



TECHNIQUES OF SOUND GENERATION IN ACADEMIC VOCAL PERFORMANCE

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Annotation:

Spectralist music is an art form that has not only expanded the way we think of harmonics but has also developed technologic and musical methods along with expansive extended techniques for a range of instruments from accordion to the xylophone.

Keywords: vocal, music, method, art, performance.

INTRODUCTION

If anyone is not only considerate of these factors but also is pushing spectralist music forward with extended vocal techniques it is Marta Gentilucci, a vocalist, researcher, and composer with revolutionary writing style. Not only is Gentilucci creating vast new textures and techniques to be performed by twenty-first century singers but her research on vocal distortion has made it possible for singers to safely apply a variety of rougher textures. She has also done research on real time granular synthesis in Max/MSP with a multi-level control utility along with IRCAM researchers Marco Liuni.

MATERIALS AND METHODS

We will explore the vocal works written by her, *Da Una Crepa*, a work written for soprano soloist, soprano, mezzosoprano, tenor, baritone, and bass, instruments and electronics, and *Auf die Lider* for soprano soloist, percussion, and electronics. I will admit that my analysis of these works will not be extremely specific to establishing form and pointing out the elemental differences within these works. I feel like those elements would be self-explanatory to any musician reading this paper. Instead, I will touch on these factors only if their use shows importance to the overall work for my main objective is to display the different use of vocal techniques, and methods used by Gentilucci within a spectral setting, instead of blathering on and glossing over harmonic and melodic innovations within the piece which would be instinctual to any cultivated musician.





RESULTS AND DISCUSSION

The vocal folds are also delicate and can be easily injured. Vocal injuries are common and can be due to a number of factors. “Extreme vocal behavior includes first complex and unstable oscillation; forces involve movement between two or more pitch regions that additionally feature multiple tones with regions of inharmonicity.” They can also be as simple as overuse, misuse (shouting, use of vocal fry, etc.) and dehydration. Extended techniques within twenty first century music according to The Index to a Recorded Lexicon of Extended Vocal Techniques “are seen not only as processes with which to create new sounds but also as a means of liberating both the voice and the consciousness of the performer.” The Index to a Recorded Lexicon of Extended Vocal Techniques divides these techniques into three categories displayed in the chart below

Monophonic	Reinforced harmonics, Whistle stop, Ululation Fry, Shake, Flutters, Voiced whistle;
Multiphonic	Chant, Glottal overpressure, Forced blown (inhaled and exhaled), Multiphonic buzzes and squeaks;
Miscellaneous	Buzzes, Squeaks, Clicks, Belches, Death rattle, Car crash, Buccal speech (+ finger), Bat sound, Glottal speech, Tongue squish, Tongue-teeth slap, Cricket sound, Water drops.

It can also be compared to The Catalogue of Extended Vocal Techniques written by Richard Jennings. Some of these from the Catalogue of Extended Vocal Techniques are listed below with brief definitions. They are also techniques which are implicated by Gentilucci within *Da Una Crepa* and *Auf die Lider*.

Dieter Schnebel speaks of the “inherent limitations of conventional vocal performance practices, their notations, and their relative inaccuracy and unsuitability when applied to extended vocal techniques.” Some of the issues we face are the following. For one we do not have a standard notation for these techniques, Second, singers can easily be injured singing most of these techniques.

Why do we have these issues of vocal injury in contemporary works written today? To answer this, we must look back at the *Bel Canto* era, whereas explained in *The Art of Singing* “In the golden age of *Bel Canto*, the Seventeenth and Eighteenth centuries in Italy, most composers of vocal music were also performing singers.” Therefore, they were aware of the limitations of the voice. This was apparent to Schnebel who stated, “the necessity of understanding the physiology of vocal production is repeatedly emphasized.”



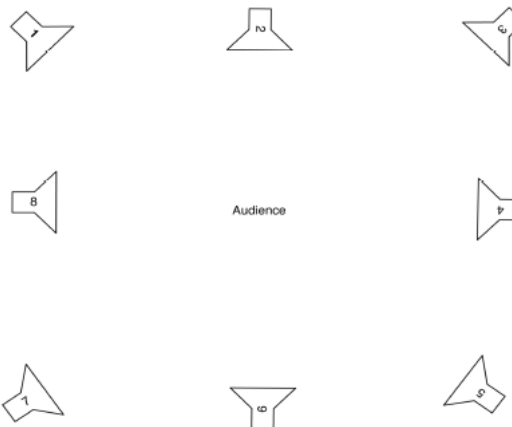
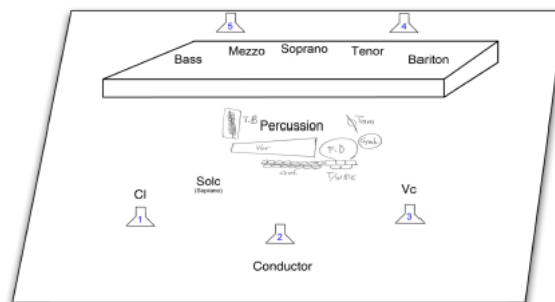


Marta Gentilucci “received her master’s in vocal arts as a soprano and a master’s in foreign literature (English and German) in Italy and obtained her MA in composition and computer music at the State University of Music and Performing Arts Stuttgart, and she holds a PhD in composition from Harvard University.” According to Radcliffe Institute for Advance Study at Harvard University “Gentilucci’s work focuses on the musical implications that vocal and electronic music have on the creation of physical sonic spaces, on the musical elements that inhabit these spaces, and the listener's physical perception of them. She has been deeply influenced by the inner structure of sound, its way of resonating in space and oscillating within a timespan.”

Crepa the vocal quintet using a dominant like chord transitioning between sections in measures fifty-three to fifty-eight.

Gentilucci breaks away from traditional notation methods in a few ways and is very particular within her notation of these changes. One example of this would be her arrangement of the vocal parts within the score. She instead of arranging vocal parts from highest vocal range to the lowest, it is arranged by the positioning of the voice parts from left to right. Bass, Mezzo, Soprano, Tenor, Bariton within the choir parts, with a single line for the soprano soloist below it.

The notation and requirements for the pieces are also very precise. An example of this would be in the directions for the positioning of the pieces. Within the score for Da Una Crepa one finds very particular notation for positioning of the ensemble.





CONCLUSION

Gentilucci writes challenging but doable vocal lines. Since she is a soprano herself she is extremely aware of the voices limitations and has found solutions to the problems the use of vocal techniques presented the last several years and has found new ways to produce these unhealthy sounds. Not only does Gentilucci express new ideas using vocal techniques but she also uses updated notation methods.

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