

INSTITUTE OF ART STUDIES, BULGARIAN ACADEMY OF SCIENCES



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**EXPERIMENTAL APPROACHES IN THE FIELD OF
ELECTROACOUSTIC COMPOSITION BY AUTHORS FROM BULGARIA
(ANDRÉ BOUCOURECHLIEV, VLADIMIR DJAMBAZOV, BOZHIDAR SPASOV,
MICHAIL GOLEMINOV, MARIA PANAYOTOVA)**

AUTOR'S ABSTRACT
OF A DISSERTATION FOR THE AWARD OF
THE EDUCATIONAL AND SCIENTIFIC DEGREE OF *DOCTOR (PhD)*

**SOFIA
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THE EDUCATIONAL AND SCIENTIFIC DEGREE OF *DOCTOR (PhD)*
IN THE SCIENTIFIC DISCIPLINE OF
*MUSICOLOGY AND MUSICAL ART, 8.3.***

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The dissertation was discussed and approved for public defense at a meeting of the *Music Department* held on June 19, 2026.

The dissertation comprises 361 pages and includes an Introduction, six chapters, a Conclusion, and 6 appendices. The bibliography includes 46 titles in Cyrillic, 101 titles in Latin script, and 108 internet sources.

The public defense will be held on November 2, 2026, at 11:00 AM at a meeting of the Scientific Jury, consisting of: Prof. Goritsa Naydenova, PhD (Institute of Art Studies); Prof. Elisaveta Valchinova-Chendova, DSc (Institute of Art Studies); Assoc. Prof. Rositsa Becheva, PhD (New Bulgarian University); Prof. Simo Lazarov, PhD (New Bulgarian University); Prof. Yuliyana Kuyumdzhiev, PhD (Academy of Music, Dance and Fine Arts).

The defense materials are available to interested parties at the Administrative Services Department of the Institute of Art Studies at *21 Krakra Street*.

The topic of this dissertation is closely linked to my creative pursuits in the field of musical composition and performance spanning more than a decade. My interest in acquiring an in-depth knowledge of the most progressive musical practices motivated me to build upon my training in composition and computer music from Bulgaria and Poland at the Institute of Sonology, Royal Conservatoire, The Hague, Netherlands. The present study, conducted at the Institute of Art Studies, Bulgarian Academy of Sciences (BAS), reflects long-standing practical experience, theoretically expanding upon the subject of experimental approaches in composition and performance.

As a participant in numerous international computer and electroacoustic music festivals in recent years, I am interested both in the challenges of "mapping" this practice within the highly complex contemporary paradigm of the arts — and music in particular — and in the question of the Bulgarian contribution in the field of electroacoustic music.

Approaches involving experimentation point towards the domain in which this dissertation is situated: the complex stylistic spectrum underlying the concept of experimental music. Both the concept itself and the phenomenon remain insufficiently interpreted in Bulgarian musicology. This circumstance, in turn, leaves an open field for research and leads to the primary objective of this study — **to expand the knowledge of the selected authors' oeuvre and aesthetic positions by analysing their compositional approaches, interpreting them precisely as manifestations of experimental music.**

Consequently, the primary **object of the research** is situated around the phenomenon of experimental music, while the **specific subject of the dissertation** encompasses the distinct compositional approaches and models associated with it and applied by the examined authors from Bulgaria in the analysed works.

In search of manifestations of compositional thinking in the works of authors from Bulgaria — which there are grounds to assume can be interpreted within the context of the broad stylistic spectrum underlying the concept of experimental music — this dissertation sets itself the following specific **tasks**:

- To outline the conceptual scope of the term *experimental music*, its origins, variants, developmental trajectory, and contemporary significance;
- To contextualise and interpret the experimental manifestations within the oeuvre of the composers included in the study;
- To analyse works that are representative of the application of experimental compositional approaches;
- To evaluate the compositional techniques and approaches utilized in the analysed works;
- To highlight the contributions of the studied composers to the complex stylistic spectrum of experimental music.

The decision to focus this study on the music of the composers examined in the dissertation — André Boucourechliev (1925 – 1997), Michail Goleminov (1956 – 2022), Bozhidar Spasov (b. 1949), Vladimir Djambazov (b. 1954), and Maria Panayotova (b. 1976) — is justified by several directions of musicological research interest. The first is formulated in terms of *scholarly contribution*, recognizing the high degree of alignment between specific features of their oeuvre and the primary sources and developments of experimental music. The second direction is *investigative*, stemming from the fact that the work of most of these authors is

currently under-researched, thereby leaving an open space for scholarly inquiry. The third is *chronological*, as their collective creative output spans the entire historical existence of the phenomenon, thus offering an opportunity to trace the developmental trends of experimental music from its emergence in the 1950s to the present day. The international *recognition* of their work serves as another significant argument for the selection of these specific authors.

The selection of the composers under study leads to the subsequent decision — to select works for analysis that encompass a wide spectrum of techniques, thereby demonstrating most convincingly the compositional methods associated with experimental music. The number of analysed works is balanced, on the one hand, by the pursuit of a certain level of representativeness and, on the other, by the necessity to complete the study within the designated timeframe.

The timeframe of the study encompasses the entire period of the phenomenon's existence, thereby enabling the examination of developmental trends in experimental music from its inception in the 1950s to the present day.

The analyses of musical works position the study and its objectives within two fields closely related in their subject matter and content: musical analysis and the theory of musical composition. The innovative nature of the approaches employed by the composers in the analysed works confronts the researcher with musical forms that lie beyond the boundaries of traditional musical analysis. Among these are electroacoustic works for fixed and mixed media; instrumental compositions characterized by indeterminacy (a key attribute of experimental music according to Cage); instances of musical graphics (graphic notation), and the creation of audio-visual installations. All of these necessitate the pursuit of adequate **methodological frameworks** for the analysis of such non-traditional compositional approaches.

The primary sources in this direction include the theoretical frameworks developed by Curtis Roads and Mary Simoni, applicable to the analysis of electroacoustic composition; the method for analysing indeterminacy as utilized by Cage; and the methodological frameworks proposed by Virginia Anderson and Brian Inglis for the analysis of musical graphics. Furthermore, insights derived from analyses of specific works presented in texts by Jean Ducharme, Anda Palieva, and Erika Locke are applied, contributing to a detailed perspective on the examined works.

The overall research approach applied in this dissertation can broadly be defined as deductive — a method of engaging with the object of study "from the general to the specific", also known as a top-down approach. For its effective functioning in the analyses of specific musical works, I utilize the categories of the musical time scale proposed by Curtis Roads in *Microsound* (presented as a diagram in **Appendix 5**). It operates with the following categories: supra-time ("the time scale beyond that of an individual composition" — a creative period or an entire oeuvre), macro-time ("the time scale of overall musical architecture or form"), meso-time ("divisions of form"), sound object ("the basic unit of musical structure ... in a time scale ranging from fractions of a second to several seconds"), and micro-time ("sound particles in a time scale extending to the threshold of auditory perception—measured in thousandths of a second or milliseconds").¹ Accordingly, the analysed compositions are first situated and

¹ The quoted passages in parentheses in this paragraph are from Roads, Curtis. *Microsound*. The MIT Press. Cambridge, Massachusetts, 2001, pp. 3–5.

examined within the context of the time and place of their creation, and subsequently, the focus shifts to specific compositional decisions regarding structure, form, method, and sound material.

The dissertation is structured into an Introduction, six chapters, and a Conclusion. The **INTRODUCTION** clarifies the primary research objectives, the object and subject of the study, the approaches and methodology employed, and the literature reviewed.

CHAPTER ONE, entitled "ON THE CONCEPT OF EXPERIMENTAL MUSIC," outlines the conceptual scope and the institutionalization of the term *experimental music*, traces the origins and development of the phenomenon, and presents the operational framework within which it is situated in the dissertation. The chapter comprises seven sections. The first section ("**General Remarks on the Concept and the Phenomenon**") examines the place of the concept of *experimental music* in contemporary encyclopedic sources and traces its controversial path towards consolidation, from the emergence of the term in texts during the 1950s to its eventual admission into the *Grove Dictionary of Music and Musicians* in 2012.

The definition of the term in *Grove Music Online* is featured in an article by Cecilia Sun, who expands upon the understanding of experimental music as an initially exclusively American phenomenon. This American-centric perspective is supported by the fact that in English-language literature, the origin of experimental music is linked almost exclusively to the name of John Cage. At the same time, authors such as Taruskin, for instance, avoid using the term *experimental music*; instead, the contributions of Cage and the associated composers of the New York School are examined under the chapter "Indeterminacy" in his *The Oxford History of Western Music*.

Conversely, the dissertation notes that according to the French musical dictionary *Larousse*, *musique expérimentale* is a concept whose origin is associated primarily with the name of Pierre Schaeffer. He adopted it in the 1950s in search of a "more general approach" that would unify the practices of *musique concrète*, *elektronische Musik*, and *tape music* — designations formed at the level of musical material, which were beginning to exhaust their meaning at that time. Consequently, during the 1950s and 1960s, the term was used chiefly in France to denote music created by electroacoustic means.

