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EVOLUTION OF PERFORMANCE TECHNIQUE ON BASS GUITAR IN JAZZ MUSIC (50S OF 20th CENTURY – BEGINNING OF 21st CENTURY)

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BASIC PROVISIONS OF THE RESEARCH

Relevance and significance of the topic of the dissertation. The evolution of the performing technique on the bass guitar is inextricably linked with the formation and development of pop and jazz music. Being a synthetic stringed bass instrument, the bass guitar has managed to combine several components: the construction of an electric guitar, the performing function of a double bass, and the sound of a classical guitar. The natural fusion of the original styles and directions of jazz, pop and rock music led to the birth of fundamentally new performing techniques and methods of sound production on modern musical instruments, including the bass guitar.

Currently, a lot of scientific, educational, methodological, musical and other literature is devoted to the performing technique on the bass guitar. A separate source of information is audio and video schools that clearly reveal the features of the educational process. In the Republic of Moldova, the issues of studying the history of performing, the technique of playing the bass guitar are at an early stage, as a result of which this issue is relevant both from a scientific and practical point of view.

The presented scientific and creative project is based on the desire to generalize the author’s many years of performing and pedagogical experience, thereby making it accessible to novice bass players and teachers.

The creative part of the dissertation is represented by a public performance of three concert programs, in which the author performed as a soloist, improviser and accompanist, playing both well-known jazz standards and original solo works. In addition, the creative part was supplemented by author’s works for bass guitar and ensemble.

Additional materials to the project include the author’s collections of *Jazz Pieces for Electric Guitar Issue No. 1, No. 2, and No. 3, Ten Melodic Etudes for Bass Guitar, Reader for Playing Bass Guitar, Transcriptions of Popular Songs for Bass Guitar Issue No. 1*, and also methodological works: *Improvisation as an effective means of motivating a pop-jazz guitarist*, highlighting the current problems of the development of jazz improvisation skills, and *Historical development of the art of contrabass*.

The theoretical part of the dissertation examines the historical development of bass-related instruments. This section is of particular interest, since it reveals the main stages of the formation of the technique of playing the bass guitar in the unity of the historical, technological, practical and pedagogical processes.
The scientific and creative nature of the presented research is determined by the focus on educational and methodological activities and consists in the study of performing techniques on the bass guitar, musical and educational literature, as well as audio and video schools. The proposed integrated approach, according to the author, will allow to generalize within the framework of this scientific work those principles of performing technique on the bass guitar, which will help novice bass players to better master this musical instrument.

**The purpose** of the dissertation is to study the evolution of the performing technique on the bass guitar in jazz music (from the 50s of the 20th century to the beginning of the 21st century), in the unity of it’s technological, historical and performing aspects.

**The research objectives** are to:

1. analyze the historical background of the appearance of the bass guitar, the first experiments of its creation, the processes of improving the design features of the instrument;
2. explore performing techniques and playing techniques based on the creativity of the leading bass players of the mid 20th century – early 21st century;
3. to reveal the influence of the contrabass, acoustic guitar and electric guitar methods of sound production on the bass guitar technique, and also to study the formation of new playing techniques;
4. define the role of jazz, pop and rock music in the context of expanding the performing functions of electric bass in all types of modern bands;
5. study printed scientific and methodical works, as well as multimedia sources (audiovisual materials, video schools);
6. consider the specifics of modern Internet education based on the work of the personal YouTube channel by Alexandr Vitiuc.

**The object of research** is the performing technique on the bass guitar as means of musical performance.

**The novelty and originality of the artistic idea** is due to the following:

- the practical aspects of the performing technique on the bass guitar were illustrated in the framework of three concert programs. The presented musical repertoire included both well-known jazz standards and original author’s compositions. In stage performances, not only an individual type of concert music-making was involved, but also performances as part of a variety of combos created at the initiative of the author (duo, trio, quartet, quintet, sextet);
- within the framework of the theoretical part, for the first time in the Republic of Moldova, a comprehensive study of the evolution of the performing technique on the
bass guitar was carried out, considered as a combination of historical, technological, performing and educational-methodical aspects. The work also touches upon topical issues of the methods of Internet education on the bass guitar using the YouTube video channel. In the process of studying the performing technique of *pizzicato*, the author introduced a new term into scientific use – *pizzicato from the deck*.

**Methodological basis of the dissertation.** The scientific part of the work consists of four main perspectives: historical, technological, performing and educational and methodical. The study included the following stages:

- study of theoretical sources (monographs, encyclopedias, scientific articles) related to the chosen topic;
- consideration of didactic materials (self-instruction manuals, schools, teaching aids, musical almanacs, etc.), allowing to explore the methodical aspects of teaching bass guitar;
- analysis of educational and methodical literature, audio and video schools as an important component of the modern educational process;
- review of the author’s video channel *YouTube – Alexandr Vitiuc* as one of the most relevant forms of communication between a bass guitar performer and teacher with modern society.

**Theoretical significance of the dissertation.** The realized research makes a significant contribution to understanding the evolution of the performing technique on the bass guitar in the Republic of Moldova. The materials of this dissertation can serve as a basis for further research in the chosen field.

**The practical significance of the work** is due to its application in academic disciplines: *Instrument+Improvisation, Methods of teaching a specialty, Artistic practice, Additional instrument, Pedagogical practice, History of pop and jazz music*, etc. Thus, the research results can be used in the preparation of professional musicians for performances on stage and in studio recordings, in the activities of pedagogues teaching bass.

**Testing the results of the work.** The thesis was written at the Doctoral School on Art Studies and Culturology at the Academy of Music, Theatre and Fine Arts.

**The practical part of the thesis** was presented in the framework of three concert performances in the Small Hall of the AMTFA and the Great Hall of the A.G. Rubinstein Institute of Arts, Tiraspol.

