



## **Vocal Technique: What Does This Actually Mean? Balance and Synergy as Functionally Logical Principles of Vocal Training**

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*With my lecture I would like to contribute to the discussion of classical singing versus (or in addition to) singing contemporary commercial music (CCM) by highlighting the unifying factor between the two styles: the genre-neutral core of classical vocal technique. Solid classical vocal technique is the result of complex synergy processes. On the basis of the three-function model, the voice can be understood as a logical system—oriented towards synergy—that happens when we create a balance between polarities. This presentation explains the complexity of voice-training tasks with clearly arranged charts, useful both for teachers of singing and of vocal methodology.*

“The first ten years of teaching were like poking through the fog for me.” This frank admission, once made by a successful opera singer after her public master class at a German vocal pedagogy congress, surprised me deeply and made me think at the same time: What do my voice pedagogy students need? What do we all need as voice teachers, so that our teaching, especially in the area of vocal technique, does not become a “poking through the fog” for the first ten years—and even after?

The core of our teaching vocal technique lies, to begin with, in *a clear inner picture, an objective idea of the voice as a whole and its parts*. This objective imagination of the voice logically leads us then to the *practical vocal challenges* that the individual parts of the voice place before us. And finally, in order to teach successfully, we need a *store of reliable exercises* with which we can specifically master these challenges.

I will first give you a brief introduction to one premise and three *basic principles of classical vocal technique*, before I present a comprehensive model of the voice, the *Babushka model*. This model is based on the three functional areas of the voice and the organizing principles of balance and synergy. This model helps clear the fog that hovers over the wide field of complex vocal technical tasks and their interrelationships. A clear inner picture, a practical model of the voice enables us to orient ourselves in the technical work, gives security and serenity in teaching, and increases the effectiveness of our teaching results.

### **I. The Three Basic Principles of Classical Vocal Technique**

In my presentation I start from a basic premise: classical Singing—often referred to as “bel canto” singing—is not an aesthetic style among others, nor a temporary Eurocentrist phenomenon of Italian opera (although this way of using the singing voice emerged under certain historical and cultural circumstances at the beginning of the seventeenth century in Italy).

Let me illustrate this with a comparison: Democracy is not only a phenomenon of Greek antiquity because it first appeared in Greece 2500 years ago. Rather, we understand democracy as a form of society, based on a certain understanding of human beings living together—under the principle of the self-responsibility of the people. This form of society has been realized all over the world down to today.

Classical singing is a similar phenomenon. The classical singing technique, later called “bel canto” technique, is a form of vocal training in which certain functions of the human body—in a process of self-organization of the voice—adjust to each other in such a way that the full potential of the unamplified singing voice can be used artistically “for the sake of music” (our conference theme). Classical singing technique is universally applicable, at all times and by singers of all nations. To avoid the easily misunderstood historical reference in the terms classical and bel canto, we should therefore better speak of fundamental vocal technique.

Fundamental vocal technique presupposes a *functional archetype of the voice*, a kind of universal matrix of the voice. Each individual voice can therefore be understood as a concrete variant, a particular image of this archetype. Different *vocal styles and genres*, even *different teaching methods* can be understood as dealing with variations of the *universal matrix of the voice*. And finally, not only the singing voice, but also the speaking voice is oriented to this archetype of the voice.

Under the premise of the archetype of the voice, fundamental singing technique means: *a matching of the individual structure of a particular student’s voice with the general, universal laws of the voice itself*. Plato’s allegory of the cave, mentioned yesterday by Professor Glanz, refers exactly to this powerful relationship between archetype and image.

- a. Principle no. 1: The whole body is the voice instrument. When we teach singing technique, we do not only work with and on the throat, but with the whole body—and the whole person. Elaborating vocal technique is a special form of whole-body, whole-person high performance training!
- b. Principle no. 2: The voice instrument is a living organism, not a mechanical machine, not a lifeless apparatus, not a random product. The singer himself/herself is his/her instrument, which he/she builds while already using it.
- c. Principle no. 3: Organisms develop according to the law of polarity and enhancement. It was the German poet and natural scientist Johann Wolfgang von Goethe (1749–1832) who, in his research studies of plants, discovered this law of development in nature. He describes it clearly in his *Metamorphosis of Plants*. Under the premise that voice is a

living organism, we can apply this law here as well. Goethe’s “polarity and enhancement” leads us to the terms *balance and synergy*.