The second section of Chapter One, entitled "**Manifestos of Experimental Music**" examines specific texts from the 1950s by John Cage, Pierre Schaeffer, and Lejaren Hiller, in which the authors first identify their work as *experimental music*. This return to primary sources is undertaken in an attempt to clarify the origins and outline the conceptual scope of the term. In addition to the texts of the three aforementioned authors, this section utilizes the scholarly insights of Carlos Palombini, Jean-Jacques Nattiez, and Richard Taruskin.

First, Pierre Schaeffer's 1953 article *Vers une musique expérimentale* is examined. Palombini refers to this text as the "manifesto" of Schaeffer's experimental music, and the dissertation extends this definition to the texts of the other two composers under consideration. It is specified that in *Vers une musique...*, the author does not provide a concrete definition of what experimental music is, but rather calls for "a more general musical approach" (which was intended to unify the practices of *musique concrète*, *elektronische Musik*, and *tape music* under the umbrella term *musique expérimentale*). Schaeffer's attempt to establish *musique expérimentale* as a concept reflecting his preferred "experimental approach, working directly

and empirically with sound" was successful to the extent that the term was officially adopted by the GRM (*Groupe de Recherches Musicales*) during the 1950s and 1960s. Summarized in a single sentence, Schaeffer's experimental thinking is characterized by the *empiricism of studio practice*.

The subsequent exposition outlines the contours of John Cage's experimental music. The prolonged and gradual process of liberating the compositional means — *structure, form, method, and material* — as well as the sound parameters — *frequency, amplitude, duration, timbre, and morphology* (according to Cage) — from "ideas of order" is described primarily in the three parts of *Composition as Process* (1958). Cage's experimental aesthetic position, on the other hand, is most consistently articulated in *Experimental Music* (1957). There, he highlights the growing role of technology, which leads to a change in composers' "habits" and to the expansion and even redefinition of the performer's role. Detachment from the ego in the compositional process, formulated by Cage as "letting sounds be themselves," or the pursuit of automatism (according to Taruskin), emerges as a situation in which chance operations applied to sound parameters prove to be a suitable resource. "Sounds being themselves" also refers to "unintentional" sounds, marked as pauses/silence in the score. *Indeterminacy* emerges as particularly significant for the experimental act ("an act the outcome of which cannot be foreseen"). Embedded within the compositional process, it is manifested in the performance—"that what one does is indeterminate of its performance."

The third primary source examined in the dissertation, which identifies itself with the concept of experimental music, is *Experimental Music: Composition with an Electronic Computer* by Lejaren Hiller and Leonard Isaacson (1959). This is a report spanning nearly 200 pages on the work surrounding the first musical piece composed by a computer using algorithms developed by the two authors—the *Illiac Suite* for string quartet, in which fragments were selected on a statistical basis rather than for their aesthetic qualities. The study highlights an important characteristic of their work that proves significant for experimental music as a whole: the application of (at the time) novel, advanced concepts from various scientific disciplines to the process of material generation, and the use of a high-tech, multi-functional tool like the computer for musical composition. This is an early example of shifting the emphasis of the creative process from immediate musical composition to the creation of code, programs, and comprehensive software — and occasionally hardware — products that generate a musical composition and/or facilitate its real-time performance.

The third section of Chapter One, entitled "***Characteristics of Experimental Compositional Approaches: A Comparative Analysis***" focuses on the compositional and aesthetic features common to the three phenomena examined in the second section. The fact that within a span of only about two years during the second half of the 1950s, texts addressing three distinct approaches to music — all self-identified through the concept of *experimental music* — were published in three different locations — Paris (France), New York, and Urbana (Illinois, USA), provides justification for defining the term as referencing a complex phenomenon from the very Introduction of the research. The dissertation advances the hypothesis *that despite being three separate phenomena, they share certain common aesthetic positions*. Through a comparative analysis, the text extracts their shared characteristics. Outlining the most resilient compositional features and aesthetic positions across these three instances (and, by extension,

for the complex phenomenon of *experimental music* in general) proves useful at a later stage of the research when examining the music of the authors from Bulgaria.

The dissertation tests several categories to extract common features among the three phenomena: 1) the foundational and overarching category, formulated as the *creative use of technology* in the compositional process and performance — referring specifically to magnetic tape in Cage's text *Experimental Music*, but materialized in Schaeffer's work with the same medium, and in Hiller's case, with the university computer ILLIAC; 2) the somewhat debatable category (due to the fact that other trends in second-half-of-the-20th-century music also identify with it), namely the *expansion and even reformulation of the roles of composer, performer, and audience*; 3) the fact that two of the three phenomena (those of Cage and Schaeffer) explicitly state their *opposition to the aesthetic principles of serialism*. Other features pertaining to only one of the three phenomena — such as the *use of chance operations*, the *application of indeterminacy*, and the *inclusion of unintentional sounds in performance* (Cage) — do not find equivalents in the remaining practices; furthermore, at a later stage (towards the beginning of the 1960s), other important characteristics emerge, including *the blurring of boundaries between music and other art forms*.

The subsequent fourth section of Chapter One, entitled ***"Musical Practices Influenced by the Primary Sources of Experimental Music in the USA and Western Europe during the 1960s, 1970s, and 1980s"*** traces the development of the concepts of sonic organization proposed by Schaeffer, Cage, and Hiller in the decades following their emergence. Understanding these concepts is instrumental in defining the operational scope of the term *experimental music* in the subsequent section and in identifying the manifestations of these practices within the oeuvre of the examined composers from Bulgaria in the later chapters. Thus, the subsection ***Fluxus*** informs about the emergence and development of this radical phenomenon, directly influenced by the experimental music of John Cage. ***Minimalism, or the Reaches of Experimental Music*** discusses another branch of the ideas on sonic organization initiated by Cage in the 1950s and addresses the controversial assessments and critiques regarding the extent to which minimalism can legitimately be considered experimental music. ***British Experimentalism*** highlights the shift of the center of experimental music from the USA to Great Britain during the 1960s, as noted by Virginia Anderson. ***Musical Graphics, Free Improvisation and Live Electronics*** note the consolidation of these new musical currents, associated with the activities of the British composer and performer Cornelius Cardew. Electronic music created in real-time is organically linked to free improvisation, as well as to the practice of constructing new electronic instruments that serve the compositional process and performance of their creator. ***The Significance of Technology*** discusses the technological advancements of the 1960s and 1970s and the emergence of new possibilities for music creation and performance, conditioned by newly developed technical devices. The dissertation cites Tom Holmes's *Electronic and Experimental Music: Technology, Music, and Culture* as a primary source in this section, emphasizing the interconnectedness between music technology and musical experimentation. ***Ambient and Environmental Music*** is a genre initially associated with the names of Alvin Lucier, Wendy Carlos, Annea Lockwood, and Brian Eno, whose aesthetics are rooted in the silence of Cage's 4'33".

While the developments examined so far in the dissertation have the work of John Cage as their archetype, in the subsection ***Computer Music*** the progress within the field of computer

technologies associated with music creation comes to the fore, with Max Mathews and Lejaren Hiller as its pioneers. This part primarily examines technological achievements in the decades following the 1950s, following the exposition of Holmes, according to whom a decisive watershed in computer technology was the invention and proliferation of the microprocessor in the early 1970s.

In the final part of this section — *Musique Expérimentale, Musique Acousmatique* — the development associated with the Parisian GRM is traced. In the 1970s, Schaeffer's successors and students — François Bayle, Michel Chion, Lionel Marchetti, and others — began to designate the artistic output of their work as acousmatic music. However, acousmatic practice is articulated less in relation to the sound material itself and more in relation to the listening experience. One of the research directions at the GRM concerns the spatial diffusion of sound, which stands out as a significant characteristic of acousmatic music.

The fifth section of Chapter One, entitled *"The Operational Scope of the Concept of Experimental Music in the Present Text"* proposes an operational framework for the term *experimental music*. This framework serves to identify and interpret the compositional approaches that point toward the existence of an experimental aesthetic position among the composers from Bulgaria examined in the subsequent chapters. This scope is framed by Cage's *indeterminacy* and *silence* (with their later embodiments — *live electronics*, *free improvisation*, *musical graphics*, and *ambient*) and Schaeffer's *studio empiricism* (and its subsequent development into *acousmatic music*). Situated within its compass are characteristics that are more or less present in the compositions analysed in the following chapters: *the creative use of technology*; *the redefinition of traditionally established relationships between composer, performer, and audience*; *the inclusion of unintentional sounds in performance*; and *the blurring of boundaries between music and other art forms*.