The main results of theoretical research are reflected in 14 publications, including 11 scientific articles (8 of them are in specialized editions recommended by the National Agency for
Quality Assurance in Education and Research) and 3 abstracts of communications at scientific conferences. The dissertation materials were presented at 8 scientific forums (Republic of Moldova, Russian Federation, USA, Japan), including 5 international scientific conferences and 3 scientific and methodological seminars.

The practical and theoretical parts of the dissertation were repeatedly discussed at joint meetings of the Steering Committee. The thesis was reviewed and recommended for defense by the Steering Committee and the Scientific Council of the Academy of Music, Theatre and Fine Arts.

**Structure and content of theoretical research.** The thesis includes: 131 pages of the main text, consisting of an Introduction, three chapters, General conclusions and recommendations, a Bibliography, including 157 sources in Russian, English, German and 4 appendices. *Appendix 1* includes a list of abbreviations accepted in the work. *Appendix 2* shows the programs of the author’s three concert performances. *Appendix 3* is a dictionary of foreign terms found on the pages of the study. *Appendix 4* contains information about the names and topics of online lessons, as well as Internet links to educational videos published on *Alexandr Vitiuc* personal *YouTube* channel.

**Keywords:** bass guitar, fretless bass, pickups, performing equipment, *pizzicato, slap, tapping, harmonics*. 
THE DISSERTATION CONTENT

The **Introduction** substantiates the relevance of this research, defines its purpose and objectives, the object of research, the degree of novelty and originality, the theoretical and practical significance of this work, testing its results.

The first chapter – **Preconditions for the appearance of bass guitars**. In section 1.1, the author examines the questions of the historical background of the emergence of the bass guitar, as well as the analysis of the instruments that preceded the bass guitar: double bass, classical guitar and electric guitar.

For many centuries, the bass part has been an integral part of the music of the professional European tradition. Whereas in classical orchestral music the bass part was played by a double bass or bass viola, in early forms of African American music, such as ragtime or jazz, the bass part was played by a tuba or one of the instruments of the brass group.

Finding accurate evidence of the emergence related to bass guitar prototypes of stringed plucked instruments, is hampered by their different historical origins. Musical instruments could have similar design features and a similar sounding range, but different names.

The first historical evidence that allows us to accurately assert the emergence of a four-stringed double bass is associated with the name of the Italian master and inventor Michele Todini. Experimenting with the enlarged construction of the contrabass viola, M. Todini eliminated the previously existing fret partitions, fixing the modern four-string system $E_1, A_1, D, G$. Results of M. Todini is reflected in his book *Galleria armonica*, published in 1676, where the new instrument is called the contrabass.

The creation of the basic construction of the classical guitar is associated with the name of the Spanish master Antonio de Torres. It was A. de Torres who developed and introduced into the performing practice the classical Spanish guitar of a new type. The innovative tool has received worldwide recognition, having survived in its original form to the present day. The evolution of the classical guitar continued on the American continent: for example, at the beginning of the 20th century in the USA, the acoustic (pop) guitar became widespread, featuring a more massive body and narrow neck. The nylon strings were replaced with metal strings, giving the acoustic guitar its characteristic low-overtones-dominated timbre, longer sustain, and a brighter sound. However, it soon became apparent that an increase in the volume of the body of acoustic guitars, replacement of strings with brighter metal strings could not fully provide a significant level of loudness. Refusing to further expand the size of the acoustic guitar design,
the inventors continued to search for optimal solutions. The next evolutionary step in the historical development of the guitar was its electrification.

In the late 1940s, one of the most significant discoveries for the future of the electric guitar was made, which led to the emergence of an innovative prototype with a solid body. In 1948, Californian engineer Paul Bigsby invented the first solid-body electric guitar (this instrument is now in the Country Music Hall of Fame in Nashville, Tennessee). However, the first commercially developed electric guitar was designed by the famous American inventor Leo Fender and named *Fender Broadcaster*.

Section 1.2 covers the problems of creating the first experimental bass guitar prototypes in the late 1920s and 1940s. Simultaneously with the electrification of the guitar, inventors are conducting similar experiments with instruments in the bass range. For example, in 1924, the American engineer-inventor Lloyd Loar, a leading *Gibson* employee, developed a prototype for an electric bass guitar with a strong design focus on pickups, strings, and more. His goal was to naturally amplify sound using an electromagnetic pickup and then reproduce the sound through external speakers. Anticipating the demands of the music market for almost 30 years, L. Loar’s radical design was not accepted by the public and the leadership of *Gibson*, and went down in history in the same 1924.

Another area of application of technical innovations was the Neapolitan mandolin, which gained immense popularity in the turn of the XIX-XX centuries. During this period, a large number of experiments were observed in the field of improving the design of the bass mandolin, among which the *Gibson Style J Mando bass* model deserves special attention. This prototype was a giant-sized acoustic instrument with a rather bright bass sound.

Another experimental bass instrument was the *Audiovox # 736 Electronic Bass*, created in 1936 by American musician and entrepreneur Paul Tutmarc), which had many of the features of a modern bass guitar (solid wood body, horizontal neck arrangement, frets). However, initial experiments to create such a tool were not crowned with commercial success.

With the introduction of the innovative *Fender Broadcaster* solid-body electric guitar in 1948, American inventor Leo Fender decided to construct a related bass prototype – a cross between an electric guitar and a double bass. As a result of the experiment, the inventor was able to develop a fundamentally new solid-body bass guitar, the *Fender Precision Bass*, which he successfully released in December 1951.

Section 1.3 is devoted to improving the design features of the bass guitar (1950s – today). *The Fender Precision Bass* design ushered in a new era in the evolution of bass instruments, laying the foundations for guitar making for the next generation of guitar makers around the
world. The next revolutionary step was the release in 1960 of the new *Fender Jazz Bass* model, dictated by the realities of modern music, which required a brighter sound of the instrument in the general mix and, therefore, the transition of double bassists to playing the electric bass guitar. The fundamental difference between *Jazz Bass* and *Precision Bass* was the reproduction of the bass sound in a wider acoustic spectrum.

