this technique, for instance by using the thumb, the full palm of the hand or with the use of an external object such as a pencil. In all cases, the mechanics of the production of the sound is essentially the same: a body part or object strikes the strings, then immediately bounces off the string in order to release the sound. If tambora chords are scored over non-adjacent strings, the performer can damp the unused string with a finger of the left hand.

Figure 10.3 Harmonics tambora performed with two hands

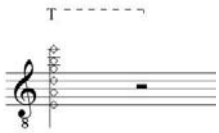


Figure 10.4 Harmonics tambora performed with one hand

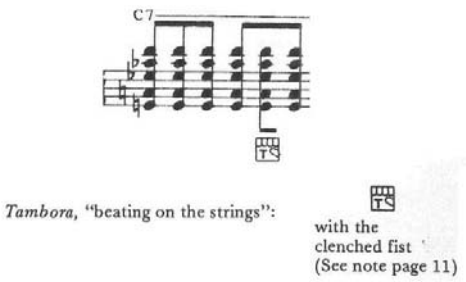
(SO RI, OH)

Tambora sounds of natural harmonics can be performed with two hands or with one hand alone. A two-hand harmonics tambora is performed by touching the strings with the left hand at the nodal point, while striking the strings close to the bridge (Figure 10.3). A one-hand harmonics tambora is created by striking the strings directly at a nodal point (Figure 10.4).

There is no standardized notation for tambora in guitar notation. A verbal description is sufficiently clear in many circumstances. When various types of sounds are used within a short span of time, changing the noteheads is favorable for readability (Figure 10.2) in order to avoid a myriad of verbal descriptions in the score.

10.1.2 Percussive tambora: percussive range

Figure 10.5 Clenched fist tambora[52]



(SONATA, GINASTERA)

[52] In this example, only the slamming of the fist onto the strings can be heard, and not the notated pitches. Therefore, the composer should use percussive noteheads for the notation of a percussive tambora like the one pictured here.

Tambora sounds can also be performed by slamming the strings onto the fretboard, in which case two or three bass strings are usually struck against the fretboard. The composer can score the percussive tambora with or without pitches; if the performer lifts the hand after slamming the strings, string resonance ensues, but if the hand stays on the string, there will be no string resonance. Usually, a percussive tambora is performed without string resonance, as the presence of string resonance would make it a loud pitched tambora. When performed with the left hand, percussive tambora sounds are usually performed with the fingertips. When performed with the right hand, percussive tambora sounds are usually performed with the hand, fist (Figure 10.5) or thumb. The chord in Figure 10.5 is not audible; only the slamming of the fist onto the strings is heard.

10.1.3 Timbre possibilities

Pitched tambora

Attack

The pitched tambora sound is a mixture of two different sounds: it is a combination of a percussive bounce, which constitutes the drum-like aspect of the sound, mixed with a sympathetic ringing of the strings that are struck. In the case of a harmonics tambora performed with one hand, the drum-like sound that emerges as a result of slamming the thumb on the fretboard has a higher pitch than a tambora near the bridge. Tambora harmonics on lower strings can be heard more clearly than on higher strings, while natural harmonics in positions XII and VII can be heard more clearly than natural harmonics in positions V and IV/IX.

Figure 10.6 Thumbnail tambora

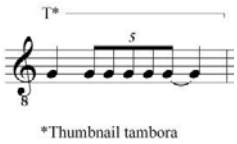
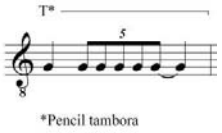


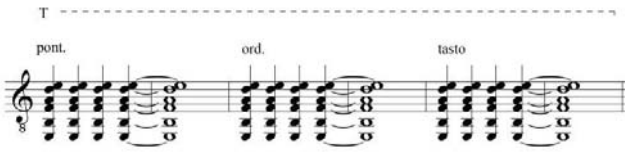
Figure 10.7 Pencil tambora



When the guitarist performs the tambora sound with the nail or an object, such as a pencil, the sound is sharper than a regular tambora and contains less of the low drum-like sound (Figure 10.6 and Figure 10.7).

Sound color and playing indications

Figure 10.8 Tambora sound color



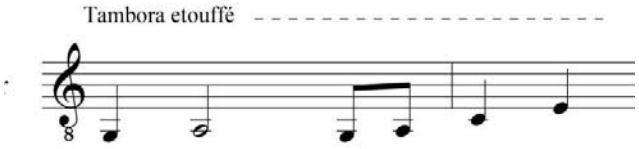
The degree to which the tambora sound includes the drum-like sound can be varied by changing the playing position (Figure 10.8). When the tambora is performed close to the bridge, the sound contains a low drum bounce. When the tambora is performed in regular playing position, the sound contains much less of the drum bounce. When performed in tasto position, the sound contains a slapping sound caused by the thumb striking the fretboard, which makes it a percussive tambora.

