

INTERDISCIPLINARY DOCTORAL SCHOOL

Faculty of Music

VLAD ISAC

Contribution to the evolution of the drum – orchestra system

SUMMARY

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BRAŞOV, 2024



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July 30, 2024, at 12:00 PM, room ZI7 (Z Building).

Any feedback or remarks on the content of the thesis are kindly requested to be sent in due time to the email address: vlad.isac@unitbv.ro.

We also invite you to attend the public defense session of the doctoral thesis.

Thank you.



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INTRODUCTION

The history of the drum set is closely linked to the history of jazz. In fact, it is the only instrument invented by jazz (Viehmann and Zdrenghea 2000, 87). Therefore, in the present research, highlighting the significant moments in the history of jazz music will be a priority.

The drum set represents "a group of percussion instruments operated by a single instrumentalist" (Paṣcanu 1980, 155). The idea of associating the drum set with the term orchestra-system is precisely related to this aspect. Similar to a classical orchestra, which consists of several sections of instruments, the drum set is an ensemble of rhythmic instruments with specific sonorities, a small orchestra that proposes a broad, complex sound.

The elements are operated by a single performer who has, over time, created a system of thinking and organization, an efficient working method to make the elements sound as one. It is a lengthy process, and the starting point is the emergence of jazz music, with which, as mentioned, the instrument is associated.

The research is structured into four chapters.

The work begins with an overview of the evolutionary trajectory of the drum set from the perspective of stylistic periods. This is because the rhythmic apparatus and, implicitly, the drum set, has been a defining component in the emancipation of those aesthetics.

The entire process will be accompanied by details regarding the evolution and innovations brought to the drum set – for example, I will highlight aspects related to the role of the percussionist and the development of the perspective of operating an ensemble of percussion instruments, the emergence and evolution of the pedal, the initial phase of the drum set, and innovations brought to the drum set throughout the stylistic periods.

In the final part of the chapter, I have chosen to outline some ideas related to the emergence and development of jazz in Romania.

The second chapter will be dedicated to the playing techniques used to operate the elements of the drum set. In the first part, I will outline some ideas related to the standard instrument and note certain aspects regarding the correct body position and the placement of the instrument. Following this, I will discuss the two indispensable components for operation and performance – the drumheads and the drumsticks. In the second part of the chapter, I will



focus on the proper grip of the drumsticks and playing techniques, and the final aspect I will address refers to the rhythmic exercises (rudiments) created specifically for this instrument.

In Chapter III, I will discuss the approach to the main styles intended for the instrument and the expansion of the spectrum of timbres associated with the drum set. The final chapter will capture aspects related to the modern timbre of the drum set as an orchestra-system. The focus is on the modern language of the instrument, namely the fusion style.

The chapter is divided into three parts: the first refers to personalities associated with the aesthetics (this segment is dedicated to drummers who have approached this style), the second presents one of the most representative figures of contemporary fusion style, Dave Weckl, along with a series of analyses of some of his landmark works, and the last is dedicated to the works created by myself, included in the album *The Angle of Circles*, which explores the fusion direction.

The research revolves around the rhythmic parameter, thus the examples and analyses of the musical works will focus on its exploration – capturing stylistic, aesthetic, and technical particularities. The ultimate goal is to provide the performer with the means to adopt a cohesive and faithful interpretative conception based on an objective analysis of the rhythmic factor, which is crucial for performance.

By analyzing existing literature and investigating relevant themes, I have tried to bring a new, contemporary perspective on the subject. By adding personal contributions that reflect the assimilation of knowledge and experience gained over time, this scientific study makes significant contributions to the field, broadening our understanding of the subject and providing a solid foundation for future research.



I. THE EVOLUTIONARY PATH OF THE DRUM SET FROM THE PERSPECTIVE OF STYLISTIC PERIODS

The drum set we know today represents an evolved version of the rudimentary instrument as it appeared at the end of the 19th century to the first half of the 20th century. Specifically, by the end of the 19th century, certain elements of the drum set were already being incorporated into various musical activities, and it is only from the 20th century that we can speak of a standardized instrument.

I.1. The Origins of Jazz

Jazz is the result of the fusion of the musical traditions of African peoples – work songs, spirituals or negro spirituals, and ritual dances – with those from the European space (Viehmann and Zdrenghea 2000, 20), encompassing aspects related to instrumentation, formal structure, harmony, and tonality.

I.1.1. The Beginnings of African American Music

Certainly, the earliest forms of music can be considered those mentioned previously (work songs, spirituals, and dances). In this context, other representative forms began to develop: minstrel shows, ragtime music, and blues (Martin & Waters 2009, 17).

1.1.2. Minstrels

Minstrels were a form of musical theater and variety show that flourished in the 19th century (1845-1900), performed for and by white people. These shows consisted of a succession of acts that included songs and dances specific to the African American population (Berindei 1976, 183) or jokes, and they claimed to depict the life of black people on plantations. In reality, however, their aim was to caricature them and highlight negative traits. Starting in 1865, the



African American population, freed from slavery, began to propose their own minstrels, performed entirely by African American actors and singers.

I.1.3. Ragtime

Ragtime denotes the primitive form of jazz music (1896-1917). It resulted from the combination of African American folklore (cake-walk and coon song) with the dance music specific to European populations (polka, minuet, march, quadrille), from which it borrowed elements related to melody and harmony (Berindei 1976, 218). It should be emphasized that ragtime established itself as a genre of music created (thus specially composed) for the piano. However, ragtime was soon adopted by instrumental groups.

