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**“TEACHING
FLAMENCO
ZAPATEADO:
A NEW NOTATION-BASED ME-
THODOLOGY”**

LA ENSEÑANZA DEL ZAPATEADO FLAMENCO:
UNA NUEVA METODOLOGÍA BASADA EN LA NOTACIÓN

ABSTRACT

Dance has traditionally been taught using a style based on teacher-pupil oral transmission, imitation and repetition. While there are notation methods for dance, few proposals for zapateado notation exist. This research develops a critical analysis not only of the currently existing notation systems for flamenco zapateado, but also of rhythmic notation systems for percussion based on the traditional Western system of musical notation, which form the basis of the foundations of the system of the method of notation presented here. The article shows that this flamenco zapateado notation system is the first to combine how the foot strikes the floor with the rhythmic aspects using notation with a clear visual appearance and a sequence of didactic content which takes into account motor aspects as well as rhythmic ones.

This research is linked to the Research Project *A connected classroom. The teaching portfolio as a narrative-artistic resource of research and learning, in the training of teachers of Primary Education (2019-2020)*, in the First Plan of Research and Transfer of the University of Malaga.

KEYWORDS

Teaching, Dance, Notation, Zapateado, Flamenco

RESUMEN

La forma de enseñanza en danza tradicionalmente se ha llevado a cabo por medio de la transmisión oral, imitación y repetición, maestro-alumno. Además, existen métodos de notación en danza y sin embargo, escasas propuestas de notación de zapateado. La presente investigación desarrolla un análisis crítico no sólo de los sistemas de notación de zapateado flamenco existentes hasta el momento, sino también de las notaciones rítmicas para percusión fundamentadas en el sistema de notación musical tradicional occidental en los que se sustentan las bases del sistema del método de notación que se presenta. Las conclusiones del artículo evidencian que este método de notación de zapateado flamenco es el primero que aúna las formas con las que el pie golpea el suelo junto con los aspectos rítmicos a través de una notación con apariencia visual clara, y con una secuenciación de contenidos didácticos que tienen en cuenta tanto los aspectos motrices como los rítmicos.

PALABRAS CLAVE

Enseñanza, Danza, Notación, Zapateado, Flamenco

TEACHING FLAMENCO ZAPATEADO: A NEW NOTATION-BASED METHODOLOGY

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INTRODUCTION

Dance teaching methodologies have not been sufficiently addressed in the research field (Elvira, 2018). The basic content transfer method is student-teacher oral transmission, imitation and repetition, which in physical education is known as command style teaching (Mosston and Ashworth 1993). This teaching method, through hearing, has also been used for teaching people to play instruments (Pacheco 2018). The mirror image presents to the dancer one type of visual representation of his/her kinaesthetically felt movement which at times aids self-correction and performance accuracy (Ehrenberg 2010). In addition, there are written forms of symbolic representation of body movements, with Laban notation (Hutchinson 2005) and Benesh notation (1969) among the best known. There are studies that analyse the usefulness of the Laban notation method as a tool for analysing movement to study the structure and form of dance (Dania, Tyrovala and Koutsouba 2013).

There are also other notation methods, such as Eshkol-Wachman, which are used to develop coordination (Al-Dor 2006). A variant simplifying the Laban notation method is Motif Notation (Guest 2013) for creating, talking about and analysing choreographies to establishing a deep and rich dance language. The ultimate aim is to raise awareness of the benefits of dance notation among all educational communities, creating literacy about and providing a notation for each style of dance (Heiland 2009). Consequently, flamenco, as a dance representing Spanish culture, should not be excluded from the potential benefits of notation. One of the fundamental elements of flamenco dance is zapateado, which can be treated as

a percussion instrument and so should have a specific rhythm-based notation on which to base learning. However, despite the existence of various proposals for zapateado notation, none have yet been designed as a didactic approach to aid learning. Therefore, the aim of this work is: (a) to analyse the proposals for flamenco zapateado notation published to date; (b) to describe the particular features of flamenco music that are relevant when transcribing it and some simple forms of notation for percussion instruments; (c) and finally, based on the specific features identified, provide a didactic proposal based on flamenco zapateado for a visually clear and intuitive tool to facilitate learning of the rhythm and notation of zapateado.