The sixth section of Chapter Two, entitled *"Experiments Behind the Curtain: The Special Case of Eastern Europe"* narrows the focus of the dissertation to experimental manifestations within the specific environment of totalitarian regimes in Eastern Europe during the second half of the 20th century. The primary source for this section is the anthology *Sound Exchange*, which brings together articles by musicologists from eight Central and Eastern European countries. In her text on experimental music manifestations in the GDR, Gisela Nauck makes the crucial clarification that "what is called experimental here — especially under the conditions of a political dictatorship — can only be reasonably defined within the context of music history and thus becomes, in international comparison, a relative concept."²

Among the manifestations discussed by the authors in *Sound Exchange*, both structural and political similarities³ come to the fore, as do similar models through which such artistic forms penetrated the public sphere of these countries. Highlighted among the political "common features" are censorship regarding the performance of works deemed inconvenient "due to their

² Nauck, Gisela. Speech Sound Experiments, Sound Machines, Electroacoustic Music, Multimedia - Face to Face with the State. — In: *Sound Exchange. Anthology of Experimental Music Cultures in Central and Eastern Europe*. Goethe Institut, 2012, p. 64.

³ Föllmer, Golo. Experiment and Resistance – Experimental Music in Central and Eastern Europe. — In: *Sound Exchange / Anthology of Experimental Music Cultures in Central and Eastern Europe*. Goethe Institut, 2012, p. 22.

genre or content," international isolation, and prevailing "markedly conservative attitudes."⁴ Despite the predominantly unfavorable environment, the texts in *Sound Exchange* testify that "experimenting with new ideas"⁵ nevertheless made its way into Eastern European countries, distinctly along at least two pathways — **technological** and **cultural**. Technological penetration was facilitated by the Cold War rivalry between East and West in the field of information technology. The result was the establishment of professional, state-subsidized studios for electroacoustic production.

The subsection *Electroacoustic Production Studios* examines the general outlines of this process. Initially, such experimental/electronic studios opened within national radio and television centers (following the example of Paris and Cologne in the early 1950s), and later as part of universities, music academies, etc. In some of the Eastern Bloc countries, the time of establishment of these centers was comparable to the West (in Poland — 1957), others lagged behind by entire decades (Hungary — 1974), while in a third group, such as the former Soviet republics of Lithuania, Latvia, and Estonia, state-subsidized studios for electroacoustic production did not appear until after 1990. The researchers in *Sound Exchange* accept the establishment of electroacoustic production studios as the beginning of sound experimentation in their respective countries.⁶

The subsection *Avant-Garde Music Festivals* examines the role of the contemporary/avant-garde music festivals that emerged within the Eastern Bloc. Through them, the second significant pathway (conventionally termed **cultural**) for the infiltration of "experimenting with new ideas" into the realm of music manifested itself. Many authors in *Sound Exchange* underscore the importance of these forums for introducing new ideas behind the Iron Curtain. Due to its scale and temporal longevity, the Polish *Warsaw Autumn* festival (held annually from 1956 to the present day) is unanimously cited as "one of the most important transcultural spaces for East-West communication,"⁷ alongside several other short-lived festivals that lacked the opportunity to achieve an impact of such magnitude.

The final, seventh section of Chapter One, entitled "*Bulgaria and the Manifestations of the Experimental*" concentrates on the emergence and institutionalization of electroacoustic music in Bulgaria during the decades of the totalitarian regime and the final decade of the 20th century. As part of the Eastern Bloc, the situation in our country is comparable to that of the other Eastern European countries briefly discussed previously. Characteristics of the regime affecting art — such as international isolation, censorship regarding the performance and publication of inconvenient works, and the dominance of "markedly conservative attitudes" — apply to Bulgaria as well. Although the unfavorable conditions for the manifestation of experimental compositional and performance practices—a function of the political situation —

⁴ Mazversite, Daiga, Mara Traumane. Avant-garde Trends in Latvian Music, 1970s-1990s. — In: *Sound Exchange. Anthology of Experimental Music Cultures in Central and Eastern Europe*. Goethe Institut, 2012, p. 250.

⁵ Krekovic, Slavo. Organized Sound and Experiments in Slovak Music. — In: *Sound Exchange / Anthology of Experimental Music Cultures in Central and Eastern Europe*. Goethe Institut, 2012, p. 345.

⁶ See, e.g., Krekovic, Slavo. "Organized Sound and Experiments in Slovak Music." In: *Sound Exchange: Anthology of Experimental Music Cultures in Central and Eastern Europe*. Goethe Institut, 2012, pp. 345–358; and Pasiecznik, Monika. "A History of Electroacoustic Music in Poland from the Perspective of the Polish Radio Experimental Studio 1957 - 1990." In: *Sound Exchange: Anthology of Experimental Music Cultures in Central and Eastern Europe*. Goethe Institut, 2012, pp. 378–384.

⁷ Ibid.

significantly delayed it, they failed to prevent the birth of Bulgarian electroacoustic music. Similar to the other countries of Eastern Europe, the penetration of "experimenting with new ideas" in the realm of sound within Bulgaria is most distinct along the previously noted **technological** and **cultural** pathways. The former is recognizable in the establishment and activities of the Electronic Music Studio at the Bulgarian Radio, while the latter materialized in a series of concert initiatives that began in the early 1980s. Their activity can be traced throughout the decade but expanded intensively only after the political changes. For this reason, the research here expands its focus (which in the previous section was limited to the watershed of the political changes of the late 1980s) and includes the decade of the 1990s in its overview. The exposition on electroacoustic music in Bulgaria begins with the establishment of the ***Electronic Music Studio at the Bulgarian Radio*** in 1974, which is accepted by all sources as the inception of electroacoustic music in our country. This occurred more than two decades after the opening of the first electroacoustic production studios in Paris and Cologne (1951) and 17 years after the first such Eastern European studio in Warsaw (1957), yet it is contemporaneous with the one in Hungary (1974). In the specific case of Bulgaria, albeit with a certain delay, it was precisely the emergence of the Electronic Music Studio at the Bulgarian Radio that provided the impulse which largely facilitated the admission of electronic sound into the radio airwaves and the public sphere. The studio's activity is most closely linked to the name of Simo Lazarov — an engineer, composer, performer, and pedagogue who headed it from its very inception until its closure in 1999. Under the subsection ***The Studio's Activities*** the emergence of the first autonomous work composed using the means available at the Electronic Music Studio is noted: "*Synth Impression: The Four Seasons — first electronic piece in Bulgaria* — X.1975–I.1976. Movements: 1) Autumn. 2) Winter. 3) Spring. 4) Summer."⁸ Simo Lazarov's composition also served to introduce the studio's work to the general public.

The "Breakthrough" of Electroacoustic Music in the 1980s highlights the upsurge observed in the field of electroacoustic music during the 1980s. The decade of the 1980s was marked by several events crucial to the establishment and development of the practice of electronic music (as it was unanimously called at the time). Electroacoustic music created in Bulgaria gained international visibility and recognition for the first time, with a number of compositions presented at forums outside the country and receiving awards. The beginning of the 1980s also marked the first electronic music concert in Bulgaria, which took place in the concert hall of the Union of Bulgarian Composers. Lazarov characterizes this concert as a "breakthrough." The following subsections are dedicated to the establishment of several forums related to electroacoustic music, presented chronologically. The fifth part sheds light on the next significant step in the consolidation of electroacoustic music in Bulgaria — the creation of the ***Experimental Studio for Contemporary Music*** in 1982. This initiative was also described by Anda Palieva as a "breakthrough." Although the studio's activities lasted for only three seasons, sources (Danova-Damyanova and Palieva) testify to its active involvement, including in the field of electroacoustic music.

⁸ See *Becheva*, Rositsa. In the World of Simo Lazarov's Electronic Music. New Bulgarian University, Sofia, 2018, p. 85.

The subsection *Electroacoustic and Computer Music Festivals* traces the emergence and path of the first festival in Bulgaria that explicitly declared itself focused entirely on the field of electroacoustic music. *The First National Festival of Electroacoustic and Computer Music* was held for the first time in June–July 1989 in the town of Gotse Delchev. The synergy of the "Bulgarian electronicians" materialized in two subsequent editions in 1990 and 1991, and in the following decade, it "cloned" (according to Lazarov) into several forums that declared continuity with the festival in Gotse Delchev (*Computer Space*, *FEM*, *The Universe of Computer Music*). *Experimental Manifestations in Musica Nova* informs about the emergence of the *Society for New Music in Bulgaria* and the festival that the society organized annually between 1993 and 2002. The primary source for the dissertation here is Diana Danova-Damyanova's study *Musica Nova in Bulgarian Culture*. After examining the various editions of the festival, it concludes that performances involving indeterminacy, spatial experimentation, and/or electroacoustic media within the *Musica Nova* program occurred with varying intensity, showing a trend toward a more stable presence in the festival's programs during its final editions.

The summary emphasizes that within the context of a cultural environment dominated by the totalitarian regimes that characterized Eastern European countries until 1989, the initial encounter with electronic sound and the subsequent consolidation of electroacoustic music in Bulgaria was delayed by nearly two decades compared to countries like Poland and Czechoslovakia, yet it remains contemporaneous with others such as Hungary and the Baltic states. This conclusion is based on a comparison across two categories: the year of establishment of the first electroacoustic studios (which were, as a rule, state-subsidized and part of a national media organization or educational institution) in each of the aforementioned Eastern European countries, and the first attempts to establish a festival or organized concert activity focusing on contemporary/avant-garde music and featuring electroacoustic music.

The following five chapters of the dissertation are dedicated to the individual oeuvres and analyses of specific works by the composers examined in the study, utilizing the methodological frameworks outlined in the Introduction and Chapter One.