I.1.3.1. The role of the percussionist and the formation of the perspective of operating an ensemble of percussion instruments

Starting in 1865, percussionists participated in activities conducted in theaters – such as skits and vaudeville shows. Initially, there was a percussionist for each individual element, which limited stage space and increased costs. Soon, it was proposed that a single instrumentalist should operate two elements synchronously (snare drum and bass drum) – introducing the first polyrhythm, with the basic technique being double rhythmization. The technology for manufacturing cymbals and other percussion elements was continually developing, and even in the approach to the ragtime style, an expansion of the coloristic palette could be observed.

I.1.3.1.1. The Emergence and Evolution of the Pedal

William F. Ludwig (1879–1973), dissatisfied with the poor quality of the wooden pedal (which was unsuitable for the rapid playing style of jazz), decided to construct a metal pedal that soon went into mass production under the Ludwig brand. Regarding the hi-hat element, an important step in its development was the Charleston pedal – both cymbals are placed parallel to the ground, and the sound is produced by actuating the upper element (Matt 2012, 199).



The next step (1920) was mounting the hi-hat on its own stand and raising it above the snare drum (positioned to the left of the set).

1.1.4. Blues

The unique character of blues expresses sadness, guilt, and sometimes despair, telling stories of a life full of pain and the need to endure; it sometimes contains traces of humor and a suggestion of licentiousness (Martin & Waters 2009, 36). Here, individual expression, monologue (Mouëllic 2015, 34), and a specific mood of creation are paramount.

I.1.5. Early forms of african american music and their relationship with jazz

The boundaries between the dominant musical styles of the time cannot be firmly drawn; on the contrary, the dynamics of the era made their coexistence and mutual influence possible. It was natural for some genres to coexist and develop in parallel, while others, dominant at a certain time, were absorbed or became the foundation upon which the architecture of a new, modern musical direction would be built, closely aligned with the demands and needs of the time.

I.2. The beginnings of jazz

At the end of the 19th century, musicians, inspired by the spontaneous performance practices of ragtime and popular music, began to adopt freedoms similar to those of jazz. However, while jazz-like styles were already evolving across the country, the place where jazz crystallized remains New Orleans. It was here that the Dixieland style gained prominence. Other important urban centers where jazz developed include Chicago, New York, and later, Kansas City.

I.2.1. New Orleans

New Orleans was the site of the most formidable cultural mix in United States history (Mouëllic 2015, 27). In the first two decades of the 20th century, the city experienced a highly vibrant



musical scene. The musical style bearing its name was based on collective improvisation and was characterized by simplicity, freshness, and joy.

I.2.2. Evolution of lazz Bands

Jazz bands evolved from various types of groups, including dance orchestras, brass bands, and string orchestras (Martin & Waters 2009, 46). Typically, there was a horn section consisting of trumpet, trombone, and clarinet, and a rhythm section composed of piano, banjo or guitar, bass or tuba, and drums.

I.2.3. Exodus from New Orleans and Migration North

Toward the end of the first decade of the past century, many musicians began leaving the city of New Orleans (a phenomenon known as the Great Migration). Extended engagements offered in Chicago, and especially the high level of musical competition, resulted in the creation of distinctive ensembles, the development of individual improvisational skills, a higher level of virtuosity, and the production of fast-paced compositions (Martin & Waters 2009, 50). Inevitably, white musicians in Chicago were influenced by the interpretive style of African American musicians from New Orleans, leading to the development of the Chicago style (1924–1930).

I.2.4. The emergence of jazz recordings

During the period of 1910-1920, recordings were used to promote live performances by various bands. As their quality improved, recordings became a decisive means to increase the visibility of artists and their creations (Martin & Waters 2009, 50). In 1917, Victor Records made the first jazz recording with Nick LaRocca (1889-1961), the leader of the Original Dixieland Jazz Band. Subsequently, white bands such as the Louisiana Five, Original New Orleans Jazz Band, and New Orleans Rhythm Kings made recordings following the model set by the Original Dixieland Jazz Band, significantly contributing to the establishment of the Dixieland repertoire.



I.2.5. Jazz in New York

While jazz musicians from New Orleans were active in Chicago, the African American community in Harlem, New York, transformed jazz into a significant cultural force. Early manifestations of the musical style can be traced back to military bands and various ensembles accompanying social gatherings (balls). Pianists such as Eubie Blake (1887–1983), James Price Johnson (1894–1955), and Fats Waller (1904–1943) introduced jazz rhythms into Broadway shows, laying the foundation for the swing era.

1.2.5.1. The Harlem Renaissance and the School of Jazz Piano Playing

The promotion of African American artists and composers, along with the incorporation of African American music into broader concert forms, was the focus of activity in Harlem. These events allowed many jazz pianists from Harlem to develop their technique and creativity – including James P. Johnson (1894–1955), Willie 'The Lion' Smith (1893–1973), Thomas 'Fats' Waller, Luckey Roberts (1887–1968), and Duke Ellington (1899–1974).

I.2.6. Jazz in Europe

Especially during the transitional years from ragtime to early jazz, several American jazz artists and groups performed concerts in Europe, contributing to the promotion of interest in this musical genre. European musicians also formed jazz bands in France, Germany, Belgium, and even in the Soviet Union.