ZAPATEADO NOTATION SYSTEMS

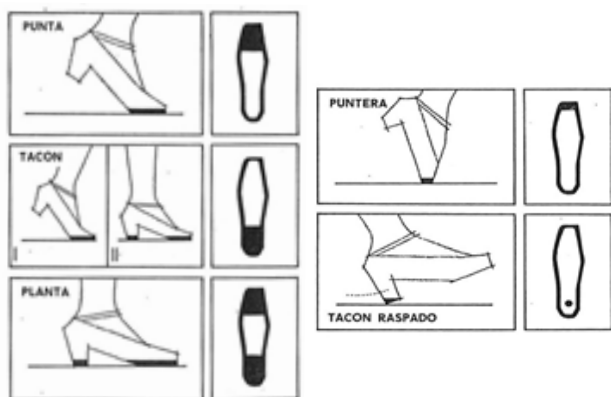
In this section, three ways of transcribing zapateado will be described. While these are not recent, they are of interest as the only ones yet published. These three proposals are presented in chronological order.

First proposal: Martínez (1969)

One of the first documents written about flamenco dance, specifically its teaching, was by Martínez (1969). This has been a reference point for many others. In it, the author notes theoretical and practical aspects of flamenco dance, and this is probably where a proposal of symbols for transcribing zapateado is offered for the first time. It is shown in figure 1:

Figure 1

zapateado notation symbols, basic techniques (Martínez 1969, p.89-90)



In figure 1, on the left, we can see how Martínez shows three stamping positions: “toe”, “heel” and “sole”. On the right, the “tip toe” and “scraped heel” stamps are shown. In total it shows a reduced number of 5 different types of stamp with which the foot strikes the floor, which from now on we will call *basic techniques*. To the right of each position, the author gives the notation in the shape of a foot. For her proposed notation, she uses a silhouette of a foot with the area contacting the floor marked in black. This criterion is used consistently throughout all of the proposed stamp notations apart from the “scraped heel”, which she represents with a black dot in the centre of the heel area.

She also uses the letters “D” and “I” for the right (*derecha*) and left (*izquierda*) feet, respectively, to show the side, and numbers to indicate musical times.

Figure 2

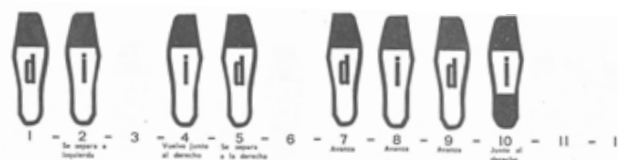
zapateado notation symbols, left and right foot (Martínez 1969, p.88)



In addition, Martínez (1969) shows a series of exercises containing descriptions of forward, clockwise and counterclockwise motion in his notation. Nevertheless, these indications do not present the motion accurately.

Figure 3

Exercises involving foot motion (Martínez 1969, p.115)

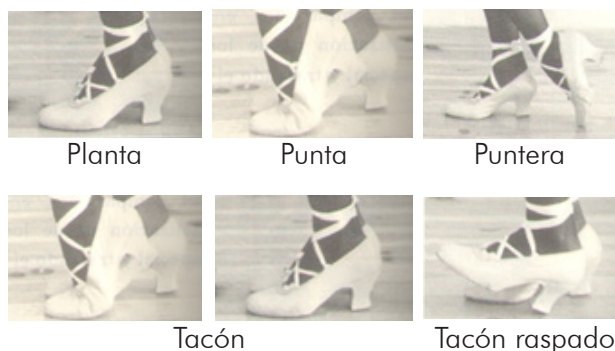


Second proposal: Alarcón (2004)

Another notation system is the one suggested by Alarcón (2004). In it, we can see that the nomenclature for the foot techniques is the same as Martínez suggests (1969).

Figure 4

zapateado notation symbols, basic foot positions (Alarcón 2004, p. 26-30)



Alarcón proposes a technique where the percussion with the floor is not produced as a sharp beat but through friction between the foot and the floor. From here on, this will form part of what are called advanced techniques. He calls this technique “flic-flac” (figure 4).

Figure 5

zapateado notation symbol, flic-flac (Alarcón 2004, p.33)



As shown in figures 3 and 4, Alarcón includes photographs for the different types of technique. However, in his notation, he does not include symbols to represent the foot. Instead, in his notation proposal, he sacrifices the simplicity of the visual for percussion lines and letters as used in traditional percussion notation models, as shown in figure 5. In total we can see that he indicates three percussion lines for three-foot techniques: a percussion line with the letter "P" for the toe (*punta*); a percussion line with "T" for the heel (*tacón*); and a percussion line with "Pl" for sole (*planta*). For the tip of the toes (*puntera*), Alarcón suggests the letter A above the figure on the "P" for the toe line, and for the scraped heel (*tacón raspado*) the letter R above the corresponding figure on the "T" for heel line.

He uses the code D{ for the right foot (*derecha*) and I{ for the left (*izquierda*). Furthermore, it can be seen that the complete rhythmic sequence is shown on the upper percussion line, regardless of the technique or foot used to do it.

