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Translation from Bulgarian

## **Critical Review**

by Prof. MARIA GEORGIEVA GANEVA, Doctor of Arts

lecturer at Pop and Jazz Art Department,

National Academy of Music “Prof. Pancho Vladigerov”

of the PhD thesis of LIBURN JUPOLLI

on “New areas of exploration in 21<sup>st</sup> century instrument invention and its effects on  
musical composition”

for awarding the educational and scientific degree of Doctor in the Music PhD  
program of NBU, professional field 08.03.

“Music and Dance”, scientific speciality “Music”

**scientific supervisor:** Prof. Dr. Simo Lazarov

This critical review has been prepared on the basis of Order No. 3-RK-263/03.08.2020 of the Rector of NBU for appointment of a Scientific Jury pursuant to Art. 14, para. 3 of the Ordinance for development of the academic staff of NBU, a decision of the Faculty Council at the Master's Programs School taken at a meeting, No. 11/17.07.2020, and a report by the Dean of the Master's Programs School.

The materials submitted by the doctoral student for the preparation of a critical review are in accordance with the requirements of the Law for Development of the Academic Staff in the Republic of Bulgaria.

**Background of the candidate**

Liburn Jupolli is a doctoral student at NBU from Pristina - Republic of Kosovo. At the University of Pristina, he studied composition at the Faculty of Arts in the period 2009-2011. Later, in 2014-2015, he studied compositional electroacoustics in Paris with Prof. Denis Dufour. He took his Master's Degree in Paris, studying with the lecturers Sophie Pene and Jean-Francois. Since 2018, he is a doctoral student at NBU.

The curriculum vitae submitted shows that the doctoral student has a multitude of various appearances.

Liburn Jupolli is:

- Founder of the first Faculty of Modern Digital Production and Management in Kosovo, the Centre for Contemporary Music, Digital Production and Management, the Kosovo Music Museum, the MAGMUS Score and Record Music Publishing House, and the Foundation for Education and Well-being.
- Inventor of 6 new instruments, including the electronic microtonal string instrument "Octo"
- Since 2018, he teaches at the University of Business and Technology.

His artistic and creative work includes:

- Publication of 2 singles and 25 music albums
- A multitude of concerts in Copenhagen, London, Paris, New York, Pristina, Helsinki, Tallin, Vienna, Tirana, Ancona, Sofia.
- Participated in workshops and conferences in Sofia, Pristina, Skopje, Helsinki, Tallin, Paris, Prizren, Tirana.

- Created authorial music for instrumentalists and ensembles in Europe and the USA, as well as the GOF opera
- Composed for over 60 productions in different theatres. Writes music for films and games.

The structure, volume and content of the presented PhD thesis are the result of developing the goals and objectives set. The study contains 140 pages, divided into an introduction, 6 chapters, contributions, conclusion, literature, dictionary of hybrid musical instruments, attachments, addendums. The cited literature includes 87 literary sources - 51 in Latin, 2 in Cyrillic and 34 on the Internet. The PhD thesis is illustrated with 150 figures and 5 tables.

### **Soundness of the objectives and tasks of the PhD thesis**

The selection of the subject of Liburn Jupolli's PhD thesis is one of the merits of this work and aims to explore the nature and importance of new functions in composition and notation arising from microtonal instruments. The questions asked are topical, interesting and significant. The work has a contributing character, given the few scientific studies on the subject. The PhD thesis is built on a theoretical basis and on knowledge of the researched problem.