I.2.7. Early stage of the drum set

In 1913, wire brushes emerged as a necessity for musicians to reduce sound intensity. Additionally, jazz favored the development of cymbal manufacturing companies, exemplified by Zildjian.



1.3. The Swing Era

During the Great Depression (1929), people found solace in jazz concerts. Now, Big Bands began to dominate large stages and became an essential component of radio orchestras. This period was the predominant musical style for approximately 10 years, hence known as the Big Band era. It ran parallel with the swing and jazz of the 1930s.

I.3.1. The Big Band in the Swing Era

A Big Band was a jazz ensemble typically comprising 16-20 musicians with roughly equal numbers in each section: reeds (saxophone, clarinet), brass (trumpet, trombone), and rhythm section (piano, drum set, guitar, double bass). By the end of the 1930s, there were over 200 Big Bands performing.

1.3.2. Gospel Music

Gospel represents a modern variant of Negro spirituals from the late 1930s. It acknowledges two interpretive styles: the European manner of interpreting Negro spiritual themes (bel canto style) – secular songs, and the interpretive style of the African American population (churchy style) – more authentically emotional and captivating.

I.3.3. Gene Krupa: an innovative vision of the drum set

Gene Krupa (1909-1973) reduced the drum set to four elements (bass drum, snare drum, tomtom, and floor tom), advocated for a raised positioning of the entire system, and discussed for the first time the utility of using a resonant head alongside the classic batter head.

I.4. *lazz* in the 1940s

I.4.1. The beginnings of modern jazz: Bebop Style

Bebop is a musical style that marked the beginnings of modern jazz. Its main characteristics include an aesthetic rooted in improvisation, with a focus on individual solos and interpretive



virtuosity. It is dynamic, energetic music involving more complex rhythmic structures, certain dissonances, pronounced discontinuities, and surprising chromatic effects.

1.4.2. Rhythm and Blues

Rhythm and blues is the dance music of the African American population. It is characterized by simplicity, expressive amplification, emphasis on weak beats, and predominant use of blues themes. Initially, rhythm and blues referred to rhythmic or sentimental songs, dances, blues, and gospel. However, starting from 1955, it denotes a rhythmic style that straddles the line between jazz and rock (Berindei 1976, 222).

I.4.3. Innovations in the Drum Set in the 1940s

One of the most important aspects concerns replacing larger drum sets with smaller ones. In contrast, cymbals with larger dimensions than those existing until then are built – see the ride cymbal. Another major change was proposed by the instrument manufacturer Gretsch – whereas until then a solid steam-bent wood shell was used in instrument construction, now they began to use multiple layers of ply joined together.

I.5. The 1950s: New Subgenres of Jazz

The main trends of the 1950s were cool jazz and hard bop. The latter influenced the emergence of styles like funky jazz or soul jazz. Other trends that developed during that period include third stream music and modal jazz.

1.5.7. Innovations in the Drum Set in the 1950s

Starting from 1952, musicians added a second bass drum to the initial drum set. The first musician to use two bass drums was Louie Bellson (1924-2009). Another significant innovation from the same period was replacing animal skin heads with synthetic heads – the first of its kind was produced in 1953 by Jim Irvin for Sonny Greer. Remo Belli and Chick Evans were the ones who developed and improved the quality of this product.



I.6. Jazz in the 1960s

I.6.1. The Avant-Garde of the 1960s

The 1960s brought stylistic innovations to jazz, leading directly to the formation of controversy surrounding the avant-garde movement. This controversy reflected the concern of its proponents for the acceptance of their music by a wider audience versus the originality resulting from experimentation. The conflict was amplified by the direction proposed by the avant-garde, particularly its main driver, free jazz – a confrontational approach that opted to dismantle any pre-established framework. Free jazz is characterized by its energy, emotion, intensity, and imprecision.

I.6.2. The Direction of Traditional Jazz

Alongside the avant-garde movement of the 1960s, more traditional styles of jazz continued to evolve, such as straight-ahead jazz. Rooted in the music of the preceding two decades, straight-ahead jazz emphasizes maintaining a classic style, including a preference for acoustic instruments and adherence to conventional instrument roles and rhythmic patterns.

I.6.3. Funky/Soul Jazz

During the 1960s, funky jazz continued to attract musicians seeking a more direct communication with audiences than what cool jazz or free jazz could offer. Within this context, soul jazz developed and initially became associated with Cannonball Adderley's quintet (1928–1975).

I.6.4. The Legacy of *Hard Bop* in the 1960s

Throughout the 1960s, many jazz artists continued the tradition of hard bop. Representative figures of this period included Lee Morgan (1938–1972), Freddie Hubbard (1938–2008), Wayne Shorter (1933–2023), and Joe Henderson (1937–2001).



I.7. Jazz in the 1970s

After 1970, jazz embraced pluralism as a premise of its own condition. Additionally, starting from this decade, discussions arose about the tolerant spirit of musicians adopting different styles (Mihaiu 1985, 187-188).

I.7.1. Considerations on the phenomenon of rock

Rock and Roll aims at the exaltation and rhythmic frenzy, a strong emphasis on weak beats, using riffs, and various sound effects (Berindei 1976, 224). Appearing in the 1930s, it was popularized two decades later.

Rock and Roll is responsible for the subsequent development of the Rock style. The latter represents a way of thinking and expressing ideas, a protest against conformity, convention, and stereotypes.