*Balance* means that two polar forces, or two opposites, attract each other and strive for equilibration. In physics we see this phenomenon in electricity, where the negative and the positive pole attract each other. Balance is never a fixed position, but a flexible, swinging situation. The result of a balancing process triggers an effect of synergy.

*Synergy* means: “one plus one equals three,” or “the whole is more than the sum of its parts.” When a synergetic effect occurs, a new level of development is reached. Importantly, synergetic effects, such as the vibrato, cannot be targeted directly, but only made possible under supportive conditions. We know that vibrato cannot be trained, but rather occurs as one of the synergetic qualities of the voice once the voice as a whole is balanced out.

Interestingly, it seems to be the organism itself that, under certain conditions, orders its functions – and thus evolves. We speak of “functionally logical processes” that realize the self-organization of the voice. Functional logic means the following: *Balance between polarities creates unity in a subarea and enables development and enhancement of vocal technique towards the next level, and finally to voice as a balanced whole.*



**Figure 1. Paul Klee: *Schwankendes Gleichgewicht* (“Fluctuating Balance“)**

We understand voice as a coherent, functionally logical system that develops according to the laws of balance and synergy. Vocal technique means a transformation of the whole body and its voice-related functions. Technical mastery of the voice grows in a process that needs an abundance of patience and care, as a plant does. This casts a completely new light on teaching vocal technique: Vocal technique cannot be bought as a finished product. Through the training of vocal technique we do not create an artificial result, but support the living voice in its logical, natural growth.

## II. The Babushka Model of the Human Voice

I would like now to present a basic model of the voice. I have developed this model on the basis of our contemporary knowledge of the three basic vocal functions, and connected it with the theory of voice of the German vocal pedagogue Franziska Martienßen-Lohmann (1887–1971) as elaborated in the first half of the twentieth century.

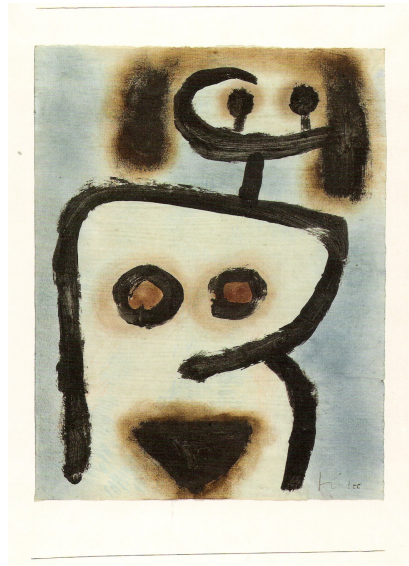


**Figure 2. Franziska Martienßen-Lohmann (1887–1971)**

I have dealt in depth with Martienßen-Lohmann’s theory of voice as developed in her writings on vocal pedagogy in my dissertation, “Die geistige Klangvorstellung: Franziska

Martienßen-Lohmann—Gesangstheorie und Gesangspädagogik” (“The Spiritual Imagination of Sound: Franziska Martienßen-Lohmann—Singing Theory and Singing Pedagogy”).<sup>1</sup> Only later I became by chance practically acquainted with a rich collection of her vocal exercises through one of her last direct, still practicing disciples, Reinhard Becker (1929–2021), who passed away last year at the age of 92, after a long teaching life. Because of its resemblance to the well-known Russian nested doll, the model I developed acquired the name “Babushka.”

In my approach to an easily comprehensible model of the voice I was looking for examples in fine arts. In painting and sculpture particularly we find insights into human nature, implicit knowledge, translated into pictorial form. For example, the German painter Paul Klee (1879–1940) depicted the parallel between the head and the torso.



**Figure 3. Paul Klee, *Ein Antlitz auch des Leibes* (“A Face Also of the Body”)**

In voice technique we speak of the “small and large system,” when we couple head with torso. So, for example, by relating the lower jaw to the pelvis. Paul Klee calls his picture very appropriately “a face also of the body.” This is already an important two-part model of the voice.