### **The PhD thesis has the following content:**

In the **Introduction**, the doctoral student sets out the main parameters of the research. He acquaints us with the subject, goals and tasks that he set for himself in developing the main idea. An analysis of a large number of instruments traces the connection between luthiery and composition, emphasizing the instrumental inventions of the 21st century, the new microtonal instruments and spatial music, which expand the possibilities of contemporary compositional art. The **object** of the research is the hybrid spatial instrument "Octo" - a stimulus of creative

invention. The **purpose** of the PhD thesis is to acquaint us with the technical parameters of the instrument "Octo" invented by the doctoral student, with the microtonal possibilities for spatial notation and with its influence on notation and composition. The **subject** of the work is to present the new microtonal instruments. Liburn Jupolli set 3 main tasks of the research:

1. To review the invention of the instrument, the microtonality and the new microtonal instruments, spatial music, spatial instruments - important topics, developed on the basis of the hybrid concept of the new instrument "Octo".
2. To prepare a methodological analysis of the researched problems.
3. To clarify the specifics of performance and develop a method for practical training.

The significance of the research is related to the works of microtonal composers and the "development of spatial music in electroacoustic music ... So, it is necessary to allow for spatial control of the sound of instruments and the instrumentalist and to continue the study of spatial sound in parallel with other spatial developments in electroacoustic music."

The selected approaches and methods of research are based on the practical experience and experimental work of the author and allow for complete analysis of the problems associated with microtonal instruments.

In arguing his thesis, Liburn Jupolli shows a tendency for empirical observations.

The research proceeds in two directions - theoretical and own work in the creation of the new hybrid microtonal instrument consisting of 10 instruments in one.

**Chapter One** examines the characteristic features of the instrument "Octo" created by the author, its specific notation, microtonal structure and purpose. New luthiers

meet the need for easy-to-use microtonal instruments. Discussed are the hybrid instruments of the 20th century "Simpitar" and "Saxophone", the electric instruments "Denis D'Or" and "Clavecin Electrique", the appearance of the first synthesizers based on synthesis – the Hammond and Moog instruments, electroacoustic instruments, digital luthiery, musical interfaces, new microtonal instruments using intervals smaller than a semitone, outside the diatonic musical scale. The information collected also adds Harry Parch with his 40 different instruments connected to a 43-tone microtonal system. The exposition of this chapter also includes spatial music with its object of composition, the position of sounds in space and the spatial instrument "Acousmonium" by composer Francois Bale. The hybrid concept of the new instrument "Octo" and "Stragonal" is presented - an electrified instrument, similar in structure to vibraphone and marimba.

An indisputable advantage of the work is that it provides insight into the evolution of notation in the 20th and 21st century, systematizing knowledge about how to mark not only the height, dynamics, tempo, but also other elements of music through new signs, symbols and by creating a new notifying language. The essence of microtonal, polychromatic, electroacoustic, aleatoric, graphic and spatial notations is clarified.

In **Chapter Two** "Octo - development of a hybrid microtonal instrument", the model of the process of creation of a new string microtonal instrument called "Octo" in 2010 by Liburn Jupolli and the Finnish luthier Ali Lehtela is constructed.

The development of microtonal music and spatiality provoked the doctoral student to create a hybrid instrument with a wide microtonal range, easy to use and accessible to all instrumentalists, with each timbre having a marked output, use of external effects, containing 5 octaves and a half, and timbre control.

Liburn Jupolli explains in great detail how the Octo is set, the design of the fingerboard, the construction of the body, the specific adapter made especially by Kent Armstrong in California, and the system of 8 output channels.

The conclusions made accurately determine the doctoral student's contribution to the creation of the microtonal instrument "Octo", namely the comparative analysis of the existing instruments and the hybrid version of the new string instrument.

**Chapter Three**, “Octo Notation”, focuses on the important aspects of the notation for Octo. Tested in practice, the specific indications have a special application and method of use. The notation consists of three sets of symbols associated with each tonal structure. It is explained that "Octo" contains three tonal systems and can generate 36 scales from the tempered system, using only one. It is emphasized that composers and performers have the opportunity to create different scales and scale systems with 31 tones in one octave. Part of the text refers to clarifying the spatial notation. The knowledge demonstrated by the doctoral student in this chapter gives me reason to believe that he knows the current state of notation, which is a basis for the successful solution of this problem facing microtonal instruments.