1.7.1.1. The Beatles

The music of the 1960s is dominated by The Beatles phenomenon, which stands as one of the greatest successes in the history of Rock music. Regarding the rhythm section, one of the most significant changes concerns the grip position of wooden drumsticks: Ringo Starr proposed replacing the traditional grip with matched grip.

1.7.2. Fusion style

Fusion style emerges as the main promoter of jazz in this decade. It involves incorporating elements of rock, soul, and funk into jazz music; diverse exoticisms are created to spice up jazz music (Mouëllic 2015, 157).

I.8. *lazz* after 1980

In the 1980s, there was a proposed return to the traditionalism of jazz, a reconnecting with its roots; thus, a revival of acoustic formats and post-bop approaches from the 1950s and 1960s.



I.8.1. The 1980s. Revisiting repertoire from the early decades of the phenomenon

The main objectives of musicians in the 1980s focused on performing the representative works of the most renowned artists in jazz history (the jazz repertory movement), and reissuing complete works of early jazz artists on CDs.

I.8.2. The development of digital technology and its impact on jazz

MIDI technology became an essential component for pop-jazz and avant-garde artists. Generally, their extensive use of electronic components and MIDI distinguishes them from the traditionalist musicians discussed earlier. Equally important, the transmission of tracks on radio, the internet, and the digital MP3 format played a decisive role in music sales, live streaming, and the storage and reuse of recorded music.

1.8.3. Avant-garde, Crossover and World Music

Under the category of crossover music are jazz fusion, Latin jazz, and neo-swing because they propose a blend of styles aimed at attracting listeners from the genres that form this amalgamation. Since the 1980s, crossover has also been linked to styles of World Music.

I.8.4. The future of *lazz*

There is a noticeable imbalance between significant artists from the first and second halves of the last century. The repertoire (and materials) of deceased artists is much larger than that of contemporary artists. Furthermore, it can be observed that many young jazz artists currently receiving attention are somewhat traditionalists, distancing themselves from what is new and attempting to revalidate the past.

I.9. Jazz in Romania

From its early manifestations in the 1930s until 1963, Romanian jazz was considered entertainment, possibly light music (Vasiliu 2020, 279). An extremely important contribution to the promotion of jazz was made by the Electrecord record label and its musical ensemble,



founded by Theodor Cosma (1910-2011), as well as the inclusion of jazz in television programs and the publication of articles in specialized magazines.

In the context of the so-called political thaw during the period 1962-1971, a series of events favored the development of the musical genre in Romania – concerts were organized, the Jazz Electrecord Series was initiated, and the first Jazz Festival took place in 1969 in Ploiesti. The official liberalization that began in 1965 ended in 1971.

The political change in 1989 offered organizers the opportunity to invite renowned musicians from various geographic areas.

I.9.1. Key promoters of *jazz*

The principal promoters of jazz music include Cornel Chiriac (1941-1975), Mihail Andricu (1894-1974), Mihai Berindei (1907-1992), Florian Lungu (born 1943), Octavian Ursulescu (born 1947), Alexandru Şipa (1946-2023), Doru Ionescu (born 1965), Mihai Godoroja (born 1966), Cătălin Ștefănescu (born 1968), among others.

I.9.2. Notable representatives of Romanian Jazz

Romanian musicians readily adopted styles originating from the American jazz scene. Other musicians developed suitable means for spontaneous musical expression reflective of the Romanian ethos (Mihaiu 1993, 34).

I.9.3. Easy listening music in Romania. Interferences with jazz music

Composers of easy listening music drew inspiration from Romanian folklore, creating romantic ballads and waltzes. Additionally, there existed a segment of music that echoed influences from jazz and Dixieland. Some composers also chose to integrate Latin American rhythms.



II. REPERTOIRE OF PERFORMANCE TECHNIQUES IN THE DRUM KIT SYSTEM

II.1. Drum Kit setup. Standard configuration

II.1.1. Elements of the Drum Kit

The standard drum kit includes the bass drum, snare drum or snare, floor tom, and typically two rack toms. Additionally, it incorporates a set of cymbals, comprising essential components such as the hi-hat, ride cymbal, and crash cymbal. Another crucial category is the hardware set (stands and mounts).

II.1.1.1. Tom instruments

The tom can be played with drumsticks, brushes, a combination of brush and stick, hands, or fingers. Dampening effect is achieved by placing one hand on the drumhead while striking with the other hand (Gâscă 1998, 27).

II.1.1.2. Snare Drum

The snare drum consists of a cylindrical shell made of wood, aluminum, or brass, typically with a depth of 10-20 cm and a diameter of 13-16 inches. Its primary role is to mark the rhythm with maximum precision and is used to articulate various types of beats. The timbre of the snare drum is bright, penetrating, slightly rough, with a buzzing quality (due to the snare wires attached to the bottom head).

II.1.1.3. Cymbals

The concept of using Turkish cymbals within the drum kit is credited to drummer Vic Berton (1896-1951), who invented the Charleston cymbal, known today as the hi-hat or hi-hat



cymbal. Various types of cymbals are used within the drum kit, each capable of producing different pitch ranges: high, medium, or low.

II.1.1.4. Playing techniques of Drum Kit elements

The elements of the drum kit can be played with drumsticks to produce a powerful, direct, and precise sound, or with brushes, which create a more subtle and distinctive tone.