Figure 6

zapateado notation symbols, basic foot positions, representation of the foot and rhythm (Alarcón 2004, p.158 and 16)



For the "flic-flac" advanced techniques of zapateado with friction, he uses the letter F above the "P" for toe line: F1 when the direction of the movement of the friction is outwards away from the body, and F2 when the direction is inwards.

Figure 7

zapateado notation symbol, flic-flac (Alarcón 2004, p.17)



The rhythmic aspect of Alarcón's method is based on the traditional Western system of notation, regarding the use of rhythmic figures and time signatures. He selects 12:4 time signatures as a way of transcribing 12 beat flamenco styles. It is also important to note that, as Alarcón (2004) is a musician, what he proposes in his method is a collection of zapateado exercises and steps that have been created by different teachers and professionals from flamenco dance.

Figure 8

zapateado notation symbols, 12 beat time signature (Alarcón 2004, p263)

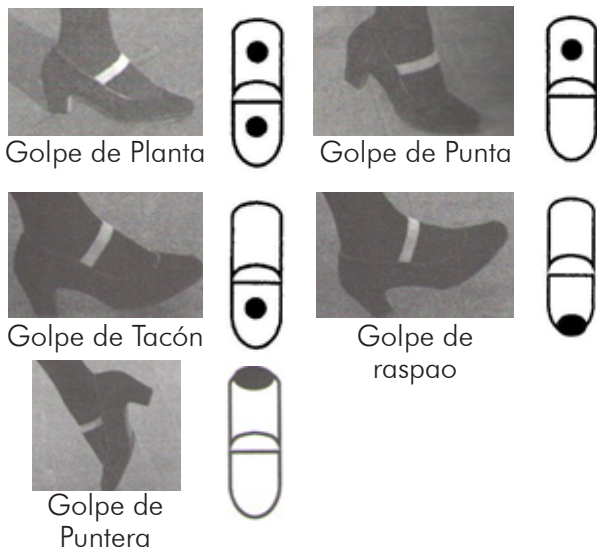


Third proposal: Pablo and Navarro (2007)

Pablo and Navarro use their own system of symbols for flamenco zapateado (2007, p.99). They suggest a different shape to represent the shoe and within this silhouette, they sketch in boldface different shapes in the part of the shoe that makes contact with the floor.

Figure 9

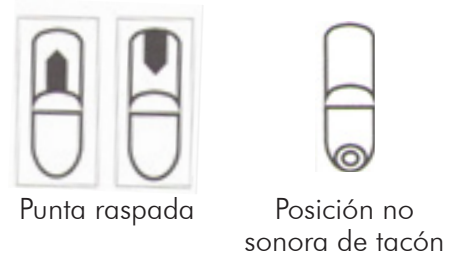
Zapateado notation symbols, basic techniques (Pablo and Navarro 2007, p. 96-99)



direction, with arrows indicating the direction of the movement of friction with the floor, although on this occasion they call it “scraped toe”. The symbol on the right represents *unsounded positions*, with two concentric circles representing the area where the foot is supported without stamping.

Figure 11

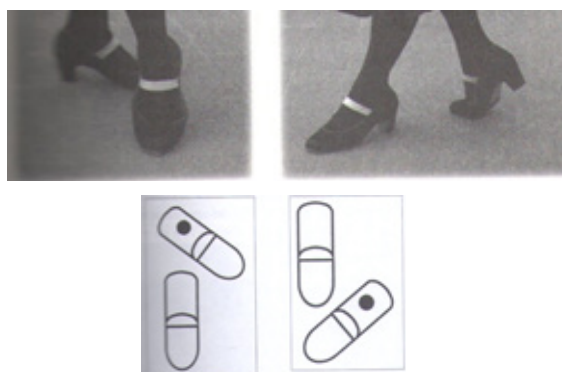
zapateado notation symbols, advanced techniques (Pablo and Navarro 2007, p.97- 100)



The authors also show how all of these types of sounded stamp can be produced with different foot positions as they can cross in front or behind in zapateado. They represent this in their notation system by inserting symbols for crossed feet (figure 9).

Figure 10

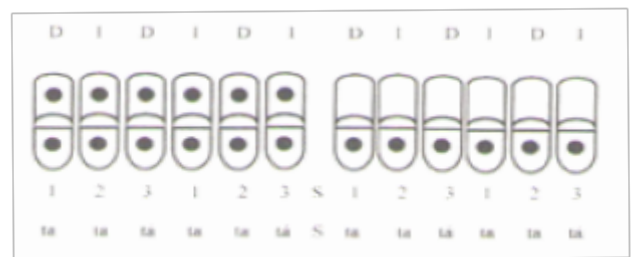
Zapateado notation symbols, crossed feet (Pablo and Navarro 2007, p. 97)



Finally, figure 11 shows the notation for a group of steps which are produced in flamenco zapateado and are known as “escobilla”. These symbols are intended to show: the techniques; the rhythmic aspects with the syllables ta-ta-ta-ta and silence with (s); and the side, using D and I for the right (derecha) and left (izquierda) foot respectively. In the case of the rhythmic indications ta-ta-ta-ta and (s), a syllable cannot offer any reference to the duration of a sound, just as the symbol for silence, (s), cannot indicate the pause time of this silence.