Stopping position

As is the case with regular plucked notes, playing a note from the middle or high range in a high position on a low string changes its timbre. The composer should specify fingerings if she wishes a note to be performed on particular string.

Etouffé

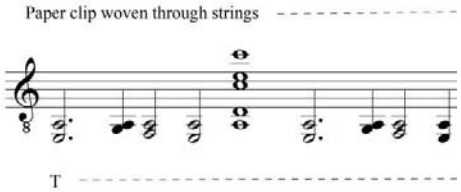
Figure 10.9 Tambora etouffé



Single tambora sounds can be scored with etouffé; the etouffé is performed by striking a note and simultaneously slightly damping it with the side of the right hand. Tambora sounds scored etouffé have a greatly reduced resonance and dynamic range, because the etouffé position of the right hand prevents a large striking movement (Figure 10.9). As a result, the tambora attack has a low maximum dynamic level.

Prepared guitar

Figure 10.10 Paper clip preparation

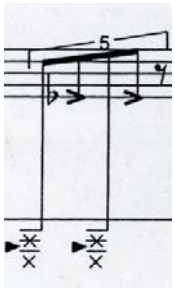


The timbre of tambora sounds can be changed by attaching an object to one or more strings, turning the guitar into a prepared guitar (Figure 10.10). Due to the combination of paper clip preparation and tambora, the vertical cell pictured in Figure 10.10 takes on a gong-like quality.

Percussive tambora

Attack and playing location

Figure 10.11 Percussive tambora



(PERCUSSION STUDY NO. 1, KAMPELA)

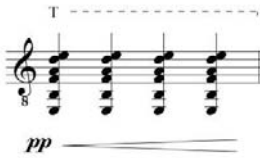
The percussive tambora sound is caused by the strings striking the fretboard, accompanied by the sound of the hand striking onto the strings as well, in case the tambora is performed directly onto the fretboard (Figure 10.11). Performing the percussive tambora with the nail instead of the hand or thumb does not fundamentally change its sonic characteristics, as the sound is primarily caused by the strings touching the fretboard.

Strings

Due to the different characteristics of metal and nylon strings, percussive tambora sounds performed on the metal-wound strings sound much sharper and brighter than those performed on the nylon strings.

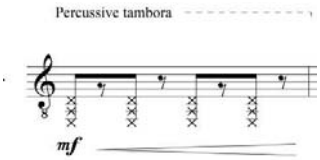
10.1.4 Dynamic range

Figure 10.12 Pitched tambora dynamic range



Pitched tambora sounds can be performed at very low as well as high dynamic levels, and can be scored from *pp* to about *f* (Figure 10.12).

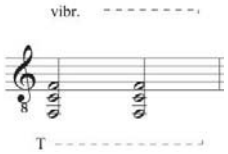
Figure 10.13 Percussive tambora dynamic range



Percussive tambora sounds can be performed at high dynamic levels from about *mf* to *ff* (Figure 10.13). When performed at low dynamic levels, percussive tambora sounds are no longer tambora sounds but rather hammered sounds.

10.1.5 Vibrato

Figure 10.14 Tambora vibrato



Pitched tambora sounds that are stopped by a finger of the left hand can be scored with lateral or vertical vibrato (Figure 10.14).

10.1.6 Pitch bends and microtones

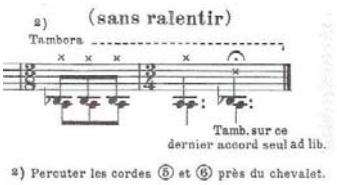
Pitch bends for pitched tambora sounds are to be prescribed in the same manner as for regular plucked notes. Microtones are also prescribed in the same manner: they can be attained through a microtonal scordatura or through bending the string.

10.2 Vertical cells

Tambora sounds are typically performed as vertical cells, usually as chords consisting of four-to six notes; however, smaller vertical cells can also be scored.

10.2.1 Two-note combinations of pitched tambora sounds

Figure 10.15 Two-string tambora

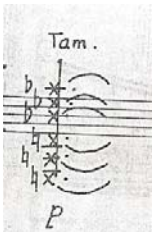


(TIENTO, OHANA)

When scoring pitched tambora sounds, the most effective two-note combinations are those scored on two adjacent strings (Figure 10.15), as they avoid additional noises that are caused by striking damped strings.

10.2.2 Chord spacings of pitched tambora sounds

Figure 10.16 Six-string tambora

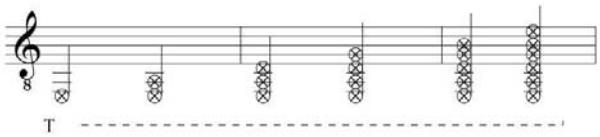


(FOLIOS, TAKEMITSU)

Vertical cells can be scored using narrow spacings, wide spacings, mixed spacings as well as with unisons and clusters. As is the case with two-note combinations, the most effective vertical cell combinations are those scored over adjacent strings (Figure 10.16).