Initially, it was the *Fender Musical Instruments Corporation* that took the leading position in the production and sale of basses. However, *Gibson, Rickenbacker* and others also introduced original bass prototypes based on their electric guitar models. In 1955, the German company *Höfner* released the *Höfner 500/1* electro-acoustic bass guitar, which in its design resembles a violin.

More multi-string models are also produced, which are also widespread due to their versatility. These are seven, eight and nine-string bass guitars, the range of which can freely reach 5 or more octaves. There are bass guitars with double strings and even triple strings, which, duplicating each other, introduce a larger number of overtones into the sound of the instrument and thereby enrich the musical part with richer accompaniment.

Section 1.4. discusses the design features of pickups for bass guitar. They are a small electronic device in the form of a coil with a magnet that converts the vibration energy of the strings into an electrical signal. The classification of the design features of electromagnetic pickups assumes their division according to the type of device and the types of electrical signal formation. In the first case, the types of pickups are understood as the number of inductors, which are represented by two modifications:

- *Single-coil* – bass guitar pickup, consisting of one coil, transmitting clear and natural sound, bright percussion attack;
- *Humbucker* – bass guitar pickup designed from two coils connected sequentially in antiphase.

In the second case, the types of electrical signal formation mean the pre-amplification of the pickups, which is also represented by two options:

- *Passive pickup* – an electronic device developed from a coil with a large number of winding turns (about 10 000, diameter 0.06 mm) and a reinforced magnet. It transmits clear and natural sound without additional source of signal amplification, as a result of which it has a weak output signal, the strength of which depends on the length of the connecting cords of the commutation lines;
- *Active pickup* – an electronic device constructed from a coil with fewer winding turns and a magnet. To amplify the output level, a *mini preamplifier* is installed in the active pickup.
Playing acoustic stringed bass instruments involves the use of a *piezoelectric pickup*. At the heart of its design is a *piezo crystal*, which converts the mechanical energy of vibration of the strings into electrical energy. This electromechanical principle allows you to work with any kind of string, regardless of the material used. Bass guitar sound is reproduced without additional noise and pickups from the power supply network.

A similar principle of sound removal is typical for *midi pickups*. In fact, this is a *polyphonic piezo pickup* that allows you to pick up an electromechanical signal from each string separately and digitize the *midi signal*, sending it to synthesizers. The sound of the bass guitar turns into a *midi controller*, and at the output you can get any musical instrument: keyboards, drums, strings or winds.

The most progressive option is the design of *optical pickups*. In this case, sound generation occurs with the help of an LED and a photoresistor, which, when the string vibrates, register the difference in readings. The received information in the form of a luminous flux forms a signal, which is subsequently recorded by a pickup and output to acoustic systems.

Section 1.5. contains conclusions from Chapter 1.

Chapter Two – The Evolution of Bass Performing Techniques in Jazz Music. Section 2.1. examines the evolution of bass performance in jazz music. Subsection 2.1.1. is devoted to the analysis of the formation of *pizzicato* technique. Subsection 2.1.2. discusses a fretless bass model. The process of forming the performing technique on the bass guitar had a synthesizing character. From a functional point of view, the bass guitar should have duplicated the contrabass part, therefore, it should use contrabass techniques of playing, from a constructive point of view, it should have borrowed the techniques of playing the classical guitar and electric guitar. Thus, the methods of sound production on the bass guitar were formed on the basis of three performing techniques: *bowed* and *pizzicato* from the double bass, *tirando* and *apoyando* from the classical guitar and the *plectrum* (pick) from the electric guitar.

The technique of *pizzicato* is the main performing technique when playing on bass guitar. Due to the natural position of the fingers of the right hand, this method is considered the most convenient and practical. It is curious that the sound production of *pizzicato* on the bass guitar is classified as a *plucked* method, since, according to modern researchers, the *percussion-plucking* method of sound production is more suitable for this technique, which should be indicated by a special term, for example, a *plucked strike* or a *plucked strike*. Let us note in passing that the contrabass belongs to the bowed instruments, and the classical guitar and the electric guitar belong to the plucked musical instruments. Despite the fact that the term *pizzicato* is general, the
specificity of sounding instruments of the string and string-plucked group is significantly different.

At the same time, the guitar *apoyando* is very similar to the *pizzicato* technique, which is used on the bass guitar. The direction of movement of the fingers of the right hand during sound production almost completely coincides, and the string is struck in the same way – with support on the adjacent (lower) string. At the same time, the guitar *tirando* in its specifics coincides with the technique of playing the bass guitar, in which the fingers of the right hand produce sound in the direction from the deck. In this case, the movement of the thumb is carried out in the opposite direction to all other fingers. Based on this, we consider it necessary to introduce a new term into scientific use: this method of sound production can be designated as *pizzicato from the deck*. In relation to the bass guitar, it is also possible to use a term from the classical guitar – *tirando*.

In 1961, the British bassist of the cult band *The Rolling Stones* Bill Wyman, when replacing the fret baffles on the bass guitar, noticed that the sound of the instrument in the moment of their absence had an original, specific sound. The strings pressed directly to the fretboard produced a sound that, in terms of its timbre characteristics, was very similar to the sound of the *pizzicato* technique when playing the double bass. Due to the absence of fret baffles, the new bass instrument was not tied to a specific tempered tuning and was called a fretless bass guitar or baslad bass.

The appearance of a fretless bass completely coincides with the design of the fret model of the bass guitar. The main difference is the lack of frets on the neck, however, there are models with special cutoffs or reference lines on the front of the neck. Some prototypes are characterized by the presence of markings on the upper, lateral part of the neck (on the fretboard). In performing practice, mainly four-string models are used, however, by analogy with fret bass guitars, five and six-string versions are used.

