

## A Biomechanical Reading of Mario Del Monaco's Lunge Technique

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### Abstract

This study explores the biomechanical and pedagogical parallels between classical fencing—particularly the sequence of En Garde, Lunge, and Recovery—and the vocal technique of Italian tenor Mario Del Monaco, renowned for his low larynx and forward-projected resonance. Inspired by Del Monaco's own description of his method as a “Lunge Technique, as in fencing” in *Marcello Del Monaco: Il Maestro dei Tenori*, the inquiry draws on his iconic photograph demonstrating a lunge-like singing posture. Comparative analysis with fencing form, combined with the author's somatic experience of inhabiting both En Garde and Lunge positions, provides an embodied basis for the study. Rather than treating the Lunge as a mere metaphor, the study emphasizes the preparatory En Garde position as the primary biomechanical model for singing. Historical context is drawn from Ridolfo Capo Ferro's 17th-century codification of fencing, revealing kinesthetic principles applicable to vocal production. Anatomical analysis shows how En Garde aligns muscular systems to enable breath detainment, diaphragmatic flexibility, and a non-rigid, naturally lowered larynx, supporting healthy resonance. The study proposes three sequential phases—elastic preparation, thrust initiation, and recovery—that serve as somatic cues for singers, paralleling the transitions from inhalation to onset to breath renewal. In addition, four pedagogical checkpoints are outlined to assess low-larynx function through breath use, muscle coordination, and structural balance. By grounding Del Monaco's “Lunge Technique” in the physical logic of fencing, the study offers singers and teachers a historically informed, somatically driven model for technique development.

*Keywords: Lunge Technique, Mario Del Monaco, Biomechanics in Singing*

## Introduction

Mario Del Monaco (1915–1982) remains one of opera’s most compelling tenors, celebrated for his heroic timbre and unyielding projection (Allegri, 1991). His sound was not only powerful but strikingly directional, as if propelled into space with the force of a physical thrust. Critics often attribute this to his low larynx and forward resonance, yet such accounts describe results rather than processes. What remains insufficiently understood is the preparation—the bodily sequence by which his vocalism was achieved.

Del Monaco himself provided an interpretive key when he described his approach as a “*Lunge Technique, as in fencing*” (Del Monaco, 2014). This statement, supported by his iconic posture in the 1961 *Otello* recording with Herbert von Karajan, suggests that fencing provided him with more than imagery. It offered a somatic framework rooted in movement, balance, and directed energy.

The analogy warrants closer investigation because fencing, particularly as codified in the seventeenth century, is itself an art of preparation and release (Capo Ferro, 2023). The En Garde stance establishes elastic readiness; the Lunge channels this readiness into linear thrust; the Recovery restores balance for renewed action. These principles map closely onto the respiratory and phonatory demands of singing: inhalatory preparation, onset of tone, and renewal of breath.

This study therefore proposes that Del Monaco’s “Lunge Technique” should not be dismissed as metaphorical flourish. Instead, it represents a functional model of vocal production grounded in fencing biomechanics. By contextualizing fencing’s evolution, analyzing the En Garde–Lunge–Recovery sequence, and translating these into pedagogical checkpoints, this research reframes Del Monaco’s legacy as a systematic, somatically grounded approach to low–larynx singing.

More broadly, the inquiry argues for the reclamation of physicality in vocal pedagogy. Singing is often taught through abstract imagery, yet the fencing analogy insists on concrete bodily preparation. The singer, like the fencer, must become an athlete of breath—poised, elastic, and fearless in projection.

## Historical Context

The evolution of fencing offers a useful frame for understanding Mario Del Monaco’s “Lunge Technique.” The medieval longsword, dominant between the 14th and 16th centuries, was a two-handed weapon designed for cutting arcs and circular movements. Its gestures required strength and adaptability emphasizing continuity rather than linear precision.