CHAPTER TWO, entitled "MUSIQUE EXPÉRIMENTALE AND THE OPEN WORK IN THE OEUVRE OF ANDRÉ BOUCOURECHLIEV: 'TEXTE I' (1958), 'TEXTE II' (1959), 'ARCHIPEL II' (1969)," examines the experimental manifestations within the creative output of André Boucourechliev and comprises seven sections. At the very outset, it is emphasized that the narrative concerning Boucourechliev is directly linked to, and serves as a unique continuation of, the narratives about Pierre Schaeffer and John Cage. Boucourechliev's early electroacoustic works from the late 1950s, published under the label *musique expérimentale*, and his later works from the second half of the 1960s and early 1970s, which engage with the poetics of indeterminacy, place him within the ranks of the "transatlantic avant-garde" (according to Taruskin) and characterize his oeuvre with a high degree of alignment with the subject matter of this dissertation. The opening sections, *"Bulgarian-French 'Mélange'"* and *"Oeuvre within a 'System of Differences'"*, outline the contours of his creative portrait through the prism of the "mélange" or "hybridization" noted by Christian Rosset.

It appears that this mixing — at times involving more than two substances, whether contrasting or similar — is present within the layers of Boucourechliev's life path and his creative essence.

This extends from his formative years, when the piano was just one of his serious pursuits alongside several languages and literature, through the defining Bulgarian-French ethno-cultural duality, to the fact that Boucourechliev was never satisfied with just a single mode or form of self-expression. The virtuoso pianist turned his focus toward composition. Having abandoned performance, however, the composer required another channel of communication to complement his need for connection. The written and spoken word provided this. He became both a composer and a music writer — one a curious explorer of distant islands, the other reflecting upon tradition and modernity. Jean Ducharme highlights this perhaps most essential *mélange* for him: the reflection upon tradition while mirroring his own time. Boucourechliev himself acknowledged the influence of "hybridization" as a decisive factor in composing the cycle of works that brought him international acclaim; the *Archipels* "would be unthinkable without the American experience, but also without a vital awareness of the heritage of Webern and Debussy."⁹

The analysis of the first selected composition (the electroacoustic *Texte I*, composed at the *Studio di fonologia* in Milan) is approached by first presenting facts concerning the context in which the work was created. The third section, "*RAI Studio di fonologia in Milan*", presents the views of Armando Gentilucci and Boucourechliev on the empiricism of the early years of the Milan studio's existence. The analysis in the following section, "*Texte I' — Empirical Experience at the Studio di fonologia, RAI, Milan*", begins with *Cultural Context: Premiere* and *Distribution*, where attention is drawn to the premiere performance of *Texte I* during the *International Days of Experimental Music* in Brussels, part of the World's Fair (*Exposition Universelle et Internationale de Bruxelles*) in 1958, and to the double compilation LP *Panorama des musiques expérimentales* released a few years later, which included Boucourechliev's composition. In *For the Analysis of Electroacoustic Composition* and *The Use of Engineering Tools in the Analysis of Electroacoustic Composition*, a specific methodological framework for the analysis of electroacoustic music is operationalized; proposed by Mary Simoni and based on the musical time scale introduced by Curtis Roads, it serves to situate the analysed composition within various temporal scales. Standing out as structure-defining markers in Simoni's framework are the "distinct cadential moments — points of temporal repose," while the spectromorphological interpretation of the sound object and the use of engineering tools such as waveforms and spectrograms to visualize sonic events are proposed as suitable and applicable to the analysis of electroacoustic music. *Material and Evidence for 'Texte I'* aids the analysis by completing the picture with available information regarding the sound material and compositional techniques employed by Boucourechliev. In *Analysis*, Simoni's methodological framework is applied in practice. Through aural and visual analysis (waveform and spectrogram), the structure-defining markers — the "points of temporal repose" — are identified, according to which the total duration of the composition can be divided into four segments (the term "segment" is preferred over the traditional "section", which carries harmonic connotations). These segments differ in the density of appearance of new sonic events, as well as in their spectral and dynamic saturation. The analysis further demonstrates the capability of frequency-domain spectrum visualization to provide detailed information regarding the spectral content of specific, selected brief moments.

⁹ Boucourechliev, André. *Sous le signe du virtuel*. — In: *Dire la musique*. Paris, Minerve, 1995, p. 182.

With the aim of achieving a better understanding of *Texte I*, the top-down approach to the analysis situates the work sequentially within a succession of temporal scales, beginning with the supra-time scale — the cultural, technological, material, and even political context of the era. It then narrows the focus to the macro-time scale — the overall structure of the composition. The next stage of dissection focuses on the meso- and microstructures (phrases and individual sonic events) within each of the temporal segments. Reaching the level of specific sonic events, the analysis turns to the spectromorphological characteristics of individual events or sequences thereof. However, within this visible structural partitioning, according to Boucourechliev, "the elements of the work appear as 'formants' in a continuous happening, rather than as 'sound objects' that can be grasped at a given moment. From this material develops a musical form whose discursive character resembles a spoken text."¹⁰

A similar approach is applied to the analysis in the fifth section, entitled "**... I made 'Texte II' with concrete materials**". The composition *Texte II* was realized at the GRM studio, which was still headed by Schaeffer at the time. In *Premiere* and *Distribution*, attention is directed first to the cultural context in which *Texte II* emerged — performed for the first time less than a year after the premiere of *Texte I*. Within the framework of one of the most prestigious and long-standing cultural forums in Europe — the Venice Biennale (*La Biennale di Venezia*) — the 22nd International Festival of Contemporary Music (*Festival Internazionale di Musica Contemporanea*) took place. Part of the festival's program was an "Extraordinary Concert of Electronic Music" (*Concerto straordinario di musica elettronica*), held on September 20, 1959, at Teatro La Fenice. The program was divided equally among three studios — those in Cologne, Milan, and Paris — and this time Boucourechliev represented the GRM. *Texte II* was released for the first time in 1962 on a compilation LP featuring GRM productions, entitled *Musique Expérimentale I*.

In "**Asynchronous Reference Points**". **Stereophonic Space and Material**, it is revealed how Boucourechliev achieves temporal mobility within a composition fixed on magnetic tape. Such "multiple formatting" is possible if the material is recorded on more than one medium and is played back by at least two tape recorders that are started at different times. Unlike *Texte I*, which was created by electronic means, in *Texte II* Boucourechliev experiments with concrete materials. Percussive sounds are transposed, spliced, filtered, occasionally reversed, repeatedly transformed, and layered into a collage. The laborious techniques of micro-montage allow the composer to distribute four sonic layers, each with its own distinctive spectromorphological and rhythmic profiles, across the two tapes. In the *third* and *fourth* layers, he achieves a sonority that he likens to bamboo chimes. This compositional approach, in which material from two independent tapes can be mixed at multiple arbitrary points in time, demonstrates the composer's taste for "networks of possibilities, rather than works defined once and for all."¹¹ With *Texte II* (characterized by Ducharme as a preparation for the *Archipels*), Boucourechliev was already moving toward achieving a musical whole in the late 1950s through the "arbitrary generation of forms from formant structural frameworks."

¹⁰ Castanet, Pierre Albert. Le savoir-faire empirique d'André Boucourechliev? À propos des œuvres expérimentales de la fin des années 1950. La Revue du Conservatoire [Online], La revue du Conservatoire, The third issue, Dossier on the artist's know-how, updated on: 06/23/ 2014, URL: <https://larevue.conservatoiredeparis.fr:443/index.php?id=1052>.

¹¹ Ibid.

The electroacoustic pieces *Texte I* and *Texte II*, created in the late 1950s, reflect the *empiricism* of *musique expérimentale*. The third composition by Boucourechliev analysed in the dissertation — *Archipel II* — was created a decade later and belongs to the second creative period (according to Ducharme), in which the compositions are "decisively open." Before proceeding to the analysis, however, the sixth section, "**Indeterminacy, Aleatory, and the Open Work**", outlines the core concepts and definitions associated with open form. *Open work*, *mobile form* (also termed *polyvalent form*), *indeterminacy* and *indeterminate music*, *aleatory*, *chance music*, *chance composition*, as well as *random music*, are concepts that operate within similar contexts and closely related meanings in musical literature. The similarities and differences between the concepts of aleatory and indeterminacy are outlined, and the use of the term *indeterminacy* in this dissertation is argued as emphasizing the significance of the performer's role, in alignment with current definitions in *The Oxford Dictionary of Music*. Texts by Stanley Sadie, Umberto Eco, Yuri Kholopov, Hervé Zénouda, and Richard Taruskin delineate a discussion on the approaches to "openness" in music and art in general. Boucourechliev himself wrote on the subject in *Aleatoric Music* — he credits John Cage with "the initiative for chance in the music of our time"¹² but is drawn more to Earle Brown's approach, where the composer relies on the momentary, conscious choice of his performers. He prefers the term *open form* when referring to his own work and categorically rejects having his approach labeled as *aleatoric* or his music associated with the concept of *aleatory*.