We also know the abstract model of the voice with generator, vibrator, and resonator – or called source, filter, resonator. Both models identify the three functional areas of the voice. This three-part model, by the one or the other name, is known to all of us. I find it useful to describe and name the three functional areas according to their tasks: (a) stimulating the phonation, (b) producing the voice, and (c) shaping the sound.

In the same way we are also familiar with various acts of equilibration or balance that we practice in vocal technique: breath balance, register balance, vowel balance, resonance balance, etc. The question arises: Is there a connection between these equilibrations/balances and the three functional areas?

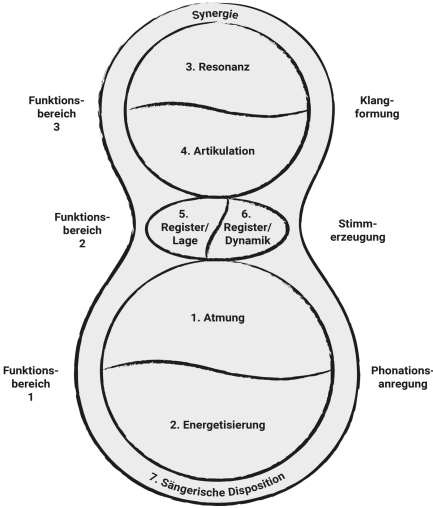
Over the 14 years of teaching methodology and practice at the Berlin University of the Arts, it has become increasingly clear to me that each functional area consists of a fundamental duality or polarity. Teaching vocal technique therefore consists in overcoming these polarities by creating balances.

I call the polarities: breathing and energizing/posture (in functional area no. 1), register in position and dynamics (in functional area no. 2), articulation and resonance (in functional area no. 3). Thus we come to six basic elements of vocal technique. Each polarity seeks for balance and creates balance in subareas, before finding the final synergy—as seventh basic element of voice technique: the voice as a balanced whole.

Functional Area no. 3:  
“Shaping the Sound”

Functional Area no. 2:  
“Generating the Voice”

Functional Area no. 1:  
“Stimulating the Phonation”



The 7 Basic Elements of Vocal Technique:

Area 3:  
3. resonance  
4. articulation

Area 2:  
5. register in position  
6. register in dynamics

Area 1:  
1. breathing  
2. energizing/posture

**Figure 4. The Babushka Voice-Model and the 7 Basic Elements of Vocal Technique**

Recently I have published a workbook with the collection of vocal exercises by Franziska Martienßen-Lohmann, which I inherited by Reinhard Becker.<sup>2</sup> In this book, the three-part Babushka model serves as a guide. The diverse vocal exercises are clearly assigned to the seven basic elements of voice training.

In the following, I would like to look with you briefly at the three functional areas regarding their characteristic *polarities* and the corresponding *balance work*. These lead to a clear vision of the pedagogical tasks for the vocal training.

a. Element no. 1: Breathing

Here the polarity is “inhalation – exhalation” (open and closed glottis). The task in vocal technique is, allowing the reflex of inhalation, controlling exhalation. We call the result “breathing balance”.

b. Element no. 2: Energizing Posture

Here the polarity is tension versus relaxation (contraction versus loosening). The task in vocal technique consists in respecting the right tension and relaxation: where, how much, when? We call the result “tension balance.” *Breathing balance* and *tension balance* are related to each other. When each of them is mastered, they can relate to each other – and the singer finds his/her concept of what the Italians called the *appoggio* (also *appoggiarsi in petto* or *Atemstützspiel*).

With the *appoggio* as a powerful synergetic product, the first functional area, or “large system”, is balanced in itself. A successful *appoggio* has positive effects on both functional areas 2 and 3. Whereas, if the balance in functional area 1 is disturbed or not fully resolved, this has negative effects on the whole voice, especially on register and resonance.

In order to stimulate you not only with holistic examples from art, but to offer you also *analytic overviews*, I will show you also the detailed charts I have developed to make the systematics of balance in all three functional areas visible.

