

# The Open Throat: Deceptive Sounds, Facts of Firstness, and the Interactional Emergence of Voice

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Nicholas Harkness, *Harvard University*

## ABSTRACT

This article develops a Peircean conceptualization of qualia as “facts of firstness” by examining the pedagogical pragmatics of a voice lesson in which an intersubjective orientation to vocal sound via listening becomes a subjective orientation to voice production via bodily feeling. I focus specifically on various attempts by a teacher and a student collaboratively to repair and cultivate the student’s voice by generating and isolating qualia across proprioceptive and introspective dimensions. By tracing the sensuous semiotic modes through which qualia become crucial pragmatic signals in the process of “opening” the student’s throat, I demonstrate how these facts of firstness function as cultural emergents that are produced by and accessible through communicative, interactional, intersubjective conduct.

In the process of learning to sing European-style classical music, singers-in-training often receive what sound like contradictory instructions. They are told by their teachers to feel rather than to listen. Students are not instructed to block out all sound. The idea is not to produce singers with the tone-deaf confidence of someone like Florence Foster Jenkins. Rather, they are taught early on that they cannot trust their ears—or not entirely, at least—to guide them as they discover, cultivate, and train their voices. In order to learn to sing, they must learn to interpret their interior, proprioceptive bodily sensations and

Contact Nicholas Harkness at Tozzer Anthropology Bldg., 21 Divinity Ave., Cambridge, MA 02138 (harkness@fas.harvard.edu)

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impressions as trustworthy signs in the production of voice. Learning to sing is a process of learning to stimulate and manipulate this sensuous interiority. To summarize the statements of many pedagogues: “Sound is deceptive. That is why we have technique.”<sup>1</sup>

This statement describes the way singers are deceived by the sounds of their own voices as they resonate through the flesh and bone of their bodies and as they aurally orient to their oral production of voice in different acoustic spaces. Singers are often deceived by their aural impressions of the amplitude of their voices. Often, the voices that sound the “biggest” on stage do not sound the “biggest” in a large concert hall. Many singers who sound loud in a small space cannot project their voices in a large one. As one voice teacher in Munich often repeated to me, “große Stimme, kleines Zimmer” (big voice, small room). Another teacher often instructed his students to try to feel “bigger” than their sound, insisting that singers should never let their voices sound excessively “big.” Where exactly this “bigness” should be felt is not always clear; it can be a concrete sensation of the body or a more diffuse sensation of having control over the voice. Singers are also deceived by their aural impressions of the timbre of their voices. What sounds to the singer like a focused, ringing tone can sound to others like strained or squeezed vocal cords, a “throaty” voice (Laukkanen, Björkner, and Sundberg 2006; Sundberg 1987). Furthermore, listening can be deceptive because of the temporality of practice. As one voice teacher in Chicago put it, “Listening to yourself sing is like driving forward while looking out the rearview mirror. Once you hear it, it’s already too late.” There are many such dicta.

This essay takes the case of vocal pedagogy and technique in the tradition of European classical music as a way to study how the intersubjective orientation to vocal sound via listening becomes a subjective orientation to voice production via bodily feeling. I conceptualize this intersubjective production of subjectively felt voice via the metaphor of a semiotic circuit: developing vocal technique involves shifting from the open-circuit semiosis of sound in the context of the voice lesson—open, because anyone possessing functional hearing faculties within earshot can access the sign vehicle—to the closed-circuit semiosis of the student’s proprioceptive awareness and control of the bodily production of voice beyond the context of the voice lesson. My analytical approach to studying the closing of the semiotic circuit in the cultivation of voice is through a concept often linked with radical subjectivity, individual consciousness, interi-

1. See, e.g., <http://www.voiceteacher.com/deception.html> (accessed September 26, 2006).

ority, introspection, and ineffability: *qualia*. I draw on ethnographic data to demonstrate how *qualia* can be mobilized for empirical semiotic research as cultural emergents that are produced by and accessible through communicative, interactional, intersubjective processes.

I bring *qualia* into the empirical space of ethnographic study by treating them as “facts of firstness” in the tradition of Charles S. Peirce. Facts of firstness form a semiotic link between qualities as “mere abstract potentialities” (true firstness) and *qualisigns* as predicable feelings, that is, feelings “of” (firstness functioning as genuine signs). Conventional *qualisigns* mobilized in vocal training become navigational guides through which students of voice learn to assimilate, that is, to absorb and incorporate, *qualia* into a framework of feeling that is produced and reinforced in communicative consultation with their teachers. Between the indeterminate qualitative potentials of voice and culturally valorized *qualisigns* of voice are hypothetical targets, vague objects of consciousness, focal sensations and impressions, and other pragmatic clutter to be organized and regimented metapragmatically.<sup>2</sup> By collaboratively navigating *qualia* through *qualisigns*, singers come to know and orient to idealized qualities of voice. In this formulation, *qualia* provide a crucial analytical, hence methodological, link in the empirical study of the semiotic processes by which cultural conceptualizations form around and reproduce interactionally emergent ontologies.