The analysis in the final, seventh section of Chapter Two, entitled "**'Archipel II': Analysis**" begins, as with the previously discussed compositions, with the cultural context and the premiere of the work, performed for the first time by the *Parrenin Quartet* in Royan in 1969. The choice of the string quartet places Boucourechliev within a long line of continuity originating in Viennese Classicism — from Haydn and Mozart, but most notably from Beethoven. The subsections **Section A** and **Section B** offer a detailed look at each of the structures printed across the two large pages of the score. Boucourechliev designates the four primary structures in *Section A* as *plages* (in the dissertation, the translation "fields" [*poleta*] is preferred as associatively closer in transferring meaning between geographical space and musical structure). The composer associates these *fields* with "stasis," while the seven structures (designated as *grandes structures* — large structures) in *Section B*, marked with Greek letters, he calls "dynamic events." The *fields* of *Section A* cannot be performed consecutively, which automatically means that any return to *A* inevitably leads back to *Section B*. The interpretation of any given *field* can be interrupted at any moment at the discretion of any of the performers, which obliges the others to follow.

Access to the *structures* marked with Greek letters in *Section B* is gained after a single performance of any of the *fields* from *Section A*. The choice and ordering of structures within *Section B* are free. The decision to interrupt the performance of a *field* in *Section A* in order to transition to *Section B* is made freely by any of the performers while a *field* from *Section A* is still being played. The return to *A* occurs in a similar manner: when one of the performers decides it is necessary to leave *Section B*, they independently proceed to one of the *fields* in *Section A*.

¹² Boucourechliev, André. La musique aléatoire: une appellation incontrôlée (1989). — In: Dire la musique. Paris, Minerve, 1995, 188 – 194, p. 189.

Although the concepts of *mobile form / open work* and *indeterminacy / indeterminism* reside within a common conceptual framework, they are not synonymous. While *indeterminacy of form / indeterminate form*, much like *mobile form* or the *open work*, refers to the macro-time parameter of a musical work's structure, *indeterminacy/indeterminism* as a compositional concept can descend to subsequent levels and extend across the meso- and micro-time parameters of the work. Therefore, a significant place in this section is occupied by the ***Analysis of Indeterminacy According to Cage's Method***. The method employed in Cage's *Indeterminacy* operates at the levels of macro-, meso-, and micro-time organization across several compositions, testing for *indeterminacy* the compositional means (according to Cage) — *structure* (the division of the whole into parts), *form* (the expressive content, the morphology of continuity), *method* (the step-by-step procedure from note to note), and *material* (the sounds and silences of the composition) — as well as the sound parameters: *frequency*, *amplitude*, *duration*, *timbre*, and *morphology*.

To effectively analyse Boucourechliev's approach to *indeterminacy* in *Archipel II*, three operational concepts are introduced: *relative indeterminacy* — when a given compositional mean or sound parameter is indeterminate, but its *indeterminacy* is to a lesser or greater degree restricted by pre-established instructions, prescriptions, or rules provided by the author, which oblige the interpreter to take specific actions; *total indeterminacy* — when the *indeterminacy* of a given compositional mean or sound parameter is unrestricted by prescriptions and utilizes the entire spectrum of (physical) possibilities; and *complementary indeterminacy* — when the *indeterminacy* of one or more parameters within a given structure is compensated for by *determinacy* applied to the remaining sound parameters.

Following an examination of the specific applications of *indeterminacy* regarding the compositional means and sound parameters within each of the structures, it is summarized that *indeterminacy* in *Archipel II* is predominantly *relative* and, furthermore, *variable*. It is embedded as such within the set of rules that the composer requires his interpreters to follow. The compositional means and sound parameters are positioned across the entire range of the spectrum between *total indeterminacy* and *strict determinacy* in different parts of the composition, and frequently, the *indeterminacy* is *complementary*. This fluctuating *indeterminacy* contributes to the dynamics of formal development, ensuring that each performance is characterized by uniqueness and its own distinct atmosphere, without, however, creating disorder.

The "mélange" highlighted at the beginning of the exposition on Boucourechliev is also projected onto his relationship with the "poetics of indeterminacy" — it is present, yet its dominance is balanced through a succession of determinate and indeterminate episodes. Although the openness in his oeuvre far exceeds that of his European contemporaries, he does not allow himself to completely lose control over the realization of the musical form in real time.

CHAPTER THREE, entitled "MANIFESTATIONS OF THE EXPERIMENTAL IN THE OEUVRE OF MICHAÏL GOLEMINOV: 'CONCERT IN C MINOR FOR TWO PIANOS' (2002), 'CONTEMPLATION' (2017), 'SONIC CONFLICT' (2021)," much like Chapter Two, first outlines the contours of Goleminov's overall creative output and aesthetic highlights before proceeding to the analyses of specific works.

The *indeterminacy* recognizable in his scores and manifested in the improvised performances of musical graphics, alongside the striving toward "awakening a (...) direct experience within the listeners — of their intuition"¹³ directs the text once again toward the "poetics of the captured moment" (according to Boucourechliev). *Indeterminacy* is the primary manifestation of an experimental aesthetic position that this dissertation traces in Goleminov's music.

His oeuvre, which spans a timeframe of approximately four decades (from the early 1980s until his death in 2022), can hardly be attributed to a specific movement or established aesthetic. Characterized by "diversity and multifacetedness"¹⁴, his work does not fit within the boundaries of established labels and definitions of cultural movements and their branches. He himself refused to be categorized by adjectives such as "avant-garde" and generally declined to engage with definitions altogether.

Technology, although heavily integrated into his compositional and performance processes, was according to Goleminov nothing more than a medium through which the artistic experience reaches the audience, maintaining that "the only thing that proves important is whether this music is capable of communication or not"¹⁵. During his long-standing stay in Vienna, he was exposed to the direct influence of Roman Haubenstock-Ramati, one of the pioneers of musical graphics (graphic notation), which Goleminov embraced as a "decisive experiment" in the music of the second half of the 20th century. The ideas of Cage and American experimental music were defining for his aesthetic position in his mature period after 2001, arriving at them gradually through listening and performance experience.

The first section of Chapter Three, entitled "*Analysis of 'Concert in C Minor for Two Pianos'*" shifts the focus toward examining the approach to applying *indeterminacy* in this 2002 composition — one of the early examples of pronounced indeterminism in Goleminov's oeuvre. The two pages of the concert's score contain a total of 19 models, notated on single staves in the treble clef. The sound material within these fragments is intended for both performers. In the description on *sheetmusicplus.com*, where the score is published, Goleminov added: "*Minimalist concert piece for two keyboards (pianos, harpsichords etc.)*." Goleminov's note that this is a "minimalist concert piece", the dedication to Steve Reich, as well as the repetitive organization of the sound material, point toward a compositional intent associated with minimalism. Within a score structured in this manner, the primary vehicle for *indeterminacy* proves to be Goleminov's instructions (six in number), which within the span of a few sentences open up a universe of countless possible performance variants for the 19 models.

Similarly to the approach applied to *Archipel II* in the preceding chapter, here too the *indeterminacy* of the compositional means and sound parameters is analysed using Cage's method. The only determinate sound parameter in the concert is *frequency* (according to Cage) or, in this specific instance, the pitches and their sequence within the designated model. Regarding the compositional means in *Concert in C Minor for Two Pianos*, *indeterminacy* is

¹³ Tosheva, Angela. "Transforming Mental Landscapes into Sounds. The Musical World of Michail Goleminov." In: *Collection of Papers from the Scientific Conference with International Participation. XIII Academic Spring Readings "Music and Worldview"*, Sofia, 2023, p. 153.

¹⁴ Danova-Damyanova, Diana. "Genetically Modified Birds." *Literaturen Vestnik*, no. 36, 19 Oct. 2022, pp. 6–7.

¹⁵ Goleminov, cited in Docheva, Ekaterina. "Interview with the Composer Michail Goleminov." *Kultura*, no. 28 (2688), 21 Jul. 2006.

most distinctly manifested in the *structure* and *form*, which are *relatively indeterminate*, given that the duration of the composition is restricted by the author's instructions. *Indeterminacy* is also clearly expressed in the sound parameter of *volume* (amplitude, according to Cage), whereas timbre, though left to the free choice of the performers, remains relatively indeterminate due to the indication in the title and description — "for two keyboards" — without the instruments being specified. The compositional means of *method* and *material* are rather determinate, which also applies to the sound parameter of *durations*, while the *pitch*s are strictly determinate.

The next composition analysed is the musical graphics (graphic score) *Contemplation*. The subsection **"How to Analyse Musical Graphics? Analysis of 'Contemplation'"** leads the dissertation into the domain of the musical analysis of performance. Two documentary recordings of public performances of this graphic score by the author himself are utilized. The rather uninformative graphic presentation of the composition places the researcher in a position of relying entirely on the sonic registration of a transpired live performance. The two (distinct) versions of the work allow for a comparative analysis and highlight the *indeterminacy* of *Contemplation*. The core substance of the few existing sources (the texts by Jean-Jacques Nattiez, Virginia Anderson, and Brian Inglis on the analysis of musical graphics) crystallizes into a typological framework for the analysis of musical graphics proposed by Inglis. According to this framework, *Contemplation* belongs to the following four categories: *Graphics without musical signs*; *One page*; *No notion of axis (a grid involving pitch and duration)*; *No verbal information (instructions, explanations)*. The analytical information is extracted from several components examined across *The Title*, *The Image*, and *The Sonic Outcome*.