II.1.2. Aspects of correct body position and instrument placement

Correct body position and arrangement of the drum kit elements are crucial aspects that performers must consider to minimize effort and facilitate ease of execution (Neagu 2016, 17). The primary considerations include adjusting the stool height and arranging the drum kit elements at heights and distances that promote natural, relaxed playing.

II.2. Drum Kit heads

From the accidental discovery of the sound produced by stretching reptile skin over a hollowed piece of wood or clay, and experimenting with various types of animal skins, the 20th century saw the adoption of synthetic polyester films for drum heads.

II.3. Drumsticks

Among the most popular materials used for making drumsticks are rosewood, maple, American hickory, and Japanese oak. Alternatives to traditional wooden drumsticks include *Rhythm Saw, hot rods, brushes, mallets,* and *double-headed sticks*.

II.4. Holding positions and drumstick techniques

II.4.1. Basic positions

For professional execution, it is essential for the percussionist to develop a drumstick holding technique that is relaxed and natural. There are two main grip techniques: matched grip and traditional grip.



II.4.1.1. Traditional Grip position

While the right hand holds the drumstick with the palm facing downward, in the left hand, the drumstick is held with the palm facing sideways. The point of intersection between the thumb and index finger creates a pivot point (the musician finds a comfortable position towards the inner corner), at a quarter stick distance from the thickened end.

II.4.1.2. Matched Grip position

Matched grip involves holding the drumsticks identically with the palms facing downwards. This grip allows for the use of various drumming techniques and the interpretation of multiple musical styles. It also requires fewer muscles to execute strokes and provides the opportunity to master proper technique.

II.4.2. Rudiments. Brief history

Basic rhythmic exercises, also known as rudiments, are patterns for using drumsticks traditionally employed by military bands and classical percussionists. Their role is to enhance the fluidity in approaching rhythmic exercises and rhythms in general.

Among the most commonly used rhythmic exercises, I will select a few variants which I will present below.

Single Stroke involves the execution of two consecutive sounds continuously. The basic rule is to alternate hands (right-left or left-right), regardless of which hand starts; the same hand cannot strike twice.

Double Stroke consists of consecutively executing two sounds with the same hand, followed by the other hand mirroring this pattern (right-right-left or left-left-right-right). This exercise utilizes subdivisions of the beat performed on the snare drum.

Paradiddle is a combination of Single and Double Stroke techniques (for example, right-left-right-left-left). It employs sixteenth notes, emphasizing the first subdivision of each group of four values; it is a rhythmic pattern that mimics speech accents (Ramsay 1997, 47).



The Flam is an ornament represented by an appoggiatura applied to rhythmic patterns. The appoggiatura is created by placing one drumstick halfway between the drumhead surface and the other drumstick in the attack position. Thus, the sound of the first stroke is soft, without accent, while the stroke executed by the other drumstick contains the accent.

Also known as a *drag*, it is a double appoggiatura executed by the same hand, with the accented beat played by the other hand (Adler 1942, 45); executing this rudiment involves using sixteenth-note or thirty-second-note values.

II.4.3. Drumhead Technique

The membrane of the percussion instrument can be struck with the hand, wooden drumsticks, or brushes. While percussion instruments from certain cultures are predominantly struck with the hand, in European and American music, wooden drumsticks or brushes are predominantly used.

II.4.3.1. Wooden drumstick Technique

Basic Stroke is the standard approach where the drumstick strikes the center of the drumhead to produce the vibration throughout the entire instrument.

Rim-shot technique involves striking the drumhead simultaneously with the drum rim. By hitting near the center of the drumhead, it produces a powerful sound suitable for rock, Rock'N'Roll, and pop music. Moving the drumstick halfway between the center and the edge creates a higher-pitched sound, ideal for funk and jazz. Striking closer to the edge with the tip of the drumstick produces an even higher sound, suitable for salsa, bossa-nova, and clave rhythms.

To execute a **cross-stick**, the drumstick is turned so that the tip is placed on the drumhead surface near the edge. The stick pivots upwards to strike the drumhead. This technique creates a distinctive sound by striking the drum rim with the drumstick tip pressed against the opposite edge.



Dead-sticking technique is predominantly used in funk and RnB styles. It involves striking the drumhead surface with the drumstick, but without allowing the stick to rebound, thereby producing a muted or deadened sound.

II.4.3.2. Brushes Technique

Basic Technique involves sliding the brushes (Erskine 1987, 87) in circular motions across the drumhead surface, resulting in a sustained (legato) continuous sound.

Striking Technique involves striking the drumhead. The accent and non-accent strokes are reproduced in this manner, with the sound being softer.

II.4.3.2.1. Brush Technique at slow tempo

This technique essentially involves intersecting circles in a movement where each beat of the measure equals tracing a circle. The left hand moves counterclockwise, while the right hand moves clockwise.

II.4.3.2.2. Brush Technique at medium and fast tempos

To perform this technique, both sliding and striking movements are used. Specifically, the left hand slides in a circular motion across the drumhead surface, completing one full circle for beats 1 and 2, and another full circle for beats 3 and 4.

II.4.4. Free Stroke Technique

In executing this technique, the performer must consider the expressive possibilities suggested by how the stick interacts with the drumhead surface – full stroke (distance between stick and drumhead surface is 15–18 inches), half stroke (distance measures between 5–9 inches), and low stroke (1–4 inches from the drumhead surface).