With the decline of armor and the rise of firearms, the longsword gave way to the rapier: a slender blade designed primarily for thrusting. The rapier demanded new bodily mechanics—direct, economical, forward-driven extensions. Ridolfo Capo Ferro’s *Gran Simulacro* (1610) codified these changes, defining the En Garde stance as the foundation of fencing and the Lunge as its definitive thrust. Evangelista (1996) calls the Lunge “the most significant innovation in fencing history” because it compressed the entire body’s potential energy into a single linear gesture.

Thus, by 1600, fencing had become not just combat but a discipline of posture, readiness, and controlled release—qualities strikingly applicable to singing (Gaugler, 1998).

The transition from longsword to rapier finds a parallel in vocal pedagogy. The bel canto tradition of Manuel García emphasized rounded timbre, seamless legato, and chiaroscuro balance—qualities analogous to the longsword’s flowing arcs. García’s singers cultivated flexibility and elegance, prioritizing the beauty of line.

By contrast, Arturo Melocchi’s “low larynx” school emphasized projection, linear intensity, and penetrating resonance. His teaching, which profoundly influenced Del Monaco, parallels the rapier: direct, uncompromising, and forward-driven. Where García’s voice floated, Melocchi’s thrust.

This juxtaposition clarifies the historical ground on which Del Monaco stood. His artistry synthesized Melocchi’s muscular school with his own refinements toward elasticity and freedom.

Del Monaco’s genius lay in translating these principles into embodied imagery. His brother Marcello recalls in *Il Maestro dei Tenori* (2014) how Mario gradually abandoned rigidity, developing a more fluid approach that emphasized a consistently low larynx and lifted soft palate. Yet Mario described this not through abstract terminology but through fencing: he called his method a “Lunge.”

The photograph of Del Monaco in a lunge-like posture during the 1961 *Otello* recording (see Figure 1) visually anchors this analogy. His stance resembles Luigi Barbasetti’s classical fencing lunge—legs grounded, torso extended, energy thrust forward. While Del Monaco never codified his method in pedagogical writing, the parallel suggests that fencing biomechanics provide the missing structural explanation of his technique (Barbasetti, 1936).



Figure 1: Mario Del Monaco in Verdi's *Otello* recording session (1961), from *Recording booklet of Verdi's Otello* (1961).

The fencing metaphor offers a biomechanical explanation of his vocal technique. Like the fencer who channels energy through the foil while maintaining stability, Del Monaco channels breath and resonance forward while rooted in his core. The term “Lunge” distills complex physiological processes into a single, accessible image. Unlike abstract pedagogical terms such as “support” or “open throat,” it conveys readiness, momentum, and recovery in physical terms that singers can immediately embody. In this way, Del Monaco’s “Lunge” becomes both metaphor and functional principle, encapsulating his distinctive approach to power and projection.

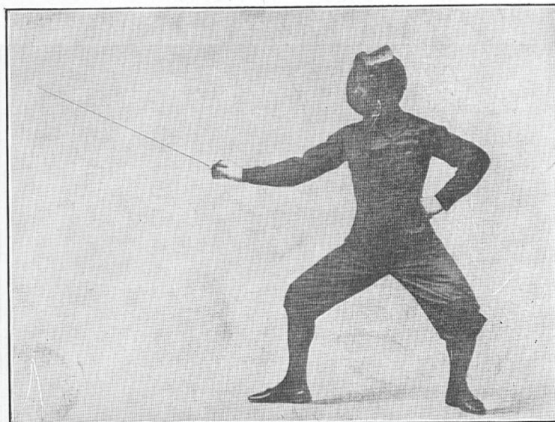
## Biomechanical Analysis: En Garde, Lunge, and Recovery

### *En Garde: Elastic Readiness*

In fencing, En Garde is the essential stance of preparation. Feet are apart, knees flexed, pelvis lowered, and spine upright. Though still, the body is charged with elastic energy—ready to move in any direction.