Figure 12

escobilla de tanguillo (Pablo and Navarro 2007, p.114)



Pablo and Navarro (2007), like Alarcón (2004), show other foot positions that are not as basic (figure 10). On the left their method shows the same advanced technique as Alarcón (2004), brushing the foot on the ground without stamping, in a forwards or backwards

Furthermore, with a brief written description, the authors attempt to differentiate between zapateados that involve movement and those that do not: “the first six times involve moving forwards and the next six staying on the spot” (Pablo and Navarro 2007, p. 113). However, the description “moving forwards” does not tell

us precisely where the movement leads to or in which direction it is made, since, as Laban noted, these are ‘descriptions of steps in words, which are inadequate to provide a framework for the movement, or in choreographies that in reality nobody could decipher’ (Laban 1975, p.14). Consequently, in the method of Navarro and Pablo (2007), neither the aspects of movement in the zapateado nor the rhythmic aspects are clear.

Comparative summary of the proposals

To summarise, the contributions by the different authors presented here show eight different aspects of zapateado notation: (1) basic techniques; (2) advanced techniques; (3) side; (4) rhythmic aspects; (5) unsounded positions; (6) foot positions in movement; and (7) compiled transcription of zapateados. Table 1 summarises these aspects. Aspects represented are marked with an “X”. The symbol “~” is used for aspects that are not represented clearly (whether because of visual complexity or because they are represented in an incomplete or deficient form). The square is left blank when the aspects is not represented at all.

Table 1
Aspects represented in the different notation systems

	Martínez	Navarro y Pablo	Alarcón
1 Mecanismos básicos	X	X	~
2 Mecanismos evolucionados		X	~
3 Lateralidad	X	X	X
4 aspectos rítmicos	~	~	X
5 posiciones no sonoras		~	
6 posiciones de pies en el desplazamiento		~	
7 Transcripción recopilatoria de zapateados		~	X

Table 1 shows different properties of the flamenco zapateado notation symbols presented. Not all of them are particularly relevant, for example, the position and movement of the feet when doing zapateado does not have a direct effect of the sound aspect and so would not be a parameter for analysis if we want to know about the musical characteristics of the zapateado. Accordingly, it should be noted that while rhythm is one of the fundamental aspects to take into account in the act of stamping, only Alarcón (2004) shows it fully. Nonetheless, and despite this, his proposal is not simple, as reading the techniques when they are represented by lines and letters is not visually simple and intuitive. Furthermore, flamenco music has cer-

tain distinctive features that must be taken into account when deciding which method to use to transcribe it. Consequently, the peculiarities of the transcription of flamenco music will be discussed below, and some examples of transcription of percussion instruments will also be shown in which the system of symbols is clear, simple and intuitive.

MUSIC IN FLAMENCO

Musical transcription of the flamenco time signature

Flamenco styles have been transcribed in different time signatures and eight different forms are shown: (1) 2x4 time signatures; (2) 4x4 time signatures; (3) 3x4 time signatures; (4) 12x4 time signatures; (5) 12x8 time signatures; (6) 6:8 time signatures; (7) compound 3x4/2x4 time signatures and (8) compound 6x8/3x4 time signatures. Table 2 summarises these aspects. Time signatures in which it has

been transcribed are marked with an "X". The symbol "~" is used to mark ones with transcription criteria that, as in the case of zapateado, could make reading difficult (whether because the transcription is based on melodic aspects, because of the change in time signature or because the figure representing the beat varies). The cells are left blank if this time signature has not been used for transcription.

Table 2
Transcription of flamenco styles in time signatures

Tipos de compás	Transcription	Tangos tientos Marianas Farruca Garrotín Rumba y Taranto				Seguiriya, Soleá, Alegrías, bulerías y Guajira
		Fandangos	Soleá	Seguiriya		
Binarios	Compases de 2x4			~		
	Compases de 4x4			X		
Ternarios	Compases de 3x4	X		X		
Compases de 12 tiempos	Compases de 12x4	~			X	
	Compases de 12x8				~	
	Compases de 6x8			~		
	Compases de 3x4/2x4				~	
	Compases de 6x8/3x4				~	

On the one hand, we can see how the fandango flamenco style has been transcribed in 3x4 or 12x4 time. Transcribing this in 12 beat time signatures takes into account the melodic phrase of the song as each melodic phrase has 12 beats, and so this type of transcription prioritizes the melodic element and is not adjusted to the rhythmic element which is what is present in the zapateado. Consequently, the way to adapt to this instrument would be to transcribe it in 3x4 time.