II.4.5. Moeller Technique

The technique was created by Sanford Moeller (1878-1960) with the aim of fluidizing movement and creating a clean sound (Riley 2004, 56). It supports the idea that power is



derived from motion rather than muscular force. The Moeller technique thus focuses on achieving fluidity, natural execution in the free stroke technique, and utilizing rebound as a necessity.

II.4.6. Pumping Motion Technique

This involves continuous execution of strokes, starting from the low Moeller technique. The energy generated by the Moeller stroke propels the action on the drumhead and enables the performer to produce multiple sounds.

II.4.7. Upstrokes and Downstrokes

Upstrokes (also known as pull-outs) (Riley 2004, 52) refer to a technique where an unaccented stroke is followed by an accented one. Downstrokes (known as control strokes) involve an accented stroke followed by a non-accented one.

III. APPROACHING THE MAIN STYLES FOR THE INSTRUMENT AND EXPANDING THE RANGE OF TIMBRALITIES ASSOCIATED WITH THE DRUM SET

III.1. Exploration into the universe of musical styles intended for the traditional drum set

III.1.1. Swing in Jazz

Swing refers to a personalized performance based on feeling. Its opposite is a "square," "straight" interpretation, without emotional involvement. The swing feeling can be suggested either by focusing on the third eighth note of the triplet, known as the pick-up beat, or by anticipating the accent – the performer imagines the rhythmic pattern of a dotted eighth note followed by a sixteenth note but executes it as a triplet.



III.1.2. The Blues Style

Traditional blues has a rhythmic structure based on triplets or generally on a ternary division, with the final rhythm fitting into 4/4 or 12/8 time. There are three interpretative manners for this musical genre: slow, medium, and fast tempo.

III.1.3. The Latin Style

Latin music became a reference in the history of musical styles after World War II in the 1950s and remains very popular today. It serves as a constant source of inspiration for various musical styles such as jazz, pop, and rock. Initially, the drum set was added with the intention of enriching the rhythmic palette of the percussion instruments that were already in use. Today, in an instrumental ensemble, the drum set continues to coexist with traditional percussion instruments.

III.1.4. The Rock Style

The main characteristic of this style is the placement of the accent on beats 2 and 4 in 4/4 time, on the snare drum. The interpretive practice involves striking the center of the drumhead (simultaneously hitting the rim) to achieve a solid, deep sound rich in harmonics. It is noteworthy that there are various feels present. These are essentially structures built on eighth notes, sixteenth notes, or using triplets.

III.1.5. R&B and Funk Styles

Ghost notes are the main characteristic of the R&B rhythm, performed in a specific manner, with reduced intensity to dynamize and fluidize the rhythmic discourse. Regarding the funk style, it is a combination of R&B and jazz-fusion. In developing funk rhythms, the instrumentalist uses complex rhythms rich in metric-rhythmic formulas. Additionally, funk rhythm is conducive to the use of ghost notes.



III.2. Expressive possibilities of traditional percussion instruments

Hand-operated percussion instruments are among the most accessible, enduring, and easy-to-transport musical instruments worldwide—such as congas, bongos, djembe, udu, doumbek, tar, and tambourine. Basic rhythms mentioned above apply to each of these instruments, but naturally, we must also consider the use of specific techniques.

III.3. Electronic Drums

In the 1970s, one of the first models of electronic drums was created by Graeme Edge and Brian Grooves.

In 1976, Pollard Industries launched the first electronic drum called the Syndrum. Subsequently, Research Development Inc. released the Syndrum 1, Syndrum Twindrum, and Syndrum Quad, each featuring a different number of pads with Kevlar Duraline membranes. A similar product to the Syndrum was offered by Star Instruments, namely the Synare. This was a standalone instrument with pads installed on the edge of the module, which also allowed for a modulator, a sequencer, and ambient effects. Later, the Synare Two and Synare Three were released.

Significant innovations were proposed by Simmons (models SDS-3, SDS-5, SDS-7), Clavia (AT-System, Ddrum 3, Ddrum 4), Alesis (D4 or DM5), Roland (TD-10, TD-20), and Yamaha (DTX 2.0, DTXtreme III, or DTX900K).

IV.3.1. Modern variants of the electronic drum

There has been a continuous effort to create prototypes of electronic drums that more closely resemble the aesthetics of acoustic drums—see the productions offered by 2-box (DrumIt 5), Pearl (e-Pro Live), and Ddrum (Ddrum Hybrid). Manufacturers have tried to find more suitable versions regarding the size of the electronic set to bring it closer to the acoustic system version. Additionally, there has been a constant effort either to create the most advanced module or to develop the most performant pads.



IV.4. Software

The existence of sound packages that mimic repetitive sequences of rhythmic patterns (loops) has facilitated the introduction of pre-recorded samples into music produced by various producers. Today, it is possible to alter the original rhythmic pattern until it is completely modified. Thanks to advancements in the development of the electronic drum set, using a MIDI or USB connection, the instrument could be directly used to record desired rhythmic patterns.

IV.4.1. The drum set used for recording

Initially, a microphone was used to record the sound produced by the drum set, but starting in the 1960s, two microphones began to be used—one capturing the bass drum and the other serving as an ambient microphone for the entire rhythmic ensemble.