The material presented in **Chapter Four** is of fundamental importance for gaining an idea of how microtonal instrument "Octo" is played. One of the conditions for mastering this instrument is that the performer should be able to play the guitar, bass, mandolin, know various African and Asian instruments. Like any instrument, mastering Octo requires a lot of time, persistence and perseverance. Liburn Jupolli emphasizes successively the technique of performing, writing chords, controlling the timbre with pedals for external effect, tuning and using an 8-output system with separate speakers.

**Chapter Five**, "Spatial and timbre control" refers to the new possibilities that "Octo" brings in terms of musical effects and amplification, the role of synthesizers, computers, analogue pedals and other external instruments. Of interest is the fact that up to 36 effects can be used for each string and a special effect can be obtained when playing chords. Jupolli convinces us of the qualities of his instrument, using the structure-determining approaches - personal, problematic and competence. The setting of the amplifier, the speakers and the location of the effects is explained, as well as techniques for using the pedal with an analogue effect.

In **Chapter Six**, "Realization in Octo", on the basis of personal works (opera GOF) Liburn Jupolli gives examples of composition using the great microtonal capabilities of "Octo" as a solo and an orchestral instrument. For the 10 years of use, the instrument "Octo" has proven in practice its qualities: "Composition for Octo in the "instrument emulation" mode", use of the entire tonal range, spatial use of the 8 outputs, creation of large-scale compositions. Creativity comes down to: "Writing for the instrument in the "partial mansion" mode or "instrument emulation" mode, writing for Octo using the entire tonal range, writing for all components and especially, writing with a spatial focus of use with 8 outputs.

### **Contributions of the PhD thesis**

The contributions cited by Liburn Jupolli are 9 and are formulated precisely. I would like add others that I consider essential:

1. The PhD thesis refers to the significant and topical issue of the place of microtonal instruments in contemporary art of composing.

2. In a well-argued manner, conclusions are made and answers are given to the questions asked in connection with the creation by Jupolli of a new microtonal string instrument "Octo".
3. There is a detailed analysis of the opportunities of microtonal instruments.
4. The research is built on good knowledge of the facts and provides exhaustive information about the essence of the different types of notations in the 20<sup>th</sup> and the 21<sup>st</sup> centuries.

The **abstract** covers 23 pages and is prepared according to the regulatory requirements. It systematically reflects the main theses and achieved results in the PhD thesis.

### **Publications**

The doctoral student has 3 scientific publications related to the subject of the PhD thesis, which meet the regulatory requirements.

1. "Human-robot guitar duo – examples of enabling embedded musical scores through human robot interaction/ automatization"
2. "Octo – creating a new hybrid musical instrument, housing micro-intervalic and spatial properties"
3. "Catastrophe & heritage: an experiment in eeg-generated music composition"

### **Correct citing and notes**

It has been found that Liburn Jupolli is not precise in the use of bibliographic citations, the use of sites and other information. The conclusions are drawn not only



on the basis of own experience, but also on the basis of the use of the relevant literature and the specified quotation should be put in quotation marks everywhere.

My second remark is related to the figures used in the work - 150 in number, which is too much vis-a-vis the text.

Despite my remarks, I believe that we have a research work with original contributions and scientific results, which shows the interest of the doctoral student in the particular topic and his ability to summarize and analyse the information collected. Therefore, I recommend to the esteemed Scientific Jury to award to Luburn Jupolli the educational and scientific degree of Doctor in the doctoral program "Music", NBU, professional field 08.03. "Music and Dance, scientific specialty "Music".

28.10.2020

Prof. Maria Georgieva Ganeva, Doctor of Arts

*I, the undersigned Venceslava Mishlyakova hereby certify the truth of the translation made by me from Bulgarian language to English language of the enclosed document **Critical Review***

*The translation consists of 9 pages.*

Translator:  