The third section, entitled **"Total Indeterminacy in 'Sonic Conflict'"** analyses Goleminov's final completed work "for keyboard and optional: electronics, live electronics, and visualization." Once again, two substantially different versions of the work recorded by the author are utilized. The composer employs sound material with distinct tonal qualities in the two performances — chromaticism in one version, and microtonality in the other version of *Sonic Conflict* — thereby explicitly underscoring the indeterminate nature of the composition embedded in the score. Applied to *Sonic Conflict*, Cage's method for verifying *indeterminacy* demonstrates that all sound parameters and compositional means in the piece are indeterminate. This is visible in the score, where *pitch*s, *durations*, and *volume* are *totally indeterminate*. The *indeterminacy* of *timbre* is established from the outset in the title — "... for keyboard" — without clarifying the exact instrument. Listening to the recordings of the two distinct versions of the composition reveals that the compositional means — *structure*, *form*, *method*, and *material* — are also indeterminate. The theme of rejecting traditional notation, which runs through a large part of Goleminov's oeuvre, finds its most fully developed execution in *Sonic Conflict*. The leap from *total indeterminacy* to a highly determinate, yet unplayable texture — ultimately replaced by musical graphics — is intended, in the composer's words, "to achieve several things, the most essential of which is (...) the restoration of the performer's spontaneity," while the graphic element becomes "a source of inspiration and multi-directional associativity"¹⁶.

¹⁶ Goleminov, Michail. Program Notes for the Concert 'The Gaze of Sound', 2017.

CHAPTER FOUR, entitled "IN SEARCH OF AN EXPERIMENTAL AESTHETIC POSITION IN THE OEUVRE OF BOZHIDAR SPASOV: 'ASYLPHONIA' (1995), 'FIATO CONTINUO' (1998–2004), 'ANTIGRAV' (2007)" tests the hypothesis regarding the presence of an experimental aesthetic position within the creative output of Bozhidar Spasov. It comprises two sections. In the course of the research and during the process of clarifying the scope and characteristics of the concept of *experimental music* — as outlined in Chapter One (framed by the *indeterminacy* of performance and the *empiricism of studio practice*) — it emerged that this hypothesis is rather unconfirmed. Maria Kostakeva's monograph dedicated to Spasov's oeuvre highlights the reflection upon traditions as a central characteristic of his work from the very title — a formulation that points in a direction opposite to experiment, given that the underlying idea behind the existence of experimental music lies primarily and precisely in the rejection of traditions.

The first section, *"Quotation as a Marker of Connection to Tradition"* examines a pronounced characteristic of his oeuvre that is persistently present both in his instrumental works and in those utilizing electroacoustic media: the postmodern technique of musical quotation. The examined features of Spasov's work point toward an intention to connect with tradition rather than to "break down barriers" within the compositional process and performance. The musical examples provided by Kostakeva do not display any intent toward performance indeterminacy; Spasov does not articulate a stance regarding experimentation, and the invariable quotations from the European musical tradition and Bulgarian folklore in both his instrumental and electroacoustic compositions serve as a vivid sign of alignment with tradition.

The second section, *"Intercultural Composition"* examines Spasov's technique of juxtaposing contrasting and sometimes incompatible musical images. It specifies that the essence and value of his work lie precisely in the counterposition of seemingly incomparable musical "doubles" that mirror one another.

CHAPTER FIVE, entitled "THE ELECTROACOUSTIC MUSIC OF VLADIMIR DJAMBAZOV: 'DIALOGUE' (1981), 'NO CONTACT III' (1989), 'THE SECRET LIFE OF A CAN' (2001)," comprises three sections and highlights the parallels between Djambazov's electroacoustic music and the *empiricism of the studio practice of musique expérimentale*. Within the supra-time framework of his oeuvre, a stable trend over time is observed, namely a shift of creative focus from what Djambazov terms the "German electronic school" to the "French school"; this is manifested in a change in the selection of the initial sound material for the realization of an electroacoustic composition. In his early works composed in Essen, he relied predominantly on electronic material generated at the ICEM studio, and the medium in his compositions from the 1980s and until the late 1990s was tape. From 1998 onwards, however, alongside the realization of the piece *Praying* and the first title from the "Secret Life" cycle — *The Secret Life of a French Horn* — the category of acousmatic media emerged. This testifies not only to a change in the physical carrier (from magnetic tape to a digital audio file) but primarily to a change in the origin of the raw sound material, and consequently, in the compositional approach.

Djambazov's experimental position manifests as a life principle and a state of mind: "Working with the material, but not only that — throughout my entire life, I am guided by the question

'what if?', 'what will happen if I do something in a certain way?'"¹⁷ According to Elisaveta Valchinova-Chendova, Djambazov "is no stranger to pure experiment or sound-imitative representation."¹⁸ The attitude toward the use of noise as musical material reinforces this position: "For me, the tone is just one subdivision of the great thing called noise, and the great thing called noise, which encompasses everything, is music to me."¹⁹

The parallels between Schaeffer's manifested *studio empiricism*, formulated by him as *musique expérimentale*, and Djambazov's compositional process are found in the approach to working with material frequently shared by the latter: "I didn't have a very clear idea how it would develop," "to see how the material would lead me," but above all in the categorically experimental "what if?". Another line has a foundational significance in his work — the intentional pursuit and embedding of a theatrical, scenic element in his pieces. Conceiving the musical composition as a story, associating sound with an "acoustic character" — "a specific sound is like a character that develops over time"²⁰ — is a technique that characterizes a large part of his work, and understanding this line provides answers to questions regarding numerous compositional decisions.

The first proposed analysis in *"Music for Mixed Media: Analysis of Dialogue for French Horn and Four-Channel Tape"* draws attention to an early example of the use of electroacoustic media in the oeuvre of a Bulgarian composer. The combination of a "live" instrument and a multi-channel spatial realization of the tape part assigns this 1981 composition the status of an archetype in Bulgarian music. "For me, it is a cornerstone — not to sound exaggerated, but it is a cornerstone for Bulgarian electronic music as well,"²¹ says Djambazov. The piece's status as a "cornerstone" in the context of Bulgarian electroacoustic music is one of the arguments for its selection for analysis.

In *Score; Premiere. Recording; The Part of the French Horn; Mastering the Space: The Part of the Tape* and *The Dialogue*, the individual components of the analysis are segmented. In the dialogue between the French horn and the four-channel tape, "tone and noise and all their parameters are equally important, and their boundaries are not only immensely expanded but also open"²² Both parts—that of the soloist and that of the tape — are distinguished by exceptional timbral diversity. In the soloist's part, this is achieved through the use of a rich array of extended technique, and on the tape — through the capabilities of the SYNLAB synthesizer and numerous analog techniques for processing recorded sound material. In addition to the rich timbral palette, the soloist's part in *Dialogue* offers several distinct approaches to structuring the tonal material, which testify to a polystylistic, eclectic attitude toward pitch organization — one encounters "classical" examples of twelve-tone rows with their permutations, chromatic successions with a constant return to the same "fundamental"

¹⁷ Author's interview with Vladimir Dzhambazov, conducted on 3 Jul. 2023.

¹⁸ Valchinova-Chendova, Elisaveta. "Vladimir Dzhambazov: I Dream of a Time When the Haves Will Support the Talented: Our Electronic Music Is Full of Fresh but Hard-to-Realize Ideas." *Kontinent*, 21 Apr. 1995.

¹⁹ Author's interview ... on 3 Jul. 2023.

²⁰ Ibid.

²¹ Ibid.

²² Djambazov, cited in Palieva, Anda. Die ersten Schritte der bulgarischen elektronischen Musik zu Hause und im Ausland. – In: Drei internationale musikwissenschaftliche Tagungen in Wien 2018. – 2020, Wien 2022, S. 382.

pitch, purely sonorous fragments, free improvisation, as well as tonal episodes that he himself associates with folklore.

The second analysis, featured in *""Trace of Time": Analysis of 'No Contact III'""*, addresses a work that marks a turning point in Djambazov's creative output, one which he refers to as "my final electronic piece." He realized this four-channel electroacoustic composition in the autumn of 1989 during his specialized training at the ICEM studio in Essen, Germany. This turn — the shift in preferences regarding sound material — is, however, merely a minor detail against the backdrop of the colossal political upheavals taking place precisely at the time he was working on the piece. Within those few months of social unrest, protests, and even bloody clashes, the unstoppable wave of change swept away the totalitarian regimes in Central and Eastern Europe. The spirit of this turbulent era left its imprint on Djambazov's composition. The initially planned sonic expression of human goodness transformed into a reflection of rebellion, protest, and anxiety about an uncertain future.