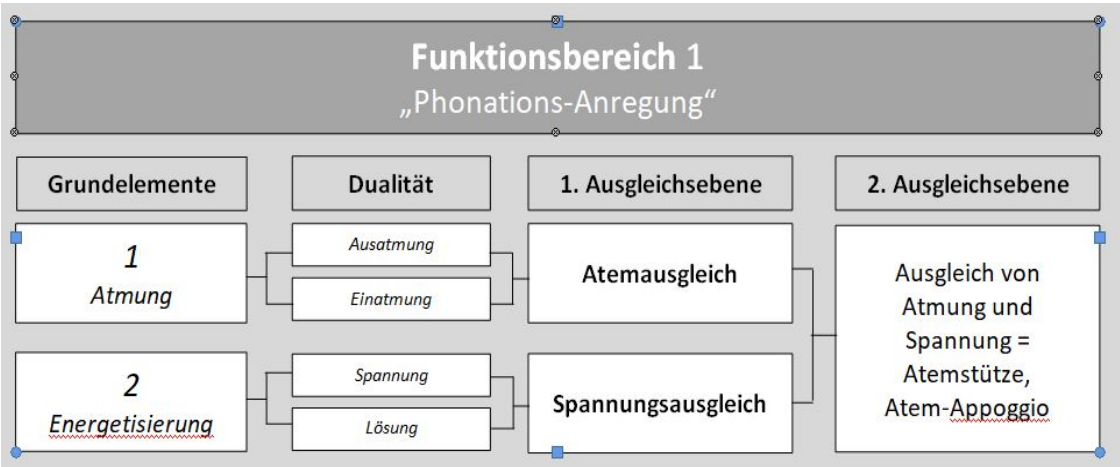


Figure 5. Functional area no. 1: “Stimulating the phonation”

For vocal pedagogical reasons (due to the before mentioned coupling of the two systems in torso and head), I will go now from functional area 1 straight to functional area 3.

c. Element no. 3: Resonance

Here the polarities are “light versus dark”, or “brilliance versus warmth.” In vocal technique we work on the resonance balance. The Italians called the result “chiaroscuro,” indicating the ideal distribution of brilliance and warmth in each sound.

d. Element no. 4: Articulation

Here the polarities are “vowels versus consonants,” with all their corresponding qualities of “extension versus concentration” and “emotion versus meaning.” A wealth of balance work opens up, being the vocal balance the best known. But also consonants need balance, and finally vowels and consonants have to balance each other out. The final articulation–balance guarantees an equal flow of the vowels, supported, but not interrupted by the consonants.

If resonance–balance and articulation–balance build an equilibrium, the final synergetic result of functional area 3 on the second level is reached; *appoggiarsi in testa*. It consists in the essential balance between sound and language, so typical for vocal music.

