

# STATEMENT

by Prof. **Juliana Ivanova Stoyanova, DSc**

on

"The Operatic Polyglot: Routes and Techniques in Western European Classical Singing.

Dissertation for obtaining the educational and scientific degree of "Doctor" in the professional field 8.3 Music and Dance Art

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The subject matter of Sarah Lobegeiger de Rodriguez's doctoral dissertation is of utmost importance for the art of opera singing. The very title points to the most important keywords of the research: exploring ways and techniques to turn vocalists professionally engaged in Western European classical singing into operatic polyglots. What is not implied in the title, but catches the reader's attention from the very first introductory page, is the interdisciplinary approach to the stated problem, presupposing in-depth knowledge in close but also quite different scientific fields: art of singing, music pedagogy, phonetics, psychology, and – most importantly - neurophysiology.

Many years of serious efforts are required for a researcher to be able to qualify in such a vast scientific field, which goes a long way beyond the musical profile. Sarah Jane Lobegeiger de Rodriguez has gained this expertise through her 15 years of multidirectional education: her undergraduate degrees in English language and literature and in vocal performance were followed by two master's degrees, in speech pathology and in opera singing.

Sarah has accumulated considerable professional experience related to her three areas of study. She has more than ten years' practice as a voice and speech consultant, therapist and trainer of therapists, with activities such as speech correction for actors, therapy for adults and children with clinical speech and voice disorders (including rehabilitation after surgery), etc. From her position as head of the private clinic Voice science and of the consulting firm Cadenza, the PhD candidate is involved in the preparation of educational resources, conducting trainings and organizing workshops related to both voice therapy and training aimed at achieving communication abilities at the highest, elite level for future leaders, public speakers and opera singers.

Her realisation as a lyric-coloratura soprano has taken place primarily in Melbourne, where she has performed with the Melbourne musicians and the Peninsula Symphony Orchestra. She was a semi-finalist for the 2014 German-Australian Opera Grant, a high recognition of her singing artistry. I had the pleasure of witnessing first-hand the elite level of operatic polyglot that Sarah

has achieved: I attended her concert at the Catholic Church in Sofia, where she sang not only in English, but also in the much different Latin.

The 113-page dissertation, *THE OPERICAL POLYGLOT: ROUTES AND TECHNIQUES IN WESTERN EUROPEAN CLASSICAL SINGING*, follows the classic structure of a monographic study. It consists of an introduction, four chapters, a conclusion, a description of contributions and a bibliography (which includes over 80 cited sources). On p. 7, immediately after the description of the contents, is a list of the figures presented in the text (18 in total), which are a valuable visual aid summarizing in a synthesized spatial image the rather abstract theoretical formulations of the dissertation.

The goal set by the doctoral candidate is clearly and precisely stated: to analyze and assess the potential of neurologically informed approaches to voice training, to enrich the techniques of vocal practice, language, and artistic interpretation for classical singers, i.e., to propose new approaches that, applied to singers' everyday practice, can improve their performance - especially in relation to phonetic level, pitch regulation, resonance, and prosody. These approaches, based on kinesthetic principles, neuroplasticity, and functional nuclear magnetic resonance research, can build creative cognitive processes to assist professional classical singers in mastering their phonetic accuracy at an elite level, transforming them into operatic polyglots.

The theoretical and methodological foundations of the dissertation are laid out in the opening 7 pages, divided between the introduction and the first chapter. Here the reader is introduced to two of the most essential concepts of the study: creative cognition and the body matrix of classical singers. It would be impossible to grasp the gist of the second chapter, "Defining the operatic polyglot" (pp. 16-43), without a thorough elucidation of these concepts. As the following exposition clarifies, the creative cognition of the classical singer must in fact be understood in the sense of self-cognition through an increase in the degree of awareness of one's own body set as a matrix. This awareness includes emotional and physiological mastery of the body as an instrument: the expert classical singer develops the ability to synchronize complex movement patterns through his or her creative psyche to achieve cognitive, visceral, and sensory experiences (p. 9). Of crucial importance is the author's belief (supported by a number of neurophysiological studies) that the classical singer who has achieved expert level can rely to a greater extent on somatosensory than auditory feedback in their performance (p. 9).