10.2.3 Vertical combinations of percussive tambora sounds

Figure 10.17 Vertical percussive tambora cell



Percussive tambora sounds can be combined vertically by creating vertical combinations of various strings. Changing the striking position of the left hand does not influence the sound of the percussive tambora, as the sound is caused by the strings slamming onto the fretboard. As the percussive tambora is performed with the thumb or a large surface of the hand, vertical combinations can only be scored over adjacent strings (Figure 10.17).

10.3 Horizontal cells

Pitched tambora sounds can be scored into two types of horizontal cells: vertical cell sequences and

single line horizontal cells. Percussive tambora sounds can be scored into horizontal cells of percussive tambora sounds. In this section, these three types of horizontal cells are discussed.

10.3.1 Vertical cell sequences of pitched tambora sounds

Design

Vertical cell sequences of pitched tambora sounds are sequences or repetitions of note combinations, usually consisting of two to six notes on adjacent strings.

Resonance

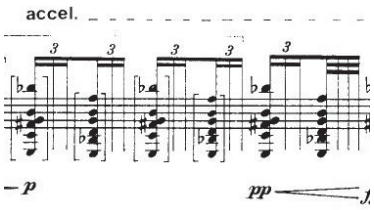
Individual vertical cells in vertical cell sequences of pitched tambora sounds usually do not last beyond their notated value, unless a large interval change is made, which leaves a string unoccupied by the right hand, allowing it to ring on. When vertical cells contain open strings, the degree of resonance increases.

Harmonic possibilities

The options for pitch combinations can be examined in Appendix A. As is the case with vertical cell sequences of plucked sounds, rasgueados and strummed sounds, successions of vertical cells of rasgueados scored with fewer notes increase the choice possibilities of different pitches and keys when compared to successions of vertical cells containing many notes. Additionally, as vertical cells of pitched tambora sounds are most effective when scored over adjacent strings, having to score vertical cells over adjacent strings limits the options.

Speed

Figure 10.18 Tambora speed



(SEQUENZA XI, BERIO)

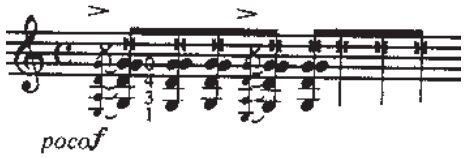
Vertical cell sequences of pitched tambora sounds can be performed at moderate speeds, as they rely on a repeated striking with one hand. Figure 10.18 displays an approximate maximum speed for vertical cell sequences of tambora.

Articulation

Vertical cell sequences of pitched tambora sounds can be scored with a variety of articulations, including slurs, legato, accents, staccato, and glissando.

Slurs

Figure 10.19 Tambora slurs



(THE LAST DISCO, RAK)

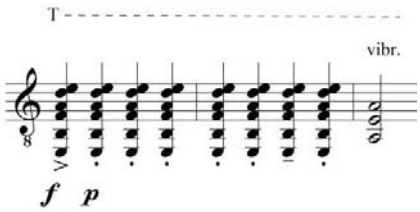
One or more notes in a vertical sequence of pitched tambora sounds can be connected to a subsequent vertical cell or note by means of a slur (Figure 10.19). The vertical cell or note thus produced does not share the sonic characteristics of the tambora as it is produced by performing an ascending or descending slur after the tambora.

Legato

As is the case with regular plucked sounds, sequences of different vertical cells that are located close by on the fretboard are easier to perform legato than vertical cells that are further apart. The composer should include a phrase mark to indicate that vertical cells are to be performed legato.

Accents

Figure 10.20 Tambora articulation



Because of the relatively wide dynamic range of tambora, the composer can make a vertical cell effectively stand out with an accent (Figure 10.20). In contrast to vertical cells of plucked notes, it is not

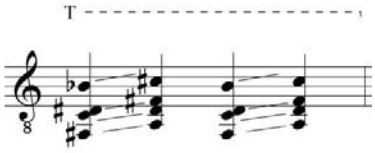
possible to make only a specific note from the vertical cell stand out, as the complete cell is struck with the thumb or a large surface of the hand.

Staccato

Vertical cell sequences of tambora sounds can be scored with staccato articulation. The performer executes these by quickly damping the strings affected by the staccato with the right palm (Figure 10.20) or, in the case of stopped notes, by lifting the fingers after attack.

Glissando

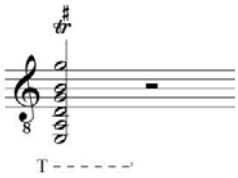
Figure 10.21 Tambora glissando



Vertical cell sequences of tambora sounds can be scored with a glissando articulation that is performed after striking the vertical cell. As is the case with glissandos of vertical cells of plucked sounds, literal glissandos of vertical cells sequences of pitched tambora sounds are most effective when they are scored with the same left hand fingering (Figure 10.21); changing fingerings during the course of such glissandos reduces the clarity of the glissando. Additionally, vertical cell sequences of tambora sounds can be scored with a tuning key glissando. With such a glissando, only one string can be detuned at a time.