The composition can conventionally be divided into three main segments. The delineation of the first segment is justified by the constant presence of a continuous noise texture, with which the composition begins and abruptly breaks off at the 4:00-minute mark. Within it, in line with his dramaturgical thinking, Djambazov presents his sonic "characters" or "images" individually, each distinguished by a characteristic spectromorphology, thereby "preparing this entire dynamic section" where the "collision, the conflict" will transpire. The middle segment, spanning from 4:00 to 8:05 minutes, is characterized by a much higher spectral density and frequency of sonic events compared to the introductory one. The sonic embodiments of the "rumble," the "harbinger," the "summons," the "unrest," and the heartbeat (already introduced in the exposition) unfold, overlap, and confront one another. Djambazov's metaphorical imagery works in tandem with his compositional mastery in layering these distinct sonic strata. "Rumbles of the oncoming turnarounds in Eastern Europe. You can absolutely interpret it within the context of all the events taking place in the former Eastern Bloc in 1989 (...) of course, at such moments, it always leads to unrest."²³ The third segment, lasting just over 2 minutes, serves as a symbolic recapitulation of what has transpired up to that point — of the rumble, the anticipation, the summons, and the unrest. The composer associates this section with "hopelessness."

The third analysis, in *"The Acousmatic Line in Djambazov's Oeuvre: Analysis of 'The Secret Life of a Can'""*, turns to the series of electroacoustic compositions entitled *The Secret Life* or *The Secret Lives*. These works solidify the direction that Djambazov's music took during the 1990s — from the use of electronic to acoustic primary sound material. The leading motif for this change, which he emphasizes — *emotion* ("through acousmatic music I can express myself emotionally more vividly than with electronic music")²⁴ — is, in turn, directly linked to the "dramaturgical" or "theatrical-cinematic" line in his music. Emotions, embedded in the very essence of dramatic art, are frequently the starting point in Djambazov's compositional process. His choice to turn to a "non-musical" object as a sound source in *The Secret Life of a Can* underscores his aesthetic position as a sonic experimenter. This is also one of the arguments

²³ Author's interview with Vladimir Dzhambazov, conducted on 6 Aug. 2024.

²⁴ Author's interview ... on 3 Jul. 2023.

for selecting this specific acousmatic work from his creative output to be analysed in the dissertation.

The re-created sonic "scenes" in *The Secret Life* can be defined as contrasting. In Djambazov's electroacoustic narrative, scenes alternate in which sonorities associated with the *industrial* — the mechanical repetitiveness of recurring fragments (an assembly line, the movement of a train) — are juxtaposed against the *natural* (the can in a swamp, surrounded by living creatures). The latter is achieved through a colorful timbral palette of discursively unfolding sounds that convincingly recreate a rich yet unobtrusive natural soundscape.

In the absence of traditional structural landmarks or formal reference points, a condition predetermined by the nature of acousmatic music, it turns out that dramaturgical thinking performs a vital function — manifesting as a structure-forming element. The sequence of "scenes" from the "life" of the can fills the development of this "sonic story" with concrete dramatic content. While the above does not necessarily apply to acousmatic music in general, dramaturgical thinking in Djambazov's case proves to be a resilient element that offers one possible solution to the problem of achieving a definitive form and structure.

CHAPTER SIX, entitled 'BEAUTY IN SIMPLICITY' — THE MUSIC OF MARIA PANAYOTOVA: 'TRANSIENCE' (2000), 'SUN WATER SKY MOON' (2001), 'IN THE FOREST' (2006), focuses on the work of Maria Panayotova and comprises three sections. A number of characteristics within her creative output can be interpreted as manifestations of a compositional thinking that stems from American experimental music — more specifically, from that particular branch which emerged from the silence of 4'33", inviting immersion into surrounding sounds and deep contemplation of the sonic experience. The beginning of Panayotova's training in composition, alongside the inception of her creative path, took place in the United States — a personal choice that ultimately played a defining role in shaping her aesthetic position and creative disposition.

The contours of Panayotova's aesthetic position delineate, first and foremost, *indeterminacy*, which is manifested primarily within the organization of time; this, in turn, is directly linked to the *relinquishment of total control over sound parameters*, as declared by Panayotova. Leonard Meyer's observation regarding a characteristic of transcendentalism — subsequently argued by Joaquim Benitez²⁵ as a feature of experimental music — wherein the artwork transforms into a natural object, akin to the *objets trouvés* ("found objects") in Dada art, manifests in Panayotova's practice through the *recycling, reworking, and repetitive utilization of musical material in constructing "static sonic tableaux."* In her work, it is also important to note a *propensity for employing multimedia, blurring the boundaries between the traditional conception of music and other forms of artistic expression.*

The first composition examined in *"Indeterminacy and Silence: Analysis of 'Transience'"* is for orchestra and was completed in 2000. Within the work, there are a total of four "closed" (according to Panayotova) and, interspersed between them, three "open sections." Highly diverse in terms of timbre, rhythm, and texture, what distinguishes them from one another is primarily their pitch content (six pitches of the chromatic scale for the open sections, and the remaining six for the closed ones), but also the approach to temporal organization.

²⁵ See Benitez, Joaquim. "Avant-Garde or Experimental? Classifying Contemporary Music." *International Review of the Aesthetics and Sociology of Music*, vol. 9, no. 1, 1978, pp. 53–77.

Panayotova's experimental aesthetic position is manifested in *Transience* through: *indeterminacy* — most notably regarding the organization of time (tempo, duration of a specific sonic event) and the order and number of performed structures/episodes; pitch organization — the sequence of chosen tones in some of the episodes is free; dynamics and registers — certain instructions in the score specify the free choice of precisely these parameters; *the use of noise as musical material* — smooth transitions from tone to noise and vice versa are embedded within the core idea of the composition; and *unintentional sounds as part of the performance*. Verifying the compositional means and sound parameters in *Transience* reveals their predominant *relative indeterminacy*. The structural elements — the open and closed sections — are *indeterminate* regarding their duration, but not in terms of their sequence of appearance, which is prescribed in the score. Consequently, the *structure* is only *relatively indeterminate*. The *form* — the "morphology of continuity" — being heavily dependent on the sequence of structural parts, is likewise only *relatively indeterminate*. The *material* — the six chromatic pitches in the closed sections and the remaining six in the open ones, as well as the smooth transitions from tone to noise and vice versa — is predetermined and recorded in the score. Another portion of the material, such as "fast random clicks," is *indeterminate*. However, the *method* (the procedure of passing from tone to tone) in some of the open sections — where "the sequence, duration, and dynamics (...) change at will" — is consequently indeterminate, whereas in the closed sections, it is predominantly determinate. The sound parameters — *pitches* (frequencies) and *timbres* — being prescribed in the score, are largely determinate. The *dynamics* are determinate in certain sections, while in others they "change at will." *Durations* appear to be the most indeterminate of all sound parameters, given that Panayotova provides instructions at the very beginning stating that "time markings are approximate." From the above exposition emerges the conclusion that *indeterminacy* in *Transience* manifests primarily regarding temporal organization.

The subsequent analysis in ***"Temporal Indeterminacy and Folklore Sonority: Analysis of 'Sun Water Sky Moon' for Four Female Voices"*** takes into consideration a composition completed in 2001, distinguished once again by an indeterminate temporal organization.

The sequence of "sonic tableaux" or what Panayotova terms an "a la rondo form" in *Sun Water Sky Moon* juxtaposes two contrasting approaches to the organization of time. The alternation of temporally and tonally indeterminate episodes with those possessing a definite meter, tempo, and tonal center is a technique highly similar to that of the "open" and "closed" sections in *Transience*. Alongside the *indeterminacy* of temporal organization, which places the work at the center of this study, what merits attention is the specific manner of treating the vocal-folklore idiom in *Sun Water Sky Moon*.

However, the association with folklore in *Sun Water Sky Moon* stands far removed from the familiar approaches of Bulgarian composers toward polyphonic vocal "arrangements" (*obrabotki*) of folk songs. Instead, it presents an individual approach within the context of a folklore-influenced sound in the oeuvre of a Bulgarian composer: "everything is based on certain symmetries. (...) a more geometric way of thinking in relation to folklore."²⁶

In ***"The Blurring of Boundaries: Multimedia Message in the Audiovisual Installation 'In the Forest'"*** — the third analysed work — Panayotova emphasizes the desire to connect with

²⁶ Author's interview with Maria Panayotova, conducted on 21 Sep. 2024.

nature as the inspiration behind the creation of the composition and as an intention directed toward the person experiencing the installation. To the electroacoustic sound media and digital video, which mark the technological aspect, she adds "physical objects related to the theme — leaves and water." Through the latter, she transforms the audiovisual work into an installation. By *blurring the boundaries between music and other art forms*, she affects the senses through sound, light, image, color, and physical objects, providing a multimedia experience for her audience. This work by Panayotova carries a number of traits that justify placing it at the focus of the present study. Foremost among these is the core characteristic shared by the three primary sources of experimental music examined in Chapter One: the *creative use of technology*. Panayotova utilizes media non-traditional for the art of music, made possible solely due to contemporary technological developments — electroacoustic sound media and digital video.