Different ways of transcribing the tango, tiento, Mariana, Farruca, Garrotín, Rumba and Taranto styles are also shown. These are transcribed in both 2x4 and 4x4 time. These flamenco styles are accompanied with clapping in groups of 4 beats, and so it would be advisable to use the same beat referent chosen for the Fandango, namely, 4x4.

Finally, 12 beat flamenco styles have been transcribed in a variety of ways. Transcribing

12 beat time signatures in other time signatures can make them difficult to read, especially if these time signatures have changes in beat, moving from a minim beat to a quaver beat in each time signature. Nonetheless, transcribing these styles in 12x4 time is a simple visual method which fits the counting method the bailaores—flamenco dancers—use (Gamboa and Núñez 2007). Furthermore, if we consider that in the previous styles, transcribing time signatures in the minim beat has suited us, it would be a good idea to select this same rhythm, namely 12x4, thus simplifying reading (Mathys 1986) and standardizing criteria.

THE MUSICAL TRANSCRIPTION OF RHYTHMIC PERCUSSION

We have already seen how Laban notation is essentially based on body movements. The body movement relating to the sounded motion has also been the object of study in the case of musical performers, where analysis of the movements made when using percussive techniques on the guitar have been studied with Laban notation (Fernandes-Weiss 2018). On other occasions, and taking into account that in Western popular music, drums and percussion are important for emphasizing and giving shape to the rhythm, automatic forms of percussion transcription (ADT) through computational methods have been revised (Wu et al. 2018). In any case, the fundamental way of transcribing the rhythm has been through musical notation systems. There are various forms of musical notation for percussion instruments, especially in contemporary music (Vickery et al. 2017; Hope, 2017). Other studies have focussed on analysing the two main forms of notation with percussion instruments associated with a particular country, as in the case of the Brazilian pandeiro (Gianesella 2012); we regard flamenco zapateado as a percussion instrument, and so its transcription has similar features. Therefore, some aspects of the notation systems for percussion instruments will be set out below.

Side: letters and percussion lines

In various rhythmic notation systems, we find the usual approach of L for left and R for right (Pearcey and Duckett 1992). Another form of notation is proposed by Llacer (1981) who uses D (*derecha*) for right and I (*izquierda*) for left on a staff.

Figure 13

Musical transcription for the right and left: D and I (Llacer 1981, p.63)



In the same way, Martín (1984a and b), uses the letter "D" to indicate the right (*derecha*) and "I" for the left (*izquierda*) on one of his staves. However, in some percussion systems we find single-line staves used to transcribe untuned percussion instruments (Geroy T. and Lusk 2004, p. 159). Two single-line percussion staves are also found, to distinguish between right and left. The right is shown with the upper percussion line and the left by the lower percussion line: this is the case of the Burns & Feldstein percussion method (1985) and the didactic method of López (2006).

Figure 14

Musical transcription for the right and left signs: bigram (López 2006, p.20)



As figure 13 shows, the two percussion lines represent two different rhythms intended for body percussion with the right and left hands or two different instruments. In Spanish dance, as well as stamping with the feet, castanets are used as a percussion instrument to create rhythms. There is a method for learning the rhythm and notation of the castanets (Maleras, 2009b) which also uses two single-line percussion staves, the upper one for the right hand and the lower one for the left hand.

Figure 15

Musical transcription for the right and left indications: two single line percussion staves (Maleras 2009b, p. 29).



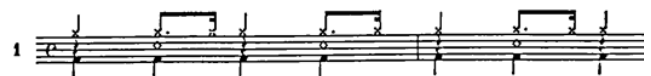
In the transcription methods described, we find two basic ways of indicating right (derecha) and left (izquierda), either with letters (L-R/D-l) or with single-line percussion

is represented by a conventional notehead in the first space. Hi-hat notes are written in the third space with a rhombus symbol.



Figure 16

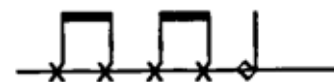
Musical transcription representing percussion: noteheads with crosses and rhombuses (Llacer 1981, p.79)



It is also common to find an "x" as a notehead to indicate clapping (Geroy and Lusk, 2004).