Embellishment

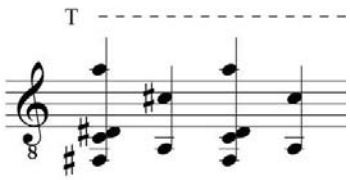
Figure 10.22 Tambora embellishment



Embellishments can be used in vertical cell sequences by attaching a left hand trill to one of the notes in a vertical cell (Figure 10.22). This embellishment can continue to be performed with the left hand while the right hand engages in the production of additional tambora attacks.

Non-functional writing

Figure 10.23 Non-functional writing



Examples of non-functional writing for vertical sequences of pitched tambora sounds:

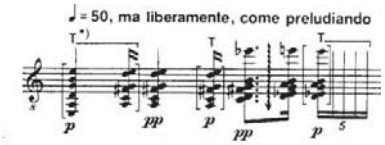
- Sequences of vertical tambora cells scored over non-adjacent strings (Figure 10.23)
- Rapid sequences of vertical tambora cells

Combinations with other sounds

In the classical guitar repertoire, vertical cell sequences of pitched tambora sounds are often scored in close conjunction with other sounds. In this section, common combinations from the repertoire are discussed.

Vertical cell sequences of pitched tambora sounds alternated with regular plucked sounds

Figure 10.24 Tambora and plucked/strummed vertical cells



(SEQUENZA XI, BERIO)

Figure 10.25 Tambora and plucked single line

(SEQUENZA XI, BERIO)

Berio alternates vertical tambora cells with plucked and strummed vertical cells (Figure 10.24) and single lines of plucked sounds (Figure 10.25). Both alternations can be connected at relatively high speeds, but the transition to the single line is easiest to perform at high speeds. Figure 10.24 displays the approximate maximum speed for such a transition.

Vertical strummed sound sequence alternated with tambora

See Chapter 8

Vertical rasgueado cell sequence alternated with tambora

See Chapter 7

One-hand percussion alternated with tambora

See Chapter 9

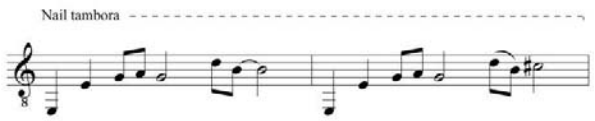
10.3.2 Single line horizontal cells of pitched tambora sounds

Design

A single line horizontal cell of tambora sounds is a succession of single tambora sounds. Because of the large movement that is used to produce a tambora, it takes a relatively high degree of coordination to perform a single line tambora. Single line tamboras are easiest to perform on the sixth string, while more difficult to perform well on other strings. When the performer uses the nail, or an object such as a pencil, a single string tambora on a string other than the sixth can also be produced more accurately. Single line horizontal cells of pitched tambora sounds are relatively rare in the guitar repertoire.

Resonance

Figure 10.26 Single line tambora



As is the case with single lines of regular plucked notes, single line horizontal cells of pitched tambora sounds can be made to sound in such a way that notes **do not** ring on into the temporal space of subsequent notes. This is possible when the line is scored at a slow to moderate speed, when the intervals are relatively small, when both conditions are fulfilled, or when staccato articulation is used.

Single lines horizontal cells of pitched tambora sounds can also be made to sound in such a way that notes **do** ring on into the temporal space of subsequent notes. This is possible when the line is scored over multiple strings, at moderate and high speeds, or when both conditions are fulfilled (Figure 10.26). The composer should use ties or a l.v. (let vibrate) indication to prescribe a ringing on of notes in single lines.

Speed

Single lines of pitched tambora sounds can be performed at moderate speeds, as they rely on a repeated striking with one finger or object. The maximum speed is lower than that of vertical cell sequences of pitched tambora sounds, as playing on single strings requires more coordination on the part of the performer.

Articulation

Single line horizontal cells of pitched tambora sounds can be scored with a variety of articulations, including slurs, legato, accents, staccato and glissando.

Slurs

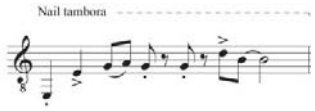
One or more notes in a sequence of single line tambora sounds can be connected to a subsequent note by means of a slur (Figure 10.26). Because of the manner in which slurs are performed, slurs played after a tambora sound possess the characteristics of an ascending or descending slur, rather than the characteristics of a tambora sound.

Legato

As is the case with regular plucked notes, sequences of notes that are located close by on the fretboard are easier to perform legato than sequences of notes that are further apart. The composer should use a phrase mark to indicate that a sequence of single line tambora sounds is to be performed in this manner.