Playing a fretless bass guitar requires fundamental performance qualities from a musician. In addition to mastering techniques, an instrumentalist is required to have a clear intonation and a developed ear for music.

Section 2.2. is aimed at learning new performing techniques for sounding bass guitar: *slap* (subsection 2.2.1.), *tapping* (subsection 2.2.2.), *harmonics* (subsection 2.2.3.). The rapid integration of bass into modern musical genres and styles continued actively in the second half of the 1960s. Simultaneously with the development of rock music and funk, bass players experimented with the search for new, original performing means, since the previously existing techniques could not fully satisfy the needs of musical practice. One of such techniques was *slap*. 
The preconditions for the appearance of this technique should be sought in the style of rockabilly with its characteristic use of a double bass. Playing the musical parts in a more aggressive manner involved plucking the pizzicato forcefully on the double bass, followed by striking the strings against the surface of the neck. With such an active pizzicato, along with the sound of the note, a characteristic percussion click arose, which is known in contrabass performance practice under the term slap. In addition, the sound production of slap created an additional rhythmic basis, and could also partially replace the function of the drums.

It should be noted that the sound production of slap on a bass guitar is performed in a fundamentally different way than on a contrabass. This can be traced on the basis of the formation of the mechanical properties of the movement of the fingers of the right hand. The main percussion element of the bass slap is the blow of the phalanx of the thumb on the string and the hook of the index and middle (less often ring) fingers. On the double bass, these are just active pinching of the index and middle (less often, ring) fingers. The hit of the drawn string on a bass guitar is on the frets, while on the double bass it is on the fretboard. Consequently, the resulting terminological similarity of sound production of slap on bass and double bass is united only by the general percussion nature of sound production.

The evolutionary nature of tapping technology has opened up colossal performance prospects for bass players. In addition to technical features, tapping has significantly expanded the performing role, revealing fundamentally new polyphonic functions of the instrument. Since the bass borrowed this playing technique from the electric guitar, it acquired its distinctive characteristics during the development of bass playing.

Sound tapping on bass guitar is based on the use of two different types of techniques: monophonic and polyphonic. The performance of one kind or another pursues different musical-expressive and technical tasks.

The use of harmonics in active practice is directly related to the evolutionary development of the bass guitar. If in the 1950s-60s the performance of harmonics was associated only with the work of individual bass players, then in the 1970s, musicians appeared who formed from this, at first glance, a simple method of sound production, a whole harmonious playing technique.

The guitarist who used harmonics as a full-fledged performing instrument was Jaco Pastorius. Possessing great musical talent, and also equipped with the necessary instrumentation, J. Pastorius became a real personification of the harmonic technique.

Section 2.3. covers the synthesis of various techniques of playing the bass guitar in modern performing practice. Throughout the evolutionary path, the technique of playing the bass guitar has been constantly improved, acquiring new distinctive qualities. This is due not only to the
emergence of innovative models of the instrument, but also to the expansion of the performing functions of the bass guitar in pop and jazz groups. The direct relationship of the bass guitar with the development of the electric guitar, the technique of playing the classical guitar, and the functions of the double bass, made it possible to form three main methods of sound production: pizzicato, slap and tapping. An independent bass guitar technique can only be called the harmonic technique, since this technique was not so widespread on any related instrument.

The implementation of progressive creative ideas required from bass players to search for new expressive means. Expansion of the previously existing range seemed to be the most logical. Some musicians actively mastered bass guitars with five, six and more strings, but the development of the performing technique on these instruments was slowed down by the lack of fundamental schools and teaching aids. John Patitucci was the first bass player to uniquely reveal the fullness of the extended range and the evolutionary nature of the pizzicato technique on a six-string bass guitar. As a result of increasing the range of a conventional bass guitar with two additional strings – H₂ from the bottom and c from the top, the performer was able to combine several independent functions in one musical instrument. For the first time, the advantages of the extended range of a six-string bass guitar, which is more than 4 octaves, were mastered both from a technical and an expressive point of view.

Another revolutionary decision of J. Patitucci was the development and implementation of a six-string bass-guitar techniques for playing complex chords (non-, undecim-, thirdsdecimacords), which includes more convenient fingering models. In turn, the reproduction of the bass part resembled the accompanying parts of a guitar or piano. The sounding of this technique on the upper strings was distinguished by a clear and transparent sound, and the playing on the lower strings was more complete.

Meanwhile, in the early 1990s, the fretless version of the six-string bass began to gain popularity. The musicians tried to apply experimental performing techniques to the new model of the instrument. Taking into account the specific features of the fretless bass sound and the expansion of the performing range, a radical transformation of the existing sound production techniques was required. In this respect, the work of Steve Bailey has become a real sensation.

S. Bailey’s performance of bass parts is distinguished by a variety of techniques and timbre colors. The sound of a fretless bass guitar is accompanied by an impeccable playing of pizzicato and precise intonation, while the gliding passages, traditional for fretless playing, have a fundamentally new instrumental interpretation and are combined with the technique of playing artificial harmonics. In fact, the musical part of a six-string fretless bass guitar resembles the polyphonic sound of several instruments of different character.
The innovative presentation of the harmonic function in fretless bass playing was reflected in the practical application of chord technique. S. Bailey actively uses the technique of contrabass *pizzicato*, creating an imitation of the sound of stringed instruments. In this case, the right hand is repeatedly transferred to the surface of the neck, playing simultaneously the ostinant bass and complex melodic turns.

Along with the development of the technique of playing *pizzicato* on six-string bass instruments, other techniques of sound production are also being improved. Since the six-string bass was more melodic-oriented, specific techniques such as *slap* and *tapping* continued to evolve on the four-string bass. Another performer who made a real revolution in the “bass world” and influenced the performing technique of playing the four-string bass guitar was Victor Wooten.