For singers, this alignment has profound implications. The legs and quadriceps bear the body’s weight, freeing the abdominal wall from compressive labor. The spine remains elongated, the rib cage widened laterally and posteriorly through eccentric intercostal stretch, and the pelvic floor remains relaxed but toned. The diaphragm hovers in suspension—neither forcibly lowered nor passively high—while the thoracic cavity is charged with elastic readiness yet free of tension (Dimon, 2018).

The result is an optimal state for inhalation: expanded but not rigid, stable but mobile. Psychologically, En Garde cultivates alertness without tension—precisely the readiness a singer needs before phonation.



*Figure 2: En Garde position in fencing,  
from The Art of Sabre and the Épée (Barbasetti, 1936)*

#### *Lunge: Coordinated Thrust*

From En Garde, the fencer initiates the Lunge: the rear leg drives, the front leg extends, and the sword arm thrusts forward in a linear path. Crucially, the movement is whole-body, not limited to the arm.

For singers, this corresponds to phonation. Mirroring the fencing Lunge, this phase represents the controlled release of breath and tone. The quadriceps maintain weight distribution so that the torso and abdominal wall remain unburdened. The transverse abdominis engages eccentrically, guiding the diaphragm's descent through natural air pressure and spinal alignment. The larynx lowers into a settled, stable position—not by force, but by release from extrinsic elevation. The pharyngeal space opens through lifted soft palate, released tongue root, and absence of vertical neck tension. The entire thrust is directed forward: tone projects outward as an intentional thrust, never pressed vertically or forced downward.

This thrusting gesture reframes “forward resonance.” Instead of an abstract placement, it becomes an embodied projection: the breath and tone moving outward with direction, as the fencer's blade extends into space.



Figure 3: Lunge position in fencing,  
from *The Art of the Sabre and the Épée* (Barbasetti, 1936).

#### *Recovery: Poised Renewal*

After the thrust, the fencer returns to En Garde. This Recovery is not collapse but recalibration—restoring balance and readiness.

The same principle applies to singing. At the end of a phrase, the body does not collapse but recoils elastically into En Garde. The quadriceps continue to carry the weight, maintaining composure while the abdominal wall, intercostals, obliques, and diaphragm remain free of unnecessary load. The ribs should remain partially expanded, avoiding collapse, while the diaphragm ascends elastically and naturally, and the pelvic floor recoils to its tonic state. The posture remains tall. Rather than letting the torso crumple, the singer preserves openness, ready for the next inhalation. Recovery ensures continuity: breath is renewed without breaking the cycle of support.

## Sequential Phases

The En Garde–Lunge–Recovery cycle can be understood as three interdependent phases that mirror the biomechanics of fencing while offering singers a kinesthetic framework for vocal production.

#### *Elastic Loading (En Garde / Preparation)*

This stage corresponds to the poised readiness of En Garde. It establishes the condition of elastic expansion and psychological alertness: breath is settled low, the torso balanced, and the larynx neutral but ready to descend without manipulation.

### *Thrust Initiation (Lunge / Execution)*

This stage corresponds to the decisive extension of the Lunge. It channels stored readiness into linear release: the rear leg drives, the torso aligns, and tone emerges from coordinated support rather than local force. The larynx descends naturally within an open pharyngeal chamber, the soft palate lifts, and the breath projects forward as a unified thrust—direct, precise, and whole-body in origin.

### *Recovery (Return to En Garde)*

This stage corresponds to the controlled return of Recovery. Instead of collapse, the body reclaims balance: the diaphragm ascends elastically, the ribs settle into mid-expansion, and muscular bracing dissolves into renewed breath control. The singer stands ready, composure intact, prepared for the next phrase with the same alert equilibrium as the fencer resuming En Garde.