Accents

Figure 10.27 Single line tambora articulation



Single line horizontal cells of pitched tambora sounds have a more limited dynamic range than the vertical cell sequences of tambora, but it is still possible to make a note stand out with an accent (Figure 10.27).

Staccato

Single lines can be scored using a staccato articulation. At low and moderate speeds (the maximum speed of a single line horizontal cell of pitched tambora sounds), the staccato can be performed convincingly. The guitarist performs the staccato either by lifting the finger off the fretboard after attack in the case of stopped notes, or damping the string with a left or right hand finger (Figure 10.27).

Glissando

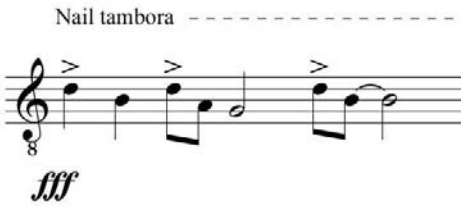
Glissando can be used to connect notes in a single line. As is the case with single line sequences of plucked sounds, the glissando can be performed literally, as literal glissando between two notes, or as a partial glissando. This second type of glissando is primarily used when glissandos are prescribed over distant pitches that cannot be connected on one string. Additionally, single line vertical cells of pitched tambora sounds can be scored with a tuning key glissando.

Embellishment

Embellishments can be employed in single line sequences by attaching a left hand trill to a note in the sequence. An embellishment performed with the left hand alone can continue as the right hand engages in other actions such as tambora or percussion.

Non-functional writing

Figure 10.28 Non-functional writing



Examples of non-functional writing for single line horizontal cells of pitched tambora sounds:

- Rapid string changes, particularly when strings are far apart
- High dynamic levels for pitched single string tambora (Figure 10.28)

Combinations with other sounds

Single line horizontal cells of pitched tambora sounds have the same possibilities for combinations with other sounds as vertical cell sequences of pitched tambora sounds (see applicable section in this chapter). The maximum connection speed between single lines of pitched tambora sounds and other sounds is slower, because of the coordination required for a single line tambora.

10.3.3 Horizontal cells of percussive tambora sounds

Design

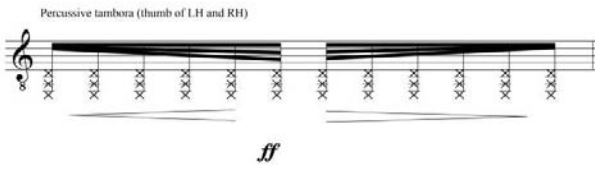
A horizontal cell of percussive tambora sounds is a succession of percussive tambora sounds. Such a cell can be performed with the left hand, the right hand or a combination of both hands.

Resonance

A percussive tambora sound is usually performed without string resonance, which makes the amount of resonance in a horizontal cell of percussive tambora sounds very low (Figure 10.17).

Speed

Figure 10.29 Two-hand percussive tambora



When performed with one hand, a horizontal cell of percussive tambora sounds has the same maximum speed as a vertical cell sequence of pitched tambora sounds. When performed with two hands, it can be performed at much higher speeds, in the same manner as a two-hand percussion sequence (Figure 10.29).

Rhythmic possibilities

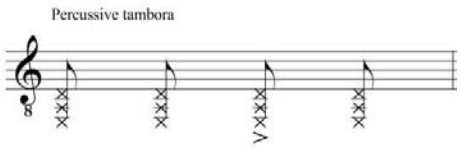
When performed with two hands, the rhythmic possibilities of horizontal two hand percussion cells are very broad, as the guitarist is in a position to perform on the guitar body in the same manner a percussionist performs on a drum; with two hands. As is the case with sequences of two-hand percussion, it is possible to create fluent rhythms in which two hands cooperate in a percussive manner (Figure 10.29).

Articulation

Horizontal cells of percussive tambora sounds can be scored with a variety of articulations, such as accents, staccato and glissando.

Accents

Figure 10.30 Percussive tambora accent



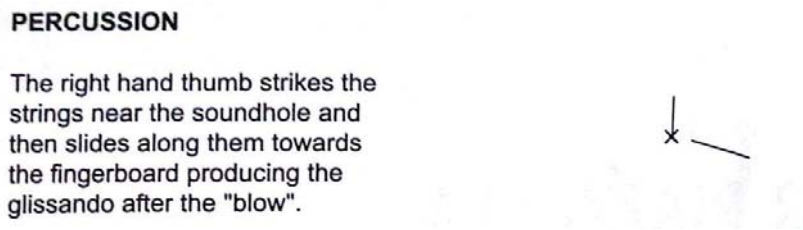
Because of the wide dynamic range of percussive tambora sounds, the composer can make a percussive tambora sound effectively stand out with an accent (Figure 10.30).