To achieve a sound with minimal harmonics, drummers used various tricks to dampen the drum heads of the drum set elements: objects/materials placed on the drum head (for the snare drum) or inside the drum (for the bass drum). Today, to achieve the same effect, performers use the muffling technique (Dean 2012, 398-414).

For natural reverberation, studios have designed separate, acoustically treated rooms (room sound) for recording the drum set. Monitoring was done through headphones, allowing the performer to hear a relatively processed and controlled sound. The use of a metronome in a disciplined environment began to ensure the required precision. The mute function allowed the performer to decide which other instruments they wanted to hear during the recording. Finally, the sound of each drum set element could be customized by adding effects.

IV. THE MODERN TIMBRALITY OF THE DRUM SET-ORCHESTRA SYSTEM

IV.1. Fusion Style. Representative figures

Fusion liberated traditional thinking that was tied to the conventions of a genre, and its effective implementation process provided posterity with a musical orientation based on



incredible technique, a rich intellectual foundation, and much creativity in the development and emancipation of the drum set-orchestra system.

IV.2. Interpretative practice in the fusion style. Dave Weckl

IV.2.1. Dave Weckl. Biographical Highlights

Dave Weckl (b. 1960) is one of the most representative instrumentalists who have embraced the fusion style.

Initially, he studied electric guitar but soon became fascinated by the art of rhythm. Later, he studied jazz music at the University of Bridgeport in Connecticut.

In 1980, he debuted as a performer on the New York stages. Here he met Peter Erskine (b. 1954), to whom he owes the refinement of his jazz interpretation.

Later, Dave Weckl began collaborating with renowned artists. Between 1988 and 1989, he was invited to record four albums for the Manhattan Jazz Quintet. In 1990, Dave Weckl proposed music that is classified in the jazz-fusion style—see the albums Master Plan, Heads Up, and Hard-Wired. In the same year, he met Freddy Grubber (1927-2011), who introduced him to the Moeller technique. This was followed by a prolific period, crowned with intense artistic activity, collaborations with renowned personalities, and projects that significantly contributed to interpretative development.

His activities include annual courses held at Drum Fantasy Camp, as well as online courses, collaborations with producers such as Yamaha, Remo, Vic Firth, Sabian, and Zoom, and the publication of specialized books and DVDs.

IV.2.2. The Zone

"The Zone" is a work in the funk music style, distinguished by the fact that, alongside the drum set-orchestra system, the electric guitar becomes the main component of the rhythm section. The guitar technique used is known as the riff.

The basic rhythmic pattern is built around the hi-hat, snare drum, and bass drum, with the snare drum playing a delayed role, being atypically placed on the second half of beat 2.



Additionally, the isolated use of syncopated rhythm (involving the bass drum and snare drum) can already be noted.

IV.2.3. 101 Shuffle

The work "101 Shuffle" introduces the musical style of the same name. The piece combines musical styles such as jazz, blues, and rock, all subordinated in this particular case to the shuffle style. The rhythmic component suggests stability through the use of repetitive sequences in both the themes and the solo sections. The novelty lies in adopting a Big Band melodic architectural form.

IV.2.4. Someone's Watching

The piece is created in collaboration with pianist Jay Oliver (b. 1959). It is distinguished by a rhythmic structure that creates a meditative, open atmosphere, giving a sensation of floating or levitation. This idea is supported by the intervention of cymbals marking points in various combinations, creating a rhythmic texture characterized by continuity and spatiality.

IV.2.5. Access Denied

This piece is conceived in the jazz-rock style, set in 6/4 time, and brings the rhythmic ensemble to the forefront. It has a cyclical architectural form—A, B, C, D, E, F, with sections A and B revisited at the end, and a coda that concludes the entire material presented. Naturally, this return also highlights the saxophone; the final intervention involves all instruments, with the interpretative manner leaning closer to the rock style.

IV.2.6. Tiempo de Festival

"Tiempo de Festival" is written for piano, bass, saxophone, and drum set. It was composed in 2001 by Steve Weingart (b. 1966), Tom Kennedy (b. 1960), and Dave Weckl, and combines jazz, Latin, and Afro-Cuban styles.



For the performance of this piece, Dave Weckl integrates an additional smaller bass drum (18 inches, with an open timbre and tuning specific to the bebop style) into the initial drum set alongside the standard bass drum (22 inches, with a low timbre specific to the funk style). Given the conglomerate of musical styles, Weckl proposes the addition of other percussion instruments—timbales, bongos, and djembe, aiming to create a complex sound environment.

The musical discourse is accompanied by continuous polyrhythm; in certain sections, we observe how the right hand assumes the role of executing the percussive rhythm while the left hand maintains the classic rhythm (operating the drum set elements).

IV.3. Vlad Isac. The Angle of Circles Album

The Angle of Circles follows a modern approach, closely aligned with innovations and ideas dominating recent decades—specifically, the concept of instrument hybridization, the digital contribution to shaping the sound of acoustic instruments, and the implementation of components that alter their original timbre.

IV.3.1. Neon

The piece "Neon" opens with the rhythmic section and an electronic instrument, following a path of adding timbres to the existing material, with the final part returning to the simplicity with which it began. Moreover, the last four measures propose a dissolution of the electronic material, leaving only the rhythmic component—the acoustic drum set.

Study recommendations: practice establishing the basic rhythmic pattern at different tempos, ranging from a slow tempo (J=60) to the tempo used in the piece (J=100).