The body matrix is a hypothetical concept that the PhD candidate borrowed from Giuseppe Riva's (2018) theory. According to Riva, the body matrix integrates an individual's somatic multimodal experience, which includes perceptual, interceptive, proprioceptive, motor-vestibular, and memory inputs (p. 10). Sarah Lobegeiger's adoption of this theory is not an end in itself. Based on the generalized understanding of the body matrix thus presented, the doctoral candidate proposes an adapted model specific to operatic/classical singers, as there are numerous studies proving that singers have developed a higher degree of interceptive awareness than non-singers. The body matrix of classical singers, tailored to their essential distinguishing characteristics, is represented schematically by Fig. 2. The figure illustrates the multimodal information processing in singing underlying the multiple intelligences of a classical singer. The development of this

matrix and its application to the design of voice training approaches aimed at achieving elite performance skills by the operatic polyglot is an important contribution of this dissertation.

Chapter Two ("Defining the operatic polyglot") introduces the concept of an operatic polyglot - that is, a classical singer who has developed "the skills to perform the musical and linguistic demands at an elite level." Immediately following is the clarification that phonetic accuracy is but one of "multiple cognitive domains and competencies" integrated into a "gestalt system of embodied cognition" that includes: "an excellent command of musical notation, the multiple alphabetic systems (Latin, Cyrillic, international phonetic alphabet), an understanding of the classical Western language of harmony, of semantics in different lexicons (French, Spanish, Russian, English, Czech, German, Italian, etc. ), of phonological and phonetic inventories, suprasegments and prosodic features in multiple languages, mastery of pedagogical conceptualizations, mastery of nonverbal communication with the specific language of gestures, and last but not least, use of the possibilities of empathy (nuances in voicing) (pp. 16-17). Since it is impossible to cover all the described competences of the classical operatic polyglot in one dissertation, Sarah limits the focus of her study: mastery of the segmental level. The other areas of the operatic polyglot's knowledge, such as semantics and the suprasegmental level in singing, although mentioned repeatedly in the text, could be the subject of further research.

The choice of the segmental level is clearly motivated (although the explanation is given in a footnote): without underestimating the importance of the word, sentence, musical phrase and artistic expression, the author stresses that imprecise performance at the segmental level affects the word level and determines inaccuracies in it.

Sarah Lobegeiger introduces the innovative term "phonetic tone tuning" to name the unique singing skill specific to classical singing. This term is distinguished from terms related to diction, which typically ignore the necessary singing characteristics of the sound wave in a musical phrase (p. 21).

The author goes on to describe the complex nature of the sung syllable by successively examining its physical aspects, including tonal, timbral, intensity, and temporal characteristics, and discusses the specific requirements of phonation and articulation that elite opera singers achieve through compromises between the structural requirement of the vowel as the centre of the speech syllable and the resonant demands of the operatic/classical voice. Emphasizing the differences between the sung syllable and the spoken syllable, the PhD candidate introduces new terms for the three basic skills that are required in phonemic tuning in order to maintain desired pitch values at the syllable segment level: *onset tuning* of the phoneme, *retention tuning* (sostenuto tuning) of the phoneme, and phoneme *motion tuning* (offset tuning). The singing syllable model, called multiprismatic, is presented on p. 25. The anatomical and physiological aspects of the singing segments are discussed in relation to the discussion on the representation of articulatory and phonatory motor images in the respective cortical areas of the brain. Drawing on current neurophysiological research, Sarah Lobegeiger supports the concept that speech is primarily phonatory. The notion of phonetic tone tuning, according to the author, supports the notion that pronunciation in speech, and especially in singing, is laryngeal and phonatory in nature, and this explains why there are more frequent voice disorders and dysfunctions in individuals who speak in their non-native language (p. 26).

For the fine-tuning of tone, it is necessary to add the temporal component of phonemes, i.e. the metrical and rhythmic values of segments in singing. Features of prosodic stress and sound pressure are also described. Deviations and errors affecting all three aspects of the phonological tuning of the syllable, along with prosody and sound pressure, are analyzed on the basis of numerous examples from different languages, such as Czech, Spanish, and German. The analyses are didactic in nature, since their aim is to help avoid errors. I would like to emphasize that in this chapter Sarah Lobegeiger makes a clear distinction between the phonetic and phonemic level of language, which is crucial for the linguistic aspects of the dissertation.