Figure 17

Musical transcription to indicate percussion: noteheads with crosses (Geroy and Lusk 2004, p.152)



Techniques: noteheads and numbers

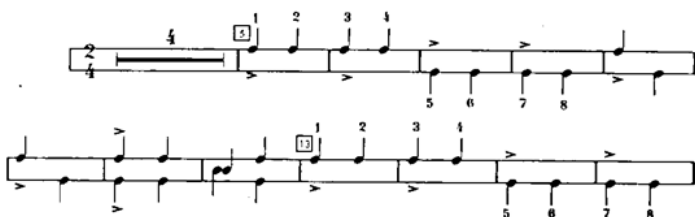
There are various types of transcription to represent different types percussion, whether body percussion with the feet (such as the sole, toe or heel) or the hands (such as the index, finger, ring finger or middle finger) or percussion with different instruments. We can see that most of the transcription methods described use conventional noteheads; however, in various musical notation systems, especially for percussion, the notehead is replaced by other symbols to identify different types of impact or instrument. With drums, for example, Llacer (1981) uses the lines of the staff and different symbols as noteheads to indicate the different instruments which create the rhythm. Figure 16 shows that in the space above the top line of the staff, the notehead representing playing a cymbal with the right hand is marked with an "x". Playing the snare drum using the left hand

Another way of representing percussion sounds is the one proposed by Maleras (2009a) using numbers to indicate which fingers make the sound on the castanets. The numbers 1, 2, 3 and 4 appear above the note symbol on the upper line and the numbers 5, 6, 7 and 8 on the lower percussion line, below the note. As figure 19 shows, on the upper percussion line, finger 1 represents the little finger of the right

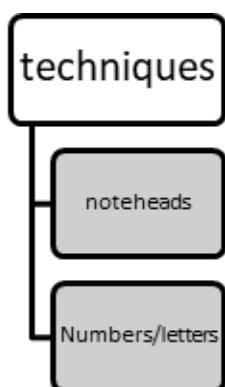
hand, finger 2 is the ring finger, 3 the middle finger and 4 the index finger. The same finger sequence is established on the lower line, using number 5 for the little finger, 6 for the ring finger, 7 for the middle finger and 8 for the index finger of the left hand.

Figure 18

Musical transcription representing percussion with the fingers (Maleras 2009, p. 30)



In summary, depending on the transcription methods described and how the percussion is produced, we find the notehead replaced by symbols and we also find the use of numbers (figure 17) or letters (figure 5) to represent the finger or part of the foot that strikes the floor.



PROPOSED NOTATION FOR LEARNING FLAMENCO ZAPATEADO

In the first part of this study, we examined the different notation methods for flamenco zapateado. Table 1 showed a series of aspects that are present to a greater or lesser extent in each of the proposals presented. After analysis, and treating flamenco zapateado as a percussion instrument, rhythmic aspects were covered in greater depth with aspects covered by other authors, such as non-sounded positions or positions in motion, which are linked to movement being ignored. Furthermore, and taking into account that it is a didactic proposal, the use of visually simple forms of transcription to

facilitate learning was considered. This would affect how techniques, side and rhythm are transcribed. The next three subsections will be dedicated to describing each of these aspects, and then the didactic proposal for notation in its different methods will be presented.

The techniques

The ways the foot strikes the floor will be indicated using symbols that representing the shape of the foot and will be inserted as noteheads, as this is felt to be visually simpler for transcribing the zapateado as seen in the transcription of other types of percussion (figure 15).

Figure 19

flamenco zapateado notation symbols (De las Heras-Fernández 2015, p.10)

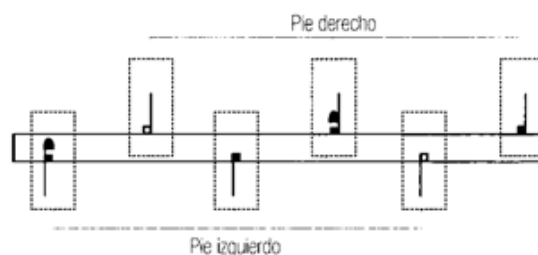


Side

The right and left foot are shown with percussion lines, indicating the right foot on the upper line and the left foot on the lower line. This is a simple transcription method and is similar to the transcription of castanets (figure 17).

Figure 20

Right and left indications (De las Heras-Fernández 2015, p.14)



Rhythm

A single note symbol (the crotchet) is used to transcribe the different flamenco time signatures (3:4, 4:4 and 12:4) as in Alarcón's proposal (2004), since as well as simplifying reading, it better fits the needs of the instrument being transcribed, in this case the zapateado. Also,

the rhythm uses a standardised system based on traditional Western musical notation, thus facilitating its dissemination.