Additionally, it is recommended to practice shifting the primary accent to different values within the measure; initially, this exercise should focus on the hi-hat, and then extend to the other drum set elements.

IV.3.2. People from Nowhere

The piece "People from Nowhere" is designed for a drum set with an extension of two hi-hats and a low-tuned snare drum for a deep sound, along with percussion instruments such as



tabla, acoustic guitar, electric guitar, bass guitar, electronic instrument, and vocals. It is composed in 12/8 time signature with a fast tempo (J=115).

Study recommendations: practice executing the standard rhythm performed by the two hi-hats and vary the accent placement on each value. This can be achieved using the single stroke technique or by alternating between the right and left hands.

Another aspect for the instrumentalist to focus on is ensuring that the rhythm played on the bass drum is not affected by the uneven distribution of accents executed by the hi-hat. The bass drum should maintain fluidity.

IV.3.3. Sound of the Sea

The piece has the following structure: A (a mixture of Drum&Bass and electronic), B (rock style), and varied A. The challenge lies in the presence of multiple rhythmic patterns underlying the entire work, patterns belonging to different styles—fusion (Drum&Bass and electronic) and rock.

The indication for a fast tempo (= 129) is also an aspect the instrumentalist must progressively achieve, starting from a more moderate tempo and executing each pattern precisely, gradually increasing the speed. Equally important, practicing the rim shot technique is recommended for the performer's study.

IV.3.4. That man

The piece follows the following formal structure: A-B-C-D and Coda. The difficulty lies in simultaneously executing the described rhythms for each element. Certainly, studying each individually is the first stage the instrumentalist must undertake. Viewed individually, these are achievable.

The challenge lies in the simultaneous execution of different rhythms and the final coordination of the created polyrhythm. Special attention must be given to the drum solo. Generally, it brings novelty to the sequence in which it appears and stands out from the entire context; here, the basic rhythmic structure of the entire work remains identifiable.



IV.3.5. White Moon

The most important aspect the instrumentalist must focus on is to execute the basic rhythmic pattern in a manner that is as unhumanized as possible, almost robotic, with reduced dynamics and a neutral color that remains consistent throughout the performance. Essentially, they are imitating a drum machine, becoming an electronic instrument.

The only part presenting a more complex rhythm is Section C, with the mention that even here, they will need to adopt a technique that continues to describe an aesthetic closely resembling electronic performance.

FINAL CONCLUSIONS. PERSONAL CONTRIBUTIONS AND ORIGINALITY

The research topic was carefully selected and involves the exploration of an area of great significance, the drum set being an indispensable component of any modern musical group and beyond.

It presents solid theoretical arguments, maintains a natural flow, and logical coherence, which is why it can change the way the subject is understood and approached in current literature. What is desired is a global perspective on the subject.

Furthermore, the work has a potential practical impact on the instrumentalist. The information provided can contribute to the development of strategies or propose practical solutions in the field.

The originality of the chosen topic is highlighted by the multidisciplinary approach proposed—within the research, aspects related to acoustics, the instrument's history, performance techniques, and technological innovations will be explored, in an effort to deeply understand all dimensions and possibilities of this instrument.

By exploring the multidimensional aspects of the drum set and its influence in music, the research represents a significant contribution to the development of knowledge and understanding of this essential instrument in the contemporary artistic and cultural context.

To crown the entire endeavor, alongside my role as a performer, I have created two albums dedicated to the drum set—Fusion of Sound (2015) and The Angle of Circles (2018).



Although in the case of the first album, the idea of melodiousness takes a secondary place, in the creations included in the second album, The Angle of Circles, the electronic component is dominant, thus making the contrast with the acoustic instrument—the drum set—more than evident. Furthermore, in certain compositions, I have chosen to manipulate the sound of the instrument or of specific elements.

The works included in The Angle of Circles are analyzed from the instrumentalist's perspective in the final part of Chapter IV and represent a culmination of personal evolution, practical experience, and theoretical accumulations assimilated so far. The album embodies an element of originality that follows the modern, current trend of fusion style in recent decades—the idea of hybridizing the instrument, incorporating digital contributions in shaping the sound of acoustic instruments, and implementing components that alter their original timbre.

Through the analysis of existing literature and the investigation of relevant themes, I have attempted to bring a new, current perspective to the subject. By adding personal contributions that reflect the assimilation of knowledge and experience gained over time, this scientific study makes significant contributions to the field, expanding our understanding of the subject and providing a solid foundation for future research.



SUMMARY

This research focuses on the evolution of the drum kit and its impact on modern music. By analyzing American, European, and Asian cultural influences, it highlights how this instrumental ensemble combines multiple rhythmic elements into a unique instrument operated by a single performer. The modern version of the drum kit is ubiquitous in various musical genres, evolving rapidly and adapting to the needs of musicians and technological advancements.

In the 20th century, the drum kit has evolved considerably, offering musicians a wide range of customized options. These include brand selection, number of kit components, color, shell size, shell material, number of ply layers, hoops, tuning keys, stands, and heads, as well as types of cymbals. These choices allow musicians to create a unique sound and express their artistic individuality.

The importance of electronic composition is also addressed, particularly in terms of its influence on overall sound aesthetics. The study highlights personalities, performers, and instrument manufacturers who have played significant roles in the evolution of the instrument.

This research brings information about global advancements in drum kit technology to the Romanian context. It provides an important theoretical foundation for exceptional musical interpretation by drummers.