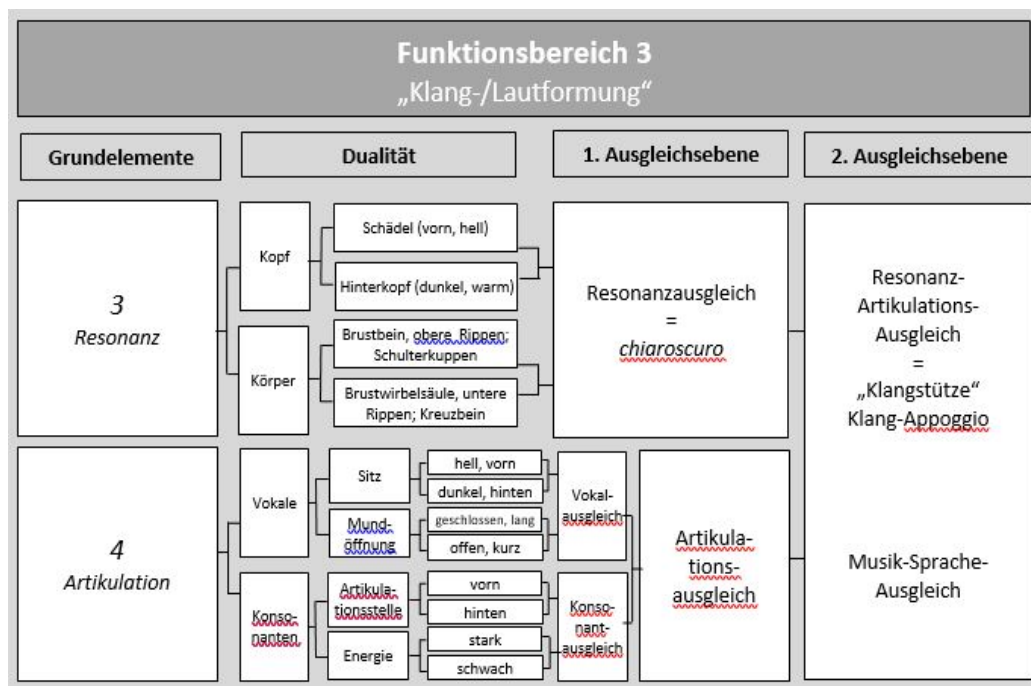


Figure 6. Functional area no. 3: “Shaping the Sound”



On a third level, the sound *appoggio* in the small system can then connect with the breath *appoggio* in the large system. Both frame systems, or functional areas 1 and 3, are mediated in a decisive way by functional area 2, the central register-work:

e. Element no. 5: Register in pitch

Here a wide field opens up, which in this presentation we can only deal with allusively.

Following Martienßen-Lohmann, I distinguish between *registers in position or pitch* (vertical) and *registers in dynamics* (horizontal).

First about the well-known vertical layering of the registers. Here the duality is represented by the “heavy vibratory mode” (chest) and the “light vibratory mode” (head). The vocal training consists in balancing these two modes out.

To avoid terminological confusion in naming, I am following Bernhard Richter’s division into *five register realms*, which I find very helpful.<sup>3</sup> The chest voice corresponds to the second realm, the pure head voice to the fourth realm, and the *voix mixte* is found in the third realm. Whether this third realm is called a register of its own, depends on the point of view, whether functional or pedagogical. The first realm (vocal fry) and the fifth realm (whistle register) frame the three central registers.

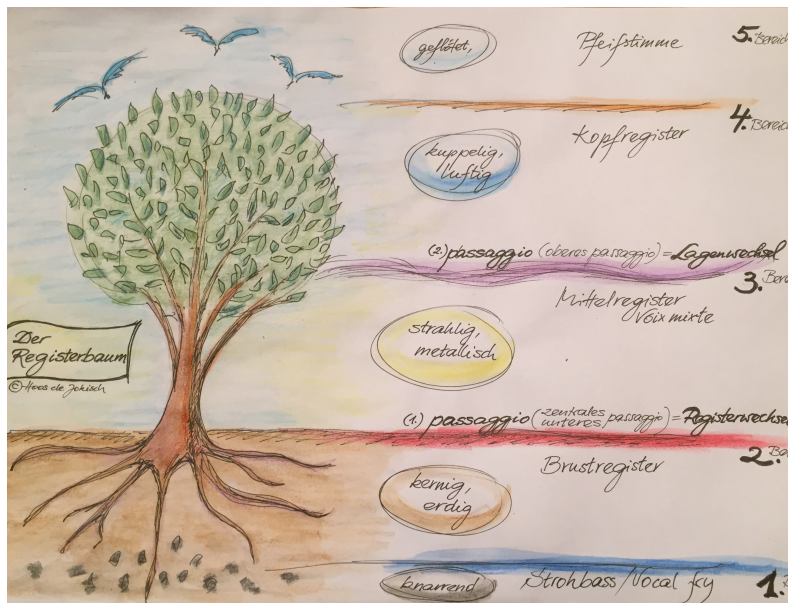


Figure 7. “The Register Tree,” with the five realms of register in range and their corresponding sound qualities.

Marking the steps between the three central realms we find the first *passaggio* and the second *passaggio*. The overcoming of these steps is the main tasks of classical vocal training. It results in the equilibration of the voice registers, the fiction of the one-register-voice.

f. Element no. 6: Register in dynamics

Here the polarity consists in “soft – loud”, and also in “light – heavy vibratory mode”. Dynamical register balance concerns the swelling of the voice on one note, hereby gliding from one vibratory mode to the other without notable steps – a challenge persistently met by the Italians with extensive exercises for *messa di voce*.