This cyclical process—elastic loading, thrust initiation, and recovery—transforms breath management from a static act into a kinetic condition. It reframes vocal technique not as the attainment of fixed positions (e.g., “drop the larynx”), but as the cultivation of dynamic, elastic states in which the larynx and diaphragm coordinate naturally. In this way, the Lunge becomes not only a metaphor for vocal support but also a biomechanical pathway toward stability, resonance, and freedom.

## Anatomical Integration

The sequential phases depend on the coordination of multiple anatomical systems:

**Legs and pelvis.** The quadriceps and gluteals stabilize weight distribution, sparing the abdominal wall from compensatory rigidity. The pelvic floor yields elastically, working in dynamic reciprocity with the diaphragm to regulate intra-abdominal pressure.

**Torso.** The intercostals and obliques lengthen eccentrically, enabling rib expansion, while the transverse abdominis anchors breath without compressive force. This balance allows *appoggio*—support through suspension rather than pressure.

**Larynx and resonance tract.** With strap muscles released, the larynx descends naturally into an acoustically efficient posture. The pharyngeal chamber widens through soft palate lift and tongue root release, ensuring resonance without constriction.

By practicing in literal En Garde and Lunge positions, singers cultivate proprioceptive awareness of these alignments. Over time, the exaggerated

stance is no longer required; its conditions can be recalled in standard singing posture through neuromuscular memory (Asawadejmetakul, 2025).

## Low Larynx Singing and Pedagogical Checkpoints

Having outlined the threefold cycle of En Garde, Lunge, and Recovery, we arrive at the central question of Mario Del Monaco's so-called "Lunge Technique": the low larynx. Too often this hallmark of his sound is misunderstood as an act of mechanical depression, a willful pressing down of the larynx by force. Yet the biomechanics of fencing, when read alongside Del Monaco's vocal production, reveal that the low larynx is not a goal wrestled into place but a natural consequence of balanced posture, elastic breath, and forward-driven intention. Just as the fencer does not "force" himself into the Lunge but allows it to unfold from well-prepared suspension, so the singer must arrive at laryngeal depth by physiological inevitability rather than by muscular compulsion.

To make this principle tangible, I propose four checkpoints through which singers may test whether the conditions for a low larynx and high palate are emerging as by-products of correct coordination.

### *Elastic Suspension*

The first checkpoint is the relaxation and buoyant suspension of thoracic and abdominal musculature, initiated through the En Garde stance and its preparatory breath. Here the legs, particularly the quadriceps, assume the role of weight-bearers, liberating the abdominal wall from the burden of holding. Breath function is thus set free to operate elastically, without rigidity or collapse.

### *Diaphragm–Pelvic Floor Elasticity*

The second checkpoint concerns the dialogue between diaphragm and pelvic floor. The diaphragm expands eccentrically, yielding in its descent, while the pelvic floor responds with reciprocal elasticity. This interplay creates a natural lowering of the larynx, achieved without any conscious pushing or downward pressure—a descent born of balance, not of force.

### *Postural Stabilizers*

The third checkpoint engages the quadriceps and transverse abdominals as stabilizers of the whole posture. Rather than compressing or tightening, they create a grounded suspension in which the breath can remain free. In this

way, the original sense of appoggio—as suspension and poised balance rather than pressure—becomes embodied. The singer rests in stability without resorting to constriction.

### *Forward Intention.*

Finally, the fourth checkpoint directs both breath and tone outward with clear, linear purpose. Like the fencer's thrust, this projection releases energy forward, preventing upward strain or forced placement. Resonance thus finds its path not by pushing but by intention, a directed trajectory that carries the voice into space with ease.

Together, these four checkpoints form both a diagnostic and a pedagogical map. They give singers concrete somatic markers—elastic suspension, diaphragmatic–pelvic balance, postural anchoring, and forward trajectory—through which to assess whether the low larynx is arising as a natural by-product of healthy coordination. More than conceptual ideals, they are tactile experiences, ensuring that technique is lived in the body, not merely understood in theory.