The evolutionary concept of V. Wooten’s performing techniques implied the use of three main components: melody, bass and rhythm parts. In addition, the musician manages to simultaneously perform percussion beats with his right hand on the second and fourth beats. This performance initiative creates an imitation of the sound of a snare drum as part of a drum kit.

The harmonic function of the bass sounds, the drum part of the *slap* and the melodic line of the *harmonics* create incredible musical density of the bass part, allowing you to generate fundamentally new timbre colors resulting from the combination of multiple techniques games. Thus, the bass appears in a new quality of an independent and self-sufficient solo instrument.

Section 2.4. contains conclusions from Chapter 2.

The third chapter – *Evolution of teaching methods to play the bass guitar*. Section 3.1. is devoted to the analysis of the available methodological literature on the selected topic: books, manuals, musical collections. Currently, the process of learning to play the bass guitar is implemented at all stages: from children’s music schools to post-university education. The main goal of the educational process is the practical study of the bass guitar, focused on the comprehensive mastery of the performer of modern techniques of playing the instrument. In addition, a professional performer needs to undergo a comprehensive and in-depth study of music theory, jazz harmony, the history of jazz styles and the specifics of jazz improvisation.

An important factor in the creative growth of a bass player is independent listening to audio and video recordings of famous jazz musicians. This contributes to the fundamental development of the skills of solfege, “picking up” bass parts by ear, transcribing and the ability to analyze musical material. This type of activity provides a real understanding of modern jazz music and its practical performance on the bass guitar.
Analysis of the available methodological literature allows us to state that the study of bass guitar as a modern bass instrument is at the initial stage of its development. Despite its immense popularity in pop and jazz music, the bass guitar has not yet managed to form such rich traditions of performance as double bass, violin or classical guitar. Taking into account the confident dynamics of the distribution of performing functions and fundamentally new techniques of sound production on the bass guitar, it is possible to predict the further development of educational, methodological and musical literature for this instrument.

Section 3.2 is entirely aimed at studying audio schools with musical applications. This type of training is widespread among modern musicians, since it makes it possible to listen to the studied musical material using sound reproduction means. Along with this, the illustrated material contains information not only about the exact choice of tempo, rhythm and performance of sounds, but also allows you to get an idea of the character, style and timbre of a note example.

The descriptions for all audio schools provide the necessary list of instructions on how to use this educational material. First of all, this is the tuning of the bass guitar according to the sound signal recorded at the required sound frequency. This can be either a separate frequency, for example, 440 Hz – the note $a^1$, or sequential tuning of all open strings of the bass guitar. In some cases, the authors suggest playing musical examples simultaneously with the teacher, and then independently.

It should be emphasized that educational and methodological literature based on audio materials is more focused on the practical mastering of the bass guitar than the traditional one. The ability to listen to audio illustrations for musical examples creates additional motivation, as it teaches the student to adequately reproduce musical information. Thus, audio schools are able not only to convey the character of the music played, but also to fully reveal the musical and expressive capabilities of the bass guitar.

In section 3.3, the author’s attention is focused on evolutionary methods of teaching bass guitar, which are based on the study of video schools. The popularity of this educational area is constantly growing, combining several specific features. The main source of information transfer in video schools is the visualization of the studied material. Thanks to the ability to play a moving image, the student is able to examine the proposed fingering, repeat the movements of hands and fingers, and also slow down the playback speed when illustrating complex technical elements.

Music material can be placed in the video viewing window, making such a visualization as complete as possible. In the case of showing the studied example at a slow pace, the musical material, as a rule, is not required, since the information in question is presented in an accessible
form. In the descriptions of some video schools, the bass guitar is tuned by sound signals corresponding to the four open strings of the instrument.

When considering specialized video publications for bass guitar, it can be noted that this type of educational information is focused on the practical study of the instrument. The ultimate goal of any video school is to study the proposed material on the basis of student self-study. Thanks to visualization, the learning process goes much faster, however, during one video lesson it is impossible to get the whole range of necessary performing skills. The proposed material is designed for a certain level of theoretical and practical training of the student and can only be used as additional material in a special bass guitar class.

In section 3.4, based on the author’s channel Alexandr Vitiuc on YouTube, the specifics of the modern model of video education are revealed. Turning to the educational channels of the video hosting YouTube, the author analyzes some aspects of the work of the personal channel Alexandr Vitiuc, which began active activity in April 2016. Currently, about 330 videos have been uploaded to it, and the total number of subscribers is about 19,700. The number of those who watched all the videos during the entire existence of the channel has exceeded 2,000,000 viewers.

As an additional Internet resource dedicated to the work of the YouTube channel, there is a group on the social network VKontakte Bass Guitar and everything connected with it, to which signed by about 6,700 people. This online community allows you to download sheet music annexes to previously published video tutorials in pdf format, inform users, and exchange opinions on topical issues related to the channel’s work.

The learning process on the Alexandr Vitiuc channel is strictly structured and divided into corresponding sections – playlists. Among them, the following can be distinguished: Lessons on playing the bass guitar, The basics of slap, The study of the neck of the bass guitar, The basic theory course for bass guitarists, Improvisation on the bass guitar, Analysis of the bass parts of popular songs, etc. Each playlist contains a certain number video tutorials arranged according to the principle of increasing complexity. Immediately after uploading a new video, the publication is placed in a specific thematic section with instant access for practical study by the audience. If music or audio materials are attached to the videos, then this information can be downloaded in the VKontakte group.

Analysis of the specifics of the educational process on the Alexandr Vitiuc channel in the context of the emergence of new educational video tools allows us to conclude that we are witnesses and participants in the formation a new interactive model of online education, and the daily increase in the number of channel subscribers only confirms this prediction. Moreover, it is
in the process of further evolution of the educational process on the Internet that it will be possible to observe the further popularization of the bass guitar as an independent instrument of the bass range.