On the second level, the complete register balance is reached, when the voice is balanced both in pitch and in dynamics, i.e. when the “one-register-voice” can master a perfect *messa di voce* on each note over the whole range of the voice.

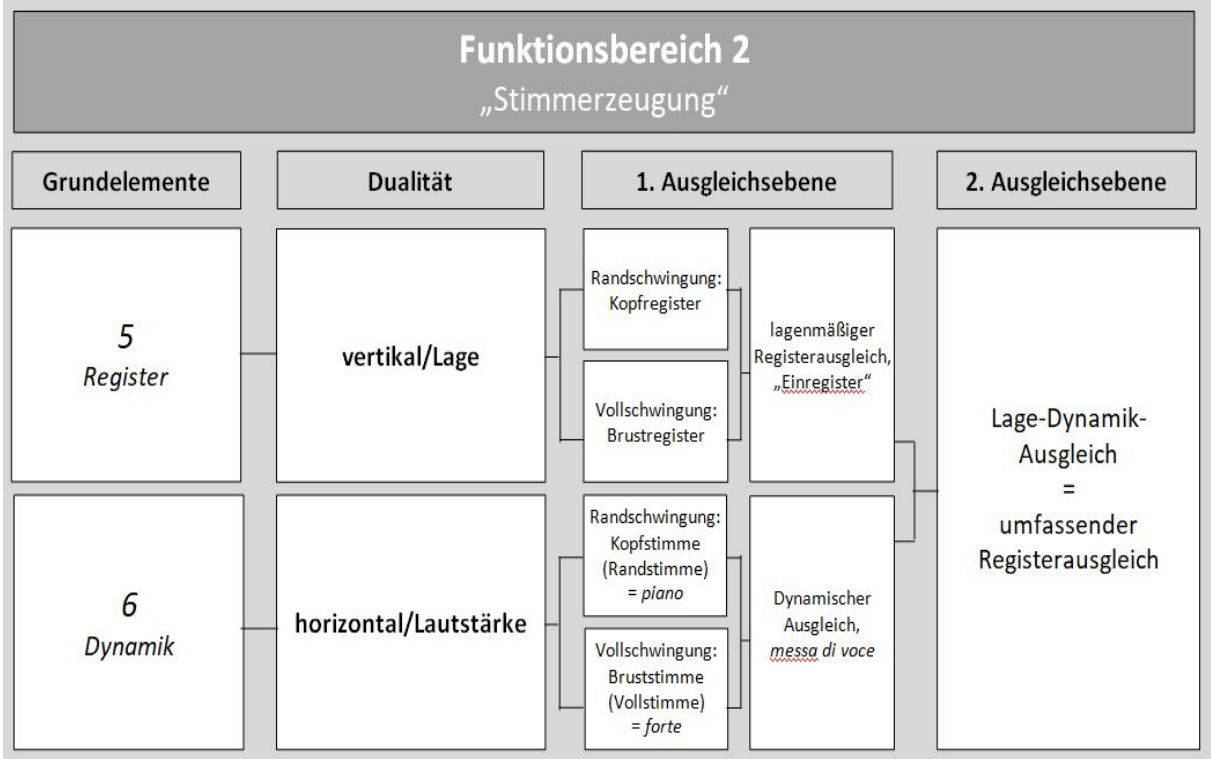


Figure 8. Functional area no. 2: “Producing the Voice.”

g. Element no. 7: Synergy

A completely balanced voice exhibits various qualities that we can now recognize as results of successful balancing on the third level, as final synergies. These include the hallmarks of bel canto—legato and agility—but also such basic qualities as vibrato and timbre. This explains what Martienßen-Lohmann might have had in mind when she wrote that “singing is a dualistic art”<sup>4</sup> and “the technical work applies the image of the perfect balance of the voice.”<sup>5</sup>