## Discussion: Interdisciplinary Implications

Vocal pedagogy has long relied on metaphor, yet metaphor alone often leaves room for misinterpretation or distortion. Mario Del Monaco's invocation of fencing, when stripped of its purely figurative veneer and examined through its biomechanical underpinnings, demonstrates how imagery can be transformed into a practical method. The sequence of En Garde, Lunge, and Recovery yields repeatable physical outcomes: the expansion of the rib cage, the descent of the diaphragm, and the natural release of the larynx. What emerges is not a mystical association but a somatic framework—one in which metaphor is transmuted into method.

Misapplications of Del Monaco's teaching have historically abounded, with many imitators attempting to force the larynx downward or to exaggerate abdominal pressure in pursuit of his heroic sound. Such distortions miss the principle at the core of the fencing analogy: the thrust is never isolated, but always born of preparation and resolved through recovery. By embedding projection within this tripartite cycle, the model reframes resonance not as a product of muscular strain but as the consequence of a coordinated release. In this sense, the so-called “low larynx” is no longer a destination wrestled into place but a by-product of balance, suspension, and forward intention.

This reading situates Del Monaco's approach within a broader constellation of somatic disciplines that also emphasize readiness and release (Dimon, 2018). The Alexander Technique, Feldenkrais work, tai chi,

and even the stillness before an archer's release all share this principle of tension managed through suspension and liberated in action. Yet fencing offers a singular advantage: its linear and penetrating trajectory mirrors the sonic character of dramatic singing, in which the voice must not only bloom but project with precision and focus into space. The sword, like the voice, achieves its power not from brute force but from the clarity of its aim and the inevitability of its follow-through.

In reclaiming this physicality, the singer is reimagined not as a passive vessel for sound but as an athlete of breath and resonance. Opera's demands are not gentle; they call for stamina, courage, and projection that can fill a hall against the tide of an orchestra. Through the fencing framework, the singer embodies poise in *En Garde*, decisiveness in the *Lunge*, and renewal in *Recovery*. This cycle situates artistry within athletic precision, offering a pedagogy that is not only conceptual but lived in the body: precise, fearless, and dynamically renewed with every phrase.

## Conclusion

Mario Del Monaco's reference to his singing as a "Lunge Technique, as in fencing" was not a theatrical flourish but a somatic truth. By reading his analogy against the codified sequence of *En Garde*, *Lunge*, and *Recovery*, this study has shown how fencing biomechanics illuminate vocal function. The preparatory elasticity of *En Garde*, the coordinated thrust of the *Lunge*, and the poised renewal of *Recovery* offer singers a model of breath and resonance grounded in readiness, action, and balance.

The proposed framework—three sequential phases and four pedagogical checkpoints—redefines the low larynx not as a forced position but as the result of healthy conditions. More broadly, this interdisciplinary reading reclaims physicality within voice pedagogy, situating the singer as both artist and athlete of breath. In Del Monaco's legacy, the voice does not merely resonate—it lunges into space with precision, elasticity, and fearless intent.

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## Biography

Puntwitt Asawadejmetakul is a Thai countertenor noted for uniting vocal power with poetic sensitivity. Praised by *The Nation* as revealing “a rare HEROIC side to the countertenor voice” and hailed by the *Bangkok Post* as “the fiery one,” he has established himself as one of the most compelling vocal artists of his generation. He holds a Doctor of Fine and Applied Arts in Vocal Performance and Pedagogy from Chulalongkorn University, supported by the Princess Galyani Vadhana Institute of Music Scholarship, as well as a Master’s from Chulalongkorn and a First Class Honors degree from Rangsit University. His artistry spans Baroque oratorio, contemporary opera, and Thai works, with acclaimed performances in Somtow Sucharitkul’s *DASJATI* cycle. An active pedagogue, he integrates voice science and performance tradition in training Thailand’s next generation of singers.

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