Staccato

Horizontal cells of percussive tambora sounds are by nature staccato, as they are usually immediately damped by resting the thumb or hand on the strings after attack.

Glissando

Figure 10.31 Percussive tambora glissando

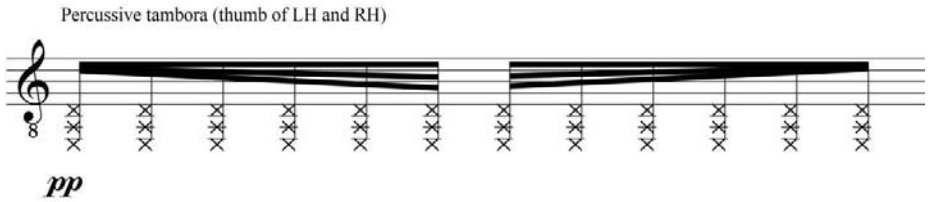


(LA MUERTE DEL ANGEL, PIAZZOLLA ARR. BENITEZ)

Horizontal cells of percussive tambora sounds can be scored with glissando; the glissando is then performed after the strings are struck on the fretboard (Figure 10.31).

Non-functional writing

Figure 10.32 Non-functional writing



Examples of non-functional writing for horizontal cells of percussive tambora sounds:

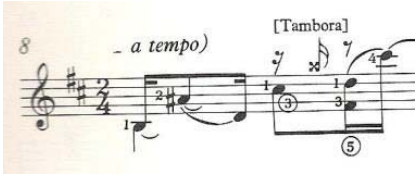
- Legato articulation for percussive tambora sounds
- *Pianissimo* dynamics for percussive tambora sounds (Figure 10.32)

Combinations with other sounds

Percussive tambora sounds are often used as a percussive effect in between plucked or strummed sounds.

Percussive tambora sounds alternated with plucked sounds

Figure 10.33 Percussive tambora and plucked sounds

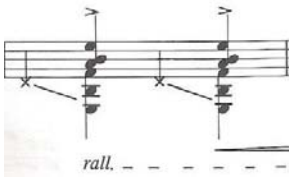


(FIVE BAGATELLES, WALTON)

Walton alternates plucked sounds with tambora sounds (Figure 10.33). This alternation can be scored at moderate speeds, as the performer needs some time to reposition the hand to pluck again after performing the tambora sound.

Percussive tambora sounds alternated with strummed sounds

Figure 10.34 Percussive tambora glissando alternated with strummed/plucked chord



(LA MUERTE DEL ANGEL, PIAZZOLLA ARR. BENITEZ)

Piazzolla (Figure 10.34) and Ginastera (Figure 10.5) alternate percussive tambora sounds with strummed sounds; this alternation can be performed at high speeds as they are performed in the same area of the guitar and are both performed with a large movement.

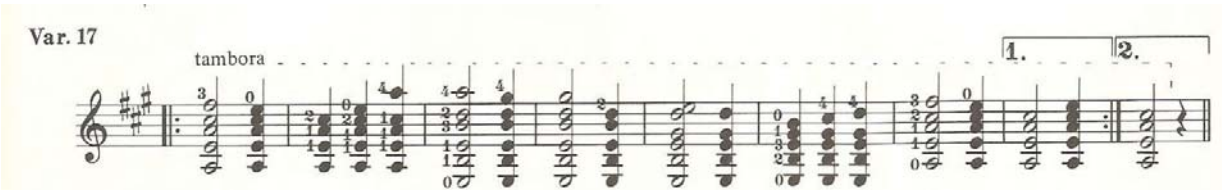
10.4 Textures

In the guitar repertoire, both continuations and combinations of horizontal cells containing tambora sounds are found. The following examples are presented primarily for the purpose of illustrating how textures in repertoire pieces have been put together.

10.4.1 Textures as continuations of horizontal cells

Chordal tambora texture

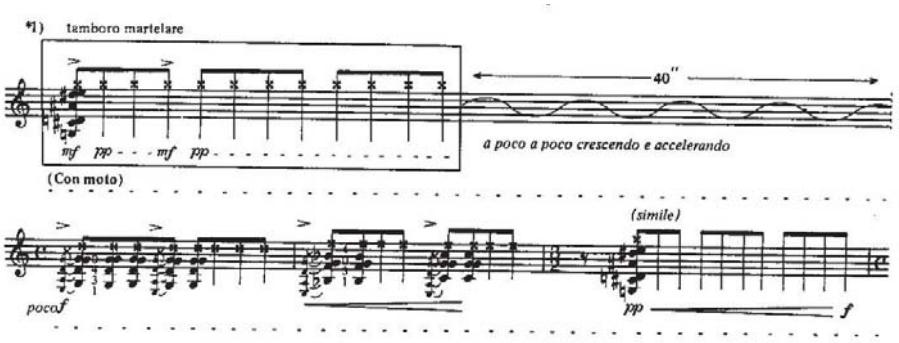
Figure 10.35 Chordal tambora texture



(GRAN JOTA DE CONCIERTO, TÁRREGA)

Tárrega continues a sequence of vertical cells of pitched tambora sounds for many measures, creating a chordal tambora texture (Figure 10.35). In the *Gran Jota*, the tambora is used to score a variation on the main theme with an altered sound. The tambora sound also contrasts dynamically with the variation that precedes it (consisting of strummed vertical cells) and the variation that follows it (harmonics and plucked vertical cells), as the tambora is situated at a lower dynamic level.