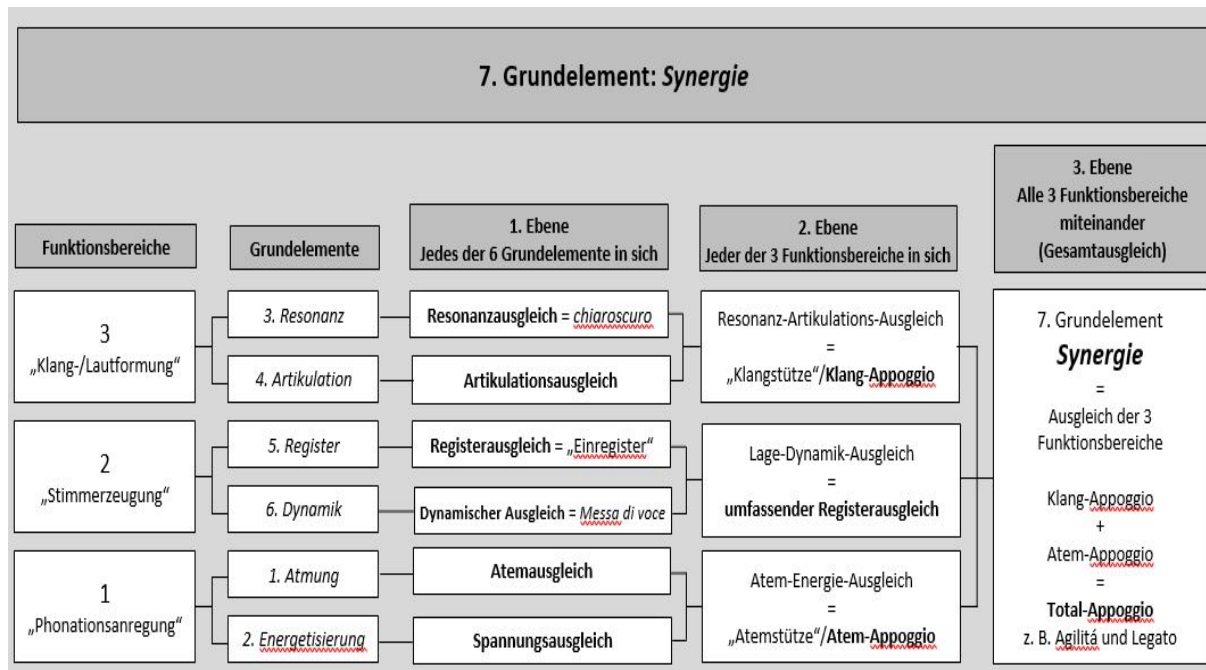


Figure 8. “Synergy”

III. Conclusion

We are never perfect. As Adrian Eröd said in his inspiring masterclass yesterday, “Singing is always trying, we never achieve.” This is true for teaching as well. But a clear picture of the voice – as derived from the Babushka model of the voice, based on the three functional areas and with the principles of balance and synergy, together with a knowledge of the corresponding vocal tasks, and in addition a handicraft suitcase full of effective and purposefully applicable exercises. This altogether may help us dissolve the fog over the vocal technical landscape, enable orientation and security, and give playful ease in the balance between structure and intuition in teaching. “Playful ease,” despite all knowing and reflecting. This what I wish us all in our daily teaching.

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<sup>1</sup> Barbara Hoos de Jokisch, “Die geistige Klangvorstellung: Franziska Martienßen-Lohmann—Gesangstheorie und Gesangspädagogik” (Wiesbaden, 2015).

<sup>2</sup> Barbara Hoos de Jokisch, *Die 7 Grundelemente der Stimmbildung* (Breifkopf & Härtel, 2020).

<sup>3</sup> Bernhard Richter, *Die Stimme: Grundlagen, künstlerische Praxis, Gesunderhaltung*, 2<sup>nd</sup> ed. (Henschel, 2014).

<sup>4</sup> Franziska Martienßen-Lohmann, *Der wissende Sänger: Gesangslexicon in Skizzen*, 3<sup>rd</sup> ed. (Atlantis Musikbuch-Verlag, 1988), 86

<sup>5</sup> *Ibid.*, 42