Figure 21

3:4 time signature (De las Heras-Fernández 2015, p.17)



Figure 22

4:4 time signature (De las Heras-Fernández 2015, p. 62)

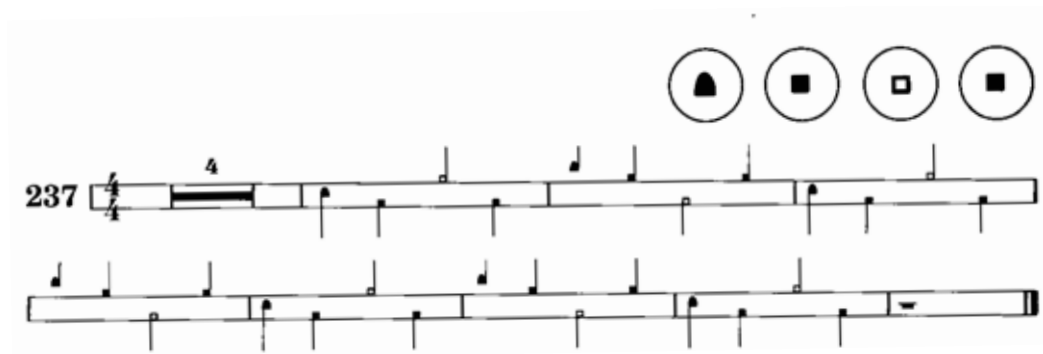
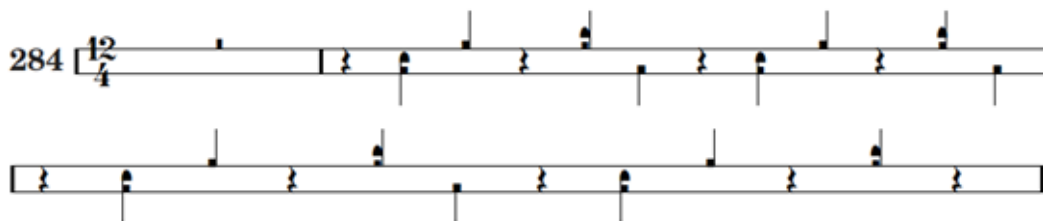


Figure 23

12:4 time signature (De las Heras-Fernández 2015, p. 71)



DIDACTIC PROPOSALS FOR NOTATION

A didactic treatment has still not been performed by any of the methods of notation for zapateado described above. It should be noted that the aim of this didactic proposal is for the student to learn the notation at the same time as doing zapateado, since rhythm has to be the basis of the student's first experience of learning

music and this should initially be taught through the auditory and kinaesthetic experience, instead of learning through written notation (Jacobi, 2016).

This proposal is set out in two publications in audiovisual formats, Autor 1, 2012, a, b and c

and Autor 1, 2015). As well as text, they include musical scores with the notation, on paper or audiovisually. Both formats offer sequenced exercises, with content progression that takes into account motor aspects, for the ways the foot strikes the ground, starting with the simplest ones, namely sole and heel block, before then introducing others such as the ball of the foot, heel edge and toe. Both proposals also take into account the sequencing of rhythmic aspects depending on their difficulty, starting the study with simple rhythms (crotchets) in strong beats (thetic) and then moving on to other more developed rhythms including acephalous or anacrusic beginnings.

Notation proposal for learning flamenco zapateado (De las Heras-Fernández 2012)

The book-DVD (Autor 1 2017) is translated into three languages—Spanish, English and Japanese—and contains general indications about the notation symbols, definitions of rhythmic concepts and characteristic sonic aspects of zapateado percussion, as well as an introduction to the characteristics of flamenco music, such as the rhythm and the transcription of time signatures. The DVD comprises the following chapters: 1-presentation; 2-technical questions (presentation of symbols, steps and rhythms with different syllabic metres; and 3-exercises with the different steps and rhythms. Different flamenco styles are included, such as alegrías, guajiras, soleá por bulería, fandango, seguiriya and tangos, with exercises for steps in different rhythms: crotchets, quavers, triplets and semiquavers. Different audio tracks can be selected for practising them, including as well as the track for feet, musical foundations such as guitar, clapping and metal taps in different combinations. In all of these options, at the same time that the movement of the exercise is being viewed, the notation passes by shown with a green line. The time signature is shown in the top right in the form of a clock. The green line indicates the beat of the zapateado at that moment. In addition, in the upper part the notation is indicated and also through a green line the rhythmic figure is shown while the movement is performed.