The third chapter ('Motor Learning, Neuroplasticity and the Operatic Polyglot', pp. 44-67) suggests by its title that it will discuss the role of neurophysiological mechanisms supporting the phonological acquisition of operatic repertoire through the so-called motor learning. It is related to the neuroplasticity of the relevant areas in the human brain, as established by functional magnetic resonance imaging studies. The result of vocal-phonetic "motor learning" is the ability of singers to effortlessly perform the actions required for elite singing. This ability, the doctoral student reminds us, is due not so much to innate talent as to intensive, at least 10 years of practice (p. 44). Sarah adopts and describes the three aspects of information processing coordinating motor learning proposed by Keller (2014): 1) Anticipation, 2) Attention, and 3) Adaptation. These models are called by the author "the three A's". The doctoral candidate discusses the most important issues raised by each of the three A's, reducing them to the motor skills required to achieve a precise phonetic tuning of tone. The four phases of motor learning that are necessary to achieve creative cognition in classical singers are presented in detail: a rapid phase, a consolidation phase, an automatization phase, and a memory fixation phase. The first phase is explained and illustrated by textual and musical phrases from arias in well-known operatic works, with the text recorded both by the graphics of the respective language (Italian, French, Czech, German) and by special phonetic transcription (pp. 47-52). The specific features of certain sound segments are analysed and the possible difficulties are discussed from the perspective of singers with English as a mother tongue.

The third chapter concludes by introducing and explaining the concept of motor engrams ('memorized motor patterns used to perform a movement or skill that are stored in the motor area of the brain', see Kent, 2007), which the PhD candidate applies to the refinement of the phonetic tuning of tone in classical singing. Fig. 9 on p. 56 presents a diagram of the motor engram of phonetic tone tuning. From the diagram and its explanations, it is clear how the numerous motor engrams that experienced singers have encoded, corrected, and stored in their motor memory during rehearsal and performance activities allow them to effortlessly retrieve the complex movements and sequences needed to sing with speed and accuracy.

Chapter Four, "Deliberate Practice and Practice Studio Resources to boost Creative Cognition in the Operatic Polyglot" (pp. 68-100), offers neurologically informed innovative practices to assist classical singers in their efforts to merge aural and linguistic accuracy with musical precision. Here again, the notion of a body matrix is central to the creative cognition of the classical singer. Motor learning depends on the neuroplasticity of the cortical areas, which encode and store the multidirectional information of somatosensory and motor nature obtained during practice in the

studio and on stage. This chapter offers a description and explanation of the 10 principles of neuroplasticity, the awareness of which should become an integral part of a classical singer's creative cognition. The practice of art as exploration is embedded in the method of autoethnomethodology as an innovative approach to training the operatic polyglot. For the implementation of this approach, it is important to keep a journal in which the practising singer notes insights and difficulties regarding the aural tuning of the tone, as well as self-evaluations in relation to what has been achieved. Alongside traditional methods of refining phonological tone tuning, such as the use of mirroring and visual imitation, the author suggests approaches based on accessible modern technologies, such as the use of sound wave and pronunciation analysis software, and phonological transcription highlighting the differences between the phonemic systems of different languages. Each of the practice methods presented is supported by explanations of the underlying neurophysiological processes. For example, in the visual imitation method, the function of mirror neurons is important, making the connection between visual and motor features of learning processes (p. 77). The neurophysiology of vocal-phonetic tasks for silent practice is based on brain representations of sensory (visual and auditory) and motor images included in an integrated body matrix model accounting for the multimodal capabilities required for singing.

The final part of the dissertation describes the conclusions of the research carried out and the possibilities of applying the findings in other fields of science and practice. The concept of body matrix, for instance, can be used to develop new therapeutic methods for dysarthria, dysphonia or dysphasia.

The contributions of the monograph are described comprehensively and correctly by the author, so I will not dwell on them.

Three publications are presented on the topic of the dissertation, through which the doctoral candidate claims her presence among specialists in the field of music.

Referring to what has been said so far, I would like to stress that the dissertation *The Operatic Polyglot: Routes and Techniques in Western European Classical Singing* meets all the legal and scientific requirements for the degree of Doctor of Education and Science in the professional field 8. 3 Music and Dance Art, which gives me the reason to confidently **vote for the award of this degree to Sarah Jane Lobbeiger de Rodriguez**, and to appeal to the other members of the scientific panel to give a positive vote.

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