Section 3.5 contains conclusions on Chapter 3.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

1. The emergence of modern electrically amplified string bass prototype designs reflects the evolution of technological, economic and musical factors driven by the innovations of modern music that have demanded a brighter bass response.

2. In the dissertation, a historical study of the performing techniques of chordophonic instruments akin to the bass guitar: contrabass, classical guitar, electric guitar, which influenced the formation of the performing technique on the bass guitar, was carried out. It has been demonstrated that, despite the common terminology used for these tools, the essence of these techniques is different.

3. The role of pop and jazz music as an important component of the spread of electric bass guitar in almost all modern performing bands of jazz music (from small (combo) and large (big band) instrumental jazz ensembles) and rock music (from classical rock bands of 1960-x to developed groups of jazz-rock, fusion, avant-garde, etc.). It was within the framework of these musical-style directions that the bass guitar became the basis of the rhythm section, a movable instrument of a convenient design, capable of providing the required sound volume level, and having in its arsenal a huge variety of performing techniques.

4. Based on the study of scientific literature on the problems of the performing technique of playing the bass guitar, as well as based on his own performing and pedagogical experience, the author for the first time in Russian musicology systematized the existing performing techniques, supplementing them with his own terms. So, in the process of studying the pizzicato technique, a new term was introduced into scientific use – pizzicato from the deck.

5. The study of performing techniques on the bass guitar was carried out on the basis of the creativity of the leading bass players of our time, who had the greatest influence on the development of techniques for playing the bass guitar: D. Jamerson, P. McCartney, J. Pastorius, L. Graham, S. Clarke, M. Miller, B. Sheehan, S. Hamm, J. Patitucci, S. Bailey, V. Wooten.

6. In the process of researching the evolution of the performing technique on the bass guitar, the author managed to identify and study the mutual influence of the contrabass, acoustic guitar and electric guitar principles of sound production. It is thanks to the synthesis of
techniques of various origins that the bass guitar has been able to establish itself as a multifunctional instrument capable of combining many different performing functions: from the electric guitar – the technique of picking and tapping, from the double bass – the accompanying function, from the classical guitar – the basic technique of sound production.

7. The formation and development of bass guitar performance, which has a rather short history (more than 70 years), is viewed in dynamics, in its evolutionary dimension, changing the way the bass guitar exists. If in the 1950s and in the second half of the 20th century the main source of introduction to this instrument was concert performances and recordings, today the Internet is becoming a powerful source of dissemination of knowledge about the bass guitar, including numerous audio and video schools, master outstanding musician classes and other resources.

8. Today, a huge layer of both traditional manuals (practical and educational-methodical literature available in the open access) and online resources (video blogs, video schools, tutorials, Internet communities, forums, etc.) guitar, which contributes to the greater distribution and popularity of the instrument. The paper considers the most representative audio and video schools of bass guitar playing, created by outstanding performers and teachers. The author of this thesis argues that audio and video schools have certain didactic advantages over traditional book sources.

9. Actual problems related to the specifics of modern video education are studied using the example of the work of the YouTube channel of the author of this thesis. For the first time in national musicology, the features of the content of this educational resource have been analyzed as one of the most advanced forms of communication between a performer and a bass guitar teacher with modern society.

Recommendations

1. Continue musicological studies of the historical, constructive, performing and educational-methodical features of the bass guitar, aimed at a comprehensive study of the instrument, not reflected in this study.

2. Use the materials and conclusions of this research in future works devoted to topical issues of contemporary jazz music, in general, and performing techniques of playing the bass guitar, in particular.
3. Expand the comprehensive study of the performing technique on the bass guitar in its connection with scientific and technological progress, including the emergence of new means of reproduction and sound processing devices.

4. To organize the production of printed collections of works by contemporary composers of the Republic of Moldova for bass guitar solo, bass guitar and piano, jazz ensembles and orchestras, creating favorable conditions for the development of new generations of performers and researchers.

5. Include compositions for bass guitar in concert programs, programs of international competitions and music festivals to develop creative contacts of bass players from different countries.

6. It is advisable to organize on the National Radio and Television the regular performance of the most illustrative compositions of the world’s leading authors and composers of the Republic of Moldova for bass guitar.

7. It is recommended to systematically organize master classes of leading bass performers from Romania, Italy, Germany, France, Great Britain, Russian Federation, USA and other countries within the framework of the AMTFA, music schools and lyceums, secondary vocational and higher educational institutions.
Concert program No.1

Date: March 11, 2019
Time: 12:00 pm
Venue: AMTFA, Small Hall, Chisinau.

Concert program:

1. A. Vitiuc – Greeting
2. A. Vitiuc – Rivers of Fog
3. A. Vitiuc – Bell
4. A. Vitiuc – Joyful Day
5. V. Wooten – Latin Groove
6. V. Wooten – Classical Thump
7. V. Wooten – Solo Bass Jam
8. V. Wooten – The Lesson
9. S. Wonder – Overjoyed
10. The Beatles – Come Together
11. A. Vitiuc – Lunar Flower
12. V. Wooten – U Can't Hold No Groove
13. J. Newton – Amazing Grace

Name and participants:

Solo concert of Alexandr Vitiuc

The concert was attended by:

– Alexandr Vitiuc – bass guitar.

Concert program No.2

Date: April 25, 2019
Time: 16:00 pm
Venue: Institute of Arts named after A.G. Rubinstein, Great Hall, Tiraspol.