Figure 10.36 Chordal tambora texture with slurs

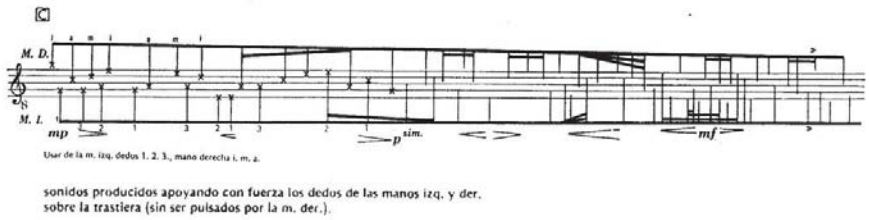


(THE LAST DISCO, RAK)

Rak creates a chordal tambora texture that includes slurs connecting various four-note vertical cells (Figure 10.36). The opening of the passage evokes a mysterious atmosphere through the resonance of the dissonant vertical cell, the irregular dynamic alternations and the increasing acceleration. The inclusion of two open strings enhances the resonance of the tambora. This passage is a good example of what can be accomplished within the dynamic range of the pitched tambora.

Two-hand percussive tambora texture

Figure 10.37 Two-hand percussive tambora



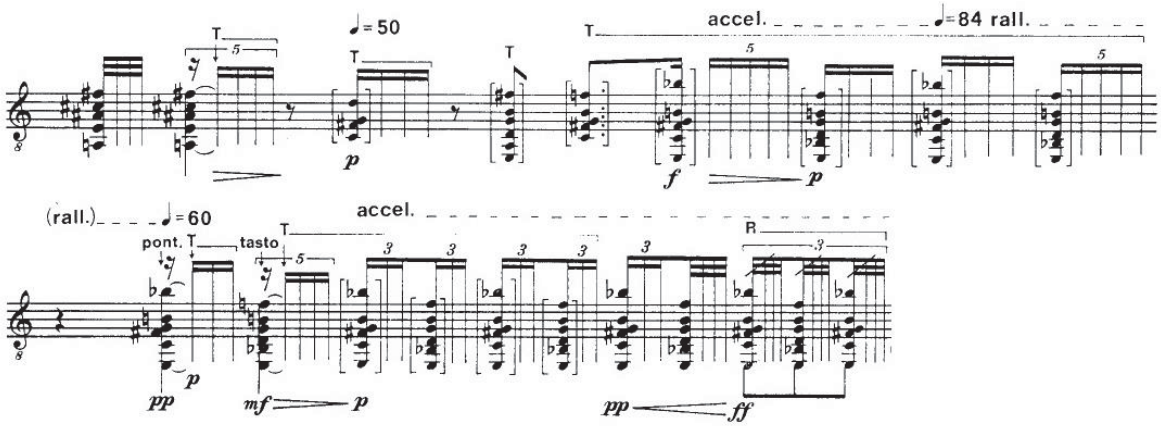
(LA ESPIRAL ETERNA, BROUWER)

Brouwer creates a two-hand percussive tambora texture in *La Espiral Eterna* (Figure 10.37). The texture has a percussive quality that is mixed with irregular pitches produced by slamming the strings onto the fretboard. The irregular character of pitch and rhythm in this passage is further highlighted, and aided, by the graphic notation that Brouwer here, fittingly, employs.