Figure 24

Alegrías, exercise for all rhythms, ball of the foot, heel toe (De las Heras-Fernández, 2012a)



Notation proposed for learning flamenco zapateado (De las Heras-Fernández 2015)

The second didactic proposal is presented in a book-CD format with scores. Section 1 sets out the characteristics of flamenco, the dance and a brief description of the 14 flamenco styles in the method: fandango, tangos, tientos, farruca, alegrías, soleá por bulerías, bulerías, guajira, seguiriya, serrana, tanguillos, jaleos, soleá and taranto. Next, the structure of a flamenco dance is described. Section 2 explains the zapateado style along with its main movements. Section 3 explains the basic and specific musical concepts of flamenco music. Section 4 covers the notation of zapateado and section 5 covers the different blocks of exercises, grouped according to their time signatures. Block 1 contains exercises in flamenco styles transcribed in 3x4 (fandangos and jaleos), in block 2, those transcribed in 4x4 (tangos, tientos, taranto farruca and tanguillo), in block 3, those in 12x4 time but ending on the eleventh beat (seguiriya, serrana and guajira), and in block 4, exercises that end on the tenth beat (alegrías, soleá, soleá por bulería and bulería). The method comprises 398 crotchet exercises in the flamenco styles listed. At the end the syllabic metres proposed (Autor 1 2017) for learning 12 beat flamenco time signatures.

Table 3 shows the different properties of the flamenco zapateado notation symbols that are presented, including the aspects presented in this latest proposal. The initial analysis in table 1 reveals that De las Heras's proposal (2012a,b,c and 2015) omits aspects relating

to movement and focusses on the rhythmic aspects. The only author to represent the rhythm completely is Alarcón (2004), and in this way the proposal by De las Heras (2012 and 2015) coincides with him and with other authors listed in section 3.1. by using 3x4, 4x4 and 12x4 time signatures, combining the crotchet pulse for all flamenco styles. Nonetheless, and unlike De las Heras, (2012 a,b,c and 2015) the system proposed here uses a different type of symbols to show the techniques, given that Alarcón's one (2004) was not visually simple. Following the critical review of the forms of notation for

percussion instruments, it was decided to incorporate the techniques as noteheads, and show the right and left with percussion lines as this is visually clearer and more intuitive. Finally, and going beyond the mere listing of steps that Alarcón proposes (2004), De las Heras (2012a,b,c and 2015) includes for the first time a didactic proposal of sequenced exercises for learning the rhythm and the notation.

Table 3
Comparison of features of the proposal and the other systems of notation

	Martínez	Navarro y Pablo	Alarcón	De las Herras
1 basic techniques	X	X	~	X
2 Advanced techniques		X	~	
3 side	X	X	X	X
4 rhythmic aspects	~	~	X	X
5 unsounded positions		~		
6 foot positions in movement	~	~		
7 compiled transcription of zapateados	~	~	X	
8 didactic proposal				X

DISCUSSION

This research has focussed on examining the existing notation systems for flamenco zapateado as well as other related notation systems through a literature review in order to offer a didactic proposal for notation that provides a solution to the shortcomings identified in this analysis.

This study's first aim was (a) to analyse the existing flamenco zapateado notation proposals. The study identifies the characteristics and features of the different flamenco zapateado notation systems. As a result of this analysis, it has been possible to identify shared and specific aspects of the zapateado notations as well

as the differences found which reveal strengths and weaknesses of the systems that serve as a starting point to continue with the study's following aims.

The second aim was (b) to describe the basic and specific features of flamenco music in order to transcribe its rhythm. Theories from relevant authors about the particular features of flamenco music and its different transcription styles are presented. Some simple forms of transcription for related percussion instruments such as drums and castanets are also provided as possible reference points on which to base a proposal for flamenco zapateado notation.

Finally, a didactic proposal is presented, based on zapateado notation. This is a visually clear and intuitive tool to facilitate the learning of the rhythm and notation of zapateado. This work presents two didactic proposals in different formats: 3 book-DVDs and a book-CD, with exercises in different flamenco styles, different rhythms and options that can be chosen for practising them, as well as a progressive sequence of content that takes into account motor and rhythmic aspects. However, it should be noted that these proposals have their limitations. There are numerous flamenco styles and the book-DVD format includes six styles, while the book-CD includes fourteen. Although the most common styles usually danced are shown, others could always be included. Furthermore, the advanced techniques are also not included, which nowadays are covered almost from the start of study. These more developed types of stamping would have to be introduced in other volumes or as appendices in each of the volumes presented. Finally, another of the weaknesses they display is the lack of standardisation in the notation. An open musical notation system, such as Music XML, would have to include this system of symbols, as this system is supported by different musical notation programs, including the best-known ones like Sibelius and Finale. This way, anyone could edit, create, disseminate and register their own zapateado rhythms in a comprehensive and universal system.

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