Concert program:

1. J. Pastorius – The Chicken
2. M. Davis – So What
3. A. Vitiuc – Around the Rain
4. D. Ellington – In a Sentimental Mood
5. G. Gershwin – Summertime
6. G. Benson – Weekend in LA
7. A. Vitiuc – New Feelings
8. V. Wooten – *Slow Groove*
9. S. Wonder – *Isn't She Lovely*

**Name and participants:**
Solo concert of Alexandr Vitiuc with the participation of the *Rubicon* collective

**The concert was attended by:**
– Olga Velichinskaya – vocals;
– Eduard Biletsky – trumpet, flugelhorn;
– Galina Dede – piano, keyboard instruments;
– Mikhail Volenberg – electric guitar;
– Alexandr Vitiuc – bass guitar;
– Alexander Volenberg – drums.

**Concert program No.3**

Date: December 4, 2019
Time: 17:00 pm
Venue: Institute of Arts named after A.G. Rubinstein, Great Hall, Tiraspol.

**Concert program:**
1. S. Lavrinenko – *Indian Dance*
2. S. Lavrinenko – *Latino Mood*
3. S. Lavrinenko – *Zaporozhye*
4. D. Jordan – *Jordu*
5. L. Russel – *This Masquerade*
6. D. Gilesspi – *A Night in Tunisia*
7. Fourplay – *101 Eastbound*
8. S. Rollins – *St. Thomas*

**Name and participants:**
Solo concert of Alexandr Vitiuc with the participation of groups:
*By У камина тріо* and *Rubicon*

**The concert was attended by:**
– Eduard Biletsky – trumpet, flugelhorn;
– Semyon Lavrinenko – piano, keyboard instruments;
– Mikhail Volenberg – electric guitar;
– Alexander Vitiuc – bass guitar;
– Roman Rashkovan – drums.
WORKS PUBLISHED ON THE THEME OF DISSERTATION

2. Articles in various scientific periodicals

Category B

2.3. in publications entered in the National Register of Profile Periodicals:

Category B

Category C

3. Articles in scientific collections

3.2. collections based on international conferences:

4. Materials/abstracts of scientific forums

4.2. international conferences in the republic:


ANNOTATION


Thesis structure: Creative part: three concert programs recorded on DVD; Scientific research: Introduction, three chapters, General conclusions and recommendations, Bibliography of 157 titles, 4 appendices; 131 pages of body text, 17 pages of appendices. The results are reflected in 22 publications.

Keywords: bass guitar, fretless bass, pickups, performing technique, pizzicato, slap, tapping, harmonics.

Research area: jazz performance on the bass guitar.

Purpose of thesis: research of the evolution of the performing technique on the bass guitar in jazz music (from the 50s of the 20th century – to the beginning of the 21st century), in the unity of it’s technological, historical and performing aspects. Research objectives: analyze the historical background of the appearance of the bass guitar, the first experiments of its creation, the processes of improving the design features of the instrument; explore performing techniques and playing techniques based on the creativity of the leading bass players of the mid 20th century – early 21st century; to reveal the influence of the contrabass, acoustic guitar and electric guitar methods of sound production on the bass guitar technique, and also to study the formation of new playing techniques; define the role of jazz, pop and rock music in the context of expanding the performing functions of electric bass in all types of modern bands; study printed scientific and methodical works, as well as multimedia sources (audiovisual materials, video schools); consider the specifics of modern Internet education based on the work of the personal YouTube channel by Alexandr Vitiuc.

Scientific and practical novelty and originality of the thesis. The practical aspect of the evolution of the performing technique on the bass guitar in jazz music is that in the process of stage performances the author has demonstrated all modern examples of bass guitar technique. In the theoretical part, for the first time in the Republic of Moldova, a comprehensive study of the evolution of the performing technique on the bass guitar was carried out, considered as a combination of historical, technological, performing and educational-methodical aspects. The work also touches upon topical issues of the methods of Internet education on the bass guitar using the YouTube video channel. In the process of studying the performing technique of pizzicato, the author introduced a new term into scientific use – pizzicato from the deck.

The practical significance of the work is due to its application in academic disciplines: Instrument+Improvisation, Methods of teaching a specialty, Artistic practice, Additional instrument, Pedagogical practice, History of pop and jazz music, etc. Thus, the research results can be used in the preparation of professional musicians for performances on stage and in studio recordings, in the activities of pedagogues teaching bass.

Testing the results of the work. Practical approbation was implemented in the framework of three concert performances in the Small Hall of the AMTFA and the Great Hall of the A.G. Rubinstein Institute of Arts, Tiraspol. The results of theoretical research are reflected in 14 publications, including 11 scientific and 3 abstracts of communications at scientific conferences. The dissertation materials were presented at 8 scientific forums, including 5 international scientific conferences and 3 scientific and methodological seminars.
АННОТАЦИЯ


Структура диссертации: Творческая часть: три концертные программы, записанные на DVD; Научное исследование: Введение, три главы, Общие выводы и рекомендации, Библиография из 157 наименований, 4 приложения; 131 страницы основного текста, 17 страниц приложений. Результаты отражены в 22 публикациях.

Ключевые слова: бас-гитара, безладовый бас, звукосниматели, исполнительская техника, пиццикато, слэп, тэппинг, флажолеты.

Область исследования: джазовое исполнительство на бас-гитаре.

Цель диссертации: исследование эволюции исполнительской техники на бас-гитаре в джазовой музыке (с 50-х годов XX века – до начала XXI века), в единстве ее технологического, исторического и исполнительского аспектов. Задачи исследования: проанализировать исторические предпосылки появления бас-гитары, первые опыты ее создания, процессы совершенствования конструктивных особенностей инструмента; исследовать исполнительские техники и приёмы игры на основе творчества ведущих бас-гитаристов середины XX века – начала XXI века; выявить влияние на бас-гитарную технику контрабасового, акустически-гитарного и электрогитарного способов звукозвлечения, а также изучить формирование новых приёмов игры; определить роль джазовой, поп- и рок-музыки в контексте расширения исполнительских функций электрической бас-гитары во всех типах современных коллективов; изучить печатные научные и методические труды, а также мультимедийные источники (аудиовизуальные материалы, видеошколы); рассмотреть специфику современного интернет-образования на основе работы персонального YouTube-канала Александр Витюк.