10.4.2 Textures as combinations of horizontal cells

Texture of tambora, rasgueado and strumming

Figure 10.38 Texture containing tambora, rasgueado and strumming



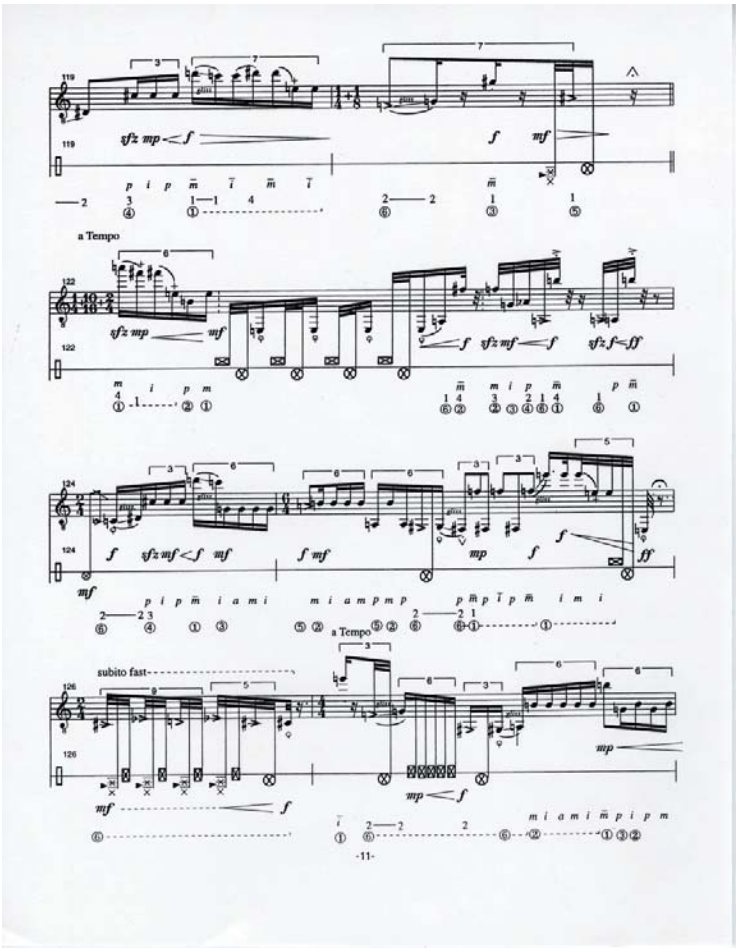
(SEQUENZA XI, BERIO)

Berio creates a texture that alternates vertical sequences of tambora sounds, strummed vertical cell sequences, and rasgueado vertical cell sequences (Figure 10.38). This passage demonstrates how the composer can treat a set of vertical cells with a variety of sounds, and use each sound for a different dynamic range. At the softer end of the dynamic spectrum, tambora is mostly used here, strumming is mainly used in the middle range, while rasgueado is employed at the louder end. The strumming sound is varied through the use of ponticello and tasto timbre changes. The multiple open strings enhance the

resonant properties of this passage and facilitate position changes without interruptions of sound in the transitions between the vertical cells.

Texture of plucked sounds, tambora, Bartok pizzicato, percussion and hammering

Figure 10.39 Braiding of multiple sounds



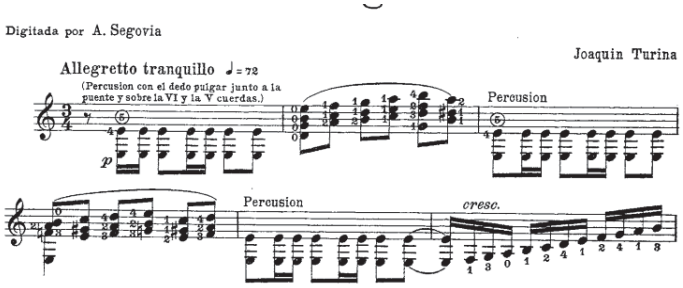
(PERCUSSION STUDY NO. 1, KAMPELA)

Kampela creates a texture that braids together plucked sounds, percussive tambora sounds, Bartok pizzicato sounds, left-and right hand percussion sounds and hammered sounds (Figure 10.39). Just as in Figure 9.29, the texture pictured here is hyper-rich in sounds, hyper-functional and hyper-rhythmic. A characteristic feature of this texture is the relative absence of resonance; the shortness and rapid sequences of the plucked notes match the short resonance of the percussive sounds and their employment in rapid sequences. Together with the extremely fast alternations and transitions between sounds, this matching of characteristics between different sounds enhances the braiding character. Because of this rapid braiding, distinguishing individual sounds and the transitions between them

becomes very difficult for the listener. As a result, the texture leaves the impression of the various sounds as being continuously present.

Texture of tambora and plucking

Figure 10.40 Texture containing tambora, plucked vertical cell sequences and plucked single line



(FANDANGUILLO, TURINA)

The idea that the composer can score for the classical guitar with orchestral instruments in mind, and the attempt to imitate these instruments was first, and eloquently, described by Sor (1831, pp. 15-19) and further sustained in the apocryphal quote that "the guitar is a miniature orchestra in itself!"[53]. In the texture pictured in Figure 10.40 from Turina's *Fandanguillo*, such orchestral thinking appears to have informed its scoring. Turina, an orchestral composer himself, creates a texture that combines two-string tambora, plucked vertical cells and a single line of plucked sounds. The octave tamboras in the opening measure are reminiscent of a soft, low, pitched and resonant drumming sound, such as that of the timpani. The subsequent measure of plucked legato vertical cells is evocative of a divisi string section, while the last measure of single line scoring in the low to medium range can be imagined in scoring for pizzicato strings doubled with bassoon.

[53] See footnote 1.