Using a whole complex of video processing techniques, Panayotova combines more or less static shots, and through their video processing, she imparts a quiet yet intrinsic internal dynamics in an attempt to offer "viewers a chance to connect with their own memories and associations of nature"²⁷. In addition to the sonic and two-dimensional visual aspects, this "meditation on sound and color" also impacts through its spatial dimension. With each subsequent presentation, the site-specific installation offers different physical parameters — a new challenge for the author and a new, distinct experience for the audience. It offers the viewer/listener an opportunity to assist in the unfolding of the experience. By coming into contact with the work and activating the still surface of the water pool reflecting the video, the observer becomes an active participant in the multimedia meditation.

The interactivity of *In the Forest* adds another layer to the author's interaction with the audience. In the absence of performers to ensure a unique realization of an indeterminate score — as is the case in *Transience* and *Sun Water Sky Moon* — it is the viewer/listener who is invited to interact directly with the work.

Maria Panayotova asserts her experimental aesthetic position through a set of compositional means that support her preferred creative principle of "beauty in simplicity." The *temporal indeterminacy* in *Transience* and *Sun Water Sky Moon*, alongside the *affinity for noise* (in *Transience* and *In the Forest*), the *blurring of boundaries between music and other art forms*, and the *redefinition of the traditionally established roles of composer, performer, and audience* (in *In the Forest*) are the characteristics of the experimental manifested in the examined compositions.

The **CONCLUSION** summarizes the findings from the examination of the creative portraits of the composers included in the study and the analysed compositions, while outlining the research perspectives embedded within it.

The coverage of the examined composers' creative outputs, the delineation of their aesthetic positions, and the analysis of the selected works largely confirm the assumption formulated at the beginning of the dissertation—that interpreting the analysed works within the context of the diverse stylistic spectrum of experimental musical culture is fully justified.

²⁷ Panayotova, Maria, cited in Mirchandani, Sharon. "Ordinariness, Ongoingness: American Community in the Works of Brenda Hutchinson and Maria Panayotova." Paper presented at the *Locations and Dislocations: An Ecomusicological Conversation Conference*, American Communities session, 8 Apr. 2016, Westminster Choir College of Rider University, Princeton, NJ.

In Boucourechliev's electroacoustic works and open instrumental compositions, the connection with *musique expérimentale* in the former case, and with the indeterminacy of American experimentalism in the latter, is direct. His contacts with Maderna, Berio, and Eco in Milan, with Schaeffer and Henry in Paris, and later with Brown, Feldman, Cage, Tudor, and Wolff in New York played a formative role. Under the influence of the poetics of the "captured moment," his readiness to relinquish control over the parameters of a musical work was far greater than that of his European contemporaries, and was comparable to that of his American colleagues. In this situation of indeterminacy, the role of the interpreter comes to the fore, with Boucourechliev relying on their responsibility toward constructing the open work. An interesting profile that stands out in Boucourechliev's case is the "mélange" or "hybridity" noted by Christian Rosset, which is observed across multiple layers of both his creative output and his life path.

In his mature creative period, Goleminov demonstrates an unequivocal preference for indeterminacy, free improvisation, and musical graphics (graphic notation), showing a trend toward the complete disintegration of traditional compositional means, notation, and performance. The influences of American experimental music in his work are underscored by numerous pieces of evidence. The culmination of this taste for indeterminacy in his output is his final composition, *Sonic Conflict*. Another aspect of the manifestation of *indeterminacy* in Goleminov's practice is his work with musical graphics. In this field, he was directly influenced by Roman Haubenstock-Ramati — one of the pioneers of this form of experiment from the 1960s. His engagement with live electronics, video, and 3D animation provides further confirmation of his readiness to experiment with media and different forms of expression.

The hypothesis regarding the presence of an experimental aesthetic position within Spasov's oeuvre was rather unconfirmed. Conceived by Kostakeva as a reflection of "Eastern and Western European tradition," the greater part of his work reveals an intention to connect with tradition. This is most frequently manifested through the use of quotation, a technique characteristic of the aesthetics of postmodernism. Spasov frequently quotes examples of European classical music as well as Bulgarian instrumental folklore.

Djambazov's contribution to the manifestations of the experimental is primarily linked to his electroacoustic output. He repeatedly states the empirical nature of his compositional approach, in which he readily allows the material to lead him, achieving a sonic result that often differs significantly from what was initially conceived. His position as an experimenter, encapsulated in the concise "what if?", is combined in his practice with theatrical-dramatic thinking applied to the compositional process, wherein he operates with concepts such as "acoustic character," "scenes," and "dramaturgy". In search of a "more emotional" expression, he shifted from composing with predominantly electronic primary sound material to composing with acoustic material. Djambazov describes this as a "turn" from the "German school" to the "French school". In any case, alongside his empiricism, this preference positions him even closer to *musique expérimentale*.

Crucial manifestations of the experimental in Panayotova's work are *indeterminacy* in the organization of time, an affinity for silence, the pursuit of multimedia solutions, and the incorporation of new forms of artistic expression, such as the site-specific audiovisual installation. She perceives "beauty in simplicity" and prefers to conceive of her music as static sonic tableaux. Her preference for the technique of utilizing the same sound material after

"recycling" it across multiple pieces draws parallels between her work and the concept of the *objet trouvé* ("found object") in Dada art. Focusing attention exclusively on the material is defined as a inclination toward *transcendentalism* — a concept with which Panayotova herself partially associates her work, much like her researcher Sharon Mirchandani.

The analyses demonstrate a variety of compositional means and techniques associated with the application of experimental approaches. Various situations of *relative* and *complementary indeterminacy* emerge in the works of Boucourechliev and Panayotova, in which certain sound parameters are liberated from control at the expense of others that remain more or less controlled. Standing out distinctly are the *total indeterminacy* in Goleminov's graphic scores *Contemplation* and *Sonic Conflict*, as well as the *empirical approach* focusing on the material in Djambazov's practice.

CONTRIBUTIONS OF THE DISSERTATION

1. For the first time in Bulgarian musicology, a systematic presentation of the manifestations of experimental music in the oeuvre of composers from Bulgaria has been attempted.
2. A comprehensive system of common characteristics of experimental music has been derived based on:
 - A historical overview of the global usage and institutionalization of the concept of experimental music;
 - A comparative analysis between the three musical phenomena that identified with this designation during the 1950s;
 - Tracing the development of musical practices originating from the primary sources of experimental music in the decades following the emergence of the concept and phenomenon, including within Eastern European countries and Bulgaria.
3. Analyses following and enriching specific methodological frameworks have been applied to works by Bulgarian composers, namely:
 - Mary Simoni's framework for the analysis of electroacoustic composition;
 - A framework for the analysis of musical graphics (graphic notation), based on texts by Nicholas Cook, Virginia Anderson, and Brian Inglis;
 - John Cage's method for the analysis of indeterminacy.
4. A differentiated approach to various manifestations of indeterminacy has been substantiated, and for the purposes of the analysis, the operational concepts of *relative indeterminacy*, *complementary indeterminacy*, and *total indeterminacy* have been introduced.
5. Twelve works by four composers from Bulgaria (André Boucourechliev, Michail Goleminov, Vladimir Djambazov, and Maria Panayotova) have been presented and

situated within their cultural-historical context, as well as within the context of the authors' overall creative outputs and aesthetic positions.

6. By applying the system of characteristics and analytical frameworks derived in this dissertation, the affiliation of the investigated works with the complex spectrum of manifestations of experimental music has been substantiated.
7. Up-to-date (as of 2025) biographies and catalogs of works by the composers examined in this study have been compiled and appended.

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2. Vlaev, Vladimir. Manifesti na eksperimentalnata muzika ot 50-te godini na XX vek v Evropa i SASht / Manifestos of Experimental Music from the 1950s in Europe and the United States. – In: *Balgarsko muzikoznanie [Bulgarian Musicology]* – Vol. XLVIII, 2024, No. 1, pp. 106–130. ISSN 0204-823X.
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4. Vlaev, Vladimir. „Beleg na vremeto“ – „Bez kontakt III“ na Vladimir Dzhambazov: Eksperiment na granitsata na dve epohi [“A Trace of Time” – Vladimir Djambazov's "No Contact III": An Experiment on the Threshold of Two Eras]. – In: *Nauchno spisanie FEMAkustika [FEMAcousics Scientific Journal]*, No. 12, 2025, pp. 36–46. ISSN 2367-7066.
5. Vlaev, Vladimir. „Tekst II“ na Andre Bukureshtliev – mobilnost vav fiksiranata elektroakustichna media [“Texte II” by André Boucourechliev – Mobility within Fixed Electroacoustic Media]. – In: *Balgarsko muzikoznanie [Bulgarian Musicology]* – Vol. XLIX, 2025, No. 2, pp. 67–91. ISSN 0204-823X.
6. Vlaev, Vladimir. Podhodi kam neopredelenostta v tvorchestvoto na Mihail Goleminov [Approaches Towards Indeterminacy in Michail Goleminov’s Work]. – In: *Balgarsko muzikoznanie [Bulgarian Musicology]* – Vol. L, 2026, No. 2, pp. 67–93. ISSN 0204-823X.