Научно-практическая новизна и оригинальность диссертации. Практический аспект эволюции исполнительской техники на бас-гитаре в джазовой музыке состоит в том, что в процессе сценических выступлений автором были продемонстрированы все современные образцы бас-гитарной техники. В теоретической части впервые в Республике Молдова проведено комплексное исследование эволюции исполнительской техники на бас-гитаре, рассматриваемой как совокупность исторических, технологических, исполнительских и учебно-методических аспектов. В работе также затронуты актуальные вопросы методики интернет-образования на бас-гитаре при помощи видеоканала YouTube. В процессе изучения исполнительской техники пиццикато, автор ввел в научный обиход новый термин – пиццикато от деки.

Практическая значимость работы обусловлена её применением в учебных дисциплинах: Инструмент+Импровизация, Методика преподавания специальности, Артистическая практика, Дополнительный инструмент, Педагогическая практика, История эстрадной и джазовой музыки, и др. Таким образом, результаты исследования могут быть использованы в подготовке профессиональных исполнителей к выступлениям на сцене и студийным записям, в деятельности педагогов, преподающих бас-гитару.

Апробирование результатов работы. Практическая апробация была реализована в рамках трех концертных выступлений в Малом зале АМТИИ и Большом зале Института искусств им. А. Г. Рубинштейна, г. Тирасполь. Результаты теоретических изысканий отражены в 14 публикациях, в том числе в 11 научных статтях и 3 тезисах выступлений на научных конференциях. Материалы диссертации были представлены на 8 научных форумах, в том числе 5 международных научных конференциях и 3 научно-методологических семинарах.
ADNOTAREA


Structura tezei: componenta artistică: trei programe de concert înregistrate pe DVD; cercetarea teoretică: Introducere, trei capitole, Concluzii generale și recomandări, Bibliografie din 157 de titluri, 4 anexe, 131 pagini ale textului de bază, 17 pagini de anexă. Rezultatele sunt reflectate în 22 de publicații.

Cuvinte-cheie: chitară-bas, bas fără frete, pick-up, tehnică interpretativă, pizzicato, slap, tapping, flajeolete.

Domeniul de cercetare: arta de interpretare a muzicii de jazz la chitara-bas

Scopul tezei: cercetarea evoluției tehnicii interpretative la chitara-bas în muzica de jazz (anii 1950 – începutul secolului XXI), în unitatea aspectelor sale tehnologice, istorice și interpretative. Sarcinile cercetării: a analiza premisele istorice ale apariției chitarei-bas, primele experiențe ale creării acesteia, procesele de perfeclionare a particularităților construcției instrumentului; a cerceta tehnicile interpretative și procedeele de interpretare în baza artei celor mai importanți bas-chitariști de la mijlocul secolului XX – începutul secolului XXI; a releva influența modalităților de emitere a sunetului la contrabas, chitara acustică și chitara electrică asupra tehnicii chitarei-bas, cât și a studia formarea unor noi procedee de interpretare; a aprecia rolul muzicii jazz, pop și rock în contextul lărgirii funcțiilor interpretative ale chitarei-bas în toate tipurile de colective contemporane; a studia cercetările științifice și metodice editate, cât și sursele media (materiale audiovizuale, școli video); a cerceta specificul instruirii contemporane pe internet, în baza lucrului pe canalul personal de YouTube Alexandr Vitiuc.

Noutatea științifico-practică și originalitatea tezei. Aspectul practic al evoluției tehnicii interpretative la chitara-bas în muzica de jazz constă în faptul, că în procesul evoluțiilor scenice ale autorului au fost demonstrate toate modelele contemporane ale tehnicii la chitara-bas. Componenta teoretică conține o cercetare complexă inedită în Republica Moldova a evoluțiilor tehnicilor interpretative la chitara-bas, tratate ca o îmbinare a aspectelor istorice, tehnologice, interpretative și didactico-metodice. În teză sunt abordate și probleme actuale ale metodicii instruirii online la chitara-bas, prin intermediul canalelui YouTube. În procesul de studiere a tehnicii interpretative pizzicato, autorul a introdus în circuitul științific un termen nou – pizzicato din spre corpul instrumentului.

Importanța practică a tezei este determinată de utilizarea acesteia în cadrul disciplinelor Instrument și Improvizare, Metodica predării specialității, Practica artistică, Instrumentul adăugător, Practica pedagogică, Istoria muzicii de estradă și jazz ș.a. Astfel, rezultatele cercetării por fi utilizate în pregătirea interpreților profesioniști pentru evoluările scenice și înregistrările în studio, în activitatea pedagogilor ce predau chitara-bas.

Aprobarea rezultatelor cercetării. Aprobarea practică a fost realizată în cadrul a trei evoluări scenice în Sala mică a AMTAP și Sala mare a Institutului de Arte A. G. Rubinstein din or. Tiraspol. Rezultatele cercetărilor teoretice sunt reflectate în 14 publicații, inclusiv în 11 articole științifice și 3 teze ale comunicărilor la conferințe științifice. Materialele tezei au fost prezentate la 8 foruri științifice, inclusiv la 5 conferințe internaționale și 3 seminare științifico-metodologice.
VITIUC ALEXANDR

EVOLUȚIA TEHNICII INTERPRETATIVE LA CHITARA-BAS ÎN MUZICA DE JAZZ (ANII ‘50 AI SECOLULUI XX – ÎNCEPUTUL SECOLULUI XXI)

SPECIALITATEA 653.01 – MUZICOLOGIE (DOCTORAT PROFESIONAL)

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