In the training and cultivation of voice, students are faced with yet another apparent contradiction. Just as they must learn to feel rather than listen, they also must learn to close the semiotic circuit of the body in order to open the throat and let their “natural,” “true” voice out. The phrase “opening the throat” describes a lowered larynx and enlarged pharyngeal cavity, supported by a relaxed jaw and tongue, expanded ribcage, and various other anatomical adjustments (but not, importantly, the spreading of the aperture of the mouth). One of the great challenges of singers-in-training is to learn to identify and correctly discern the related proprioceptive signals that can tell them—without listening—that they probably are producing good sounds. In this regard, many singers insist that the voice is the most difficult instrument of all to learn, because the singer cannot see it. Students must rely on good teachers who effectively become a set of prosthetic or surrogate ears, which then become a guide to the inner feelings of the student’s body. As people come to a new awareness of their own internal processes of vocalization, they often report that this pro-

2. On metapragmatic function, see Silverstein (1993).

cess feels strange or mysterious, making unfamiliar something that had seemed so familiar.

In the process of learning to sing, tropes of nature and science combine to frame ideologies of the body that code certain feelings as correct or incorrect. A good example of this is one of the most common theories in vocal pedagogy: that Western classical vocal technique takes advantage of the human body as a natural sound-producing mechanism. Drawing from a long philosophical history on the origins of language in a kind of natural musicality, the claims focus on animals and babies as models of the way all humans once made sound when we were still “connected to our air.” According to Raffaele Cardone, “we are born with the almost perfect breathing mechanism for talking (screaming) and also for singing. Unfortunately as we grow older we transform the natural breathing system . . . the reality is that we need to go back to nature to make a better use of our breathing system.”<sup>3</sup> And Luciano Pavarotti noted that “a baby crying is a perfect demonstration of correct vocal technique. The baby chooses a note that is comfortable and can cry all night without tiring or getting a sore throat. Why? Because it produces the sound in the natural way, by pushing it up from the diaphragm” (“Opera’s Golden Tenor Luciano Pavarotti Tops the Scales in Brilliance, Bulk and Brio,” *Time*, September 24, 1979, 60).

As students of voice come to systematic awareness of the interior semiotic processes of vocalization, they learn to use proprioceptive cues to replace those offered by the teacher or any other exterior feedback. Within the ideology of vocal technique as a method of accessing nature, this process can be construed as stripping away the sediment of socialization that has separated singers from their natural voices. A student’s sonic orientation to voice is thus mediated initially through the ears and comments of the teacher, which are then verbally connected to specific bodily sensations in the singer. Once properly perceived through technical training, the interior sensations of the body are thought to have a stabilizing and purifying function that allows singers to access their voices as a product of nature. The pedagogical process presumes a kind of sensuous empathy, where feelings are produced as intersubjective objects of orientation through interactional processes. As an operatic soprano and voice teacher in Seoul explained, “When I hear somebody singing, I can feel it in my body.” To learn to sing is to internalize the external, prosthetic ears of others to such an extent that their regimenting effects are practically integrated into one’s own private proprioceptive sensations. As one teacher and operatic tenor who

3. See [http://opera-voice-teacher.com/\\_wsn/page3.html](http://opera-voice-teacher.com/_wsn/page3.html) (accessed September 26, 2006).

had spent decades singing professionally in Germany put it, “You must find the identity between your feeling and your sound.” The teacher characterized the interior awareness of the body as more stable and trustworthy than sound, because it is the site in which voice is produced independently of acoustic context. Even when singers do construe technique in terms of hearing, they emphasize that this must be done properly, in the correct settings. For example, German soprano Elisabeth Schwarzkopf reminded a young soprano in a master class to use good acoustic spaces (like good teachers) to “search for that controlled sound” and to remember its “place”:

When you’re onstage you can’t suddenly think of [makes contorted face and hand gestures, indicating the process of straining to manipulate the body]. It’s impossible. You have to search for and play with the sound, and remember and re-hear yourself where that sound is, was, and whatever. You see? That’s why unacoustic theaters are such a terrible punishment, because then one has to remember something which one did in a good theater and tries to remember, “What did I? What was it?” And you cannot anymore play with the sound anymore. Re-hearing yourself.<sup>4</sup>

“Technique” then becomes a closed-circuit system of awareness, memory, and control over interior semiosis. So emotionally transformative is this process that sometimes singers say things like, “Learning to sing is like psychotherapy, except that it works.” It “works” in the sense that the vivisection of the interior allows for awareness of and control over interiority, which, it is said, makes a person emotionally and mentally healthier and happier.

Below, I show how the process of developing vocal technique can be understood as the use of qualisigns to discern qualia and of the transformation of qualia into reliable qualisigns. First I discuss in more detail a Peircean model of qualia as “facts of firstness” that differs from the more familiar model of qualia as elements of “sensory experience.” The Peircean model shifts the emphasis from the interpretation of sense data to cultural semiosis where the broadly sensuous (rather than strictly sensory) becomes semiotically relevant at any scale and in any domain of experience. Then I turn to an extended case study, in which I focus specifically on various attempts by a teacher and a student in Chicago collaboratively to repair and cultivate the student’s voice by generating and isolating qualia across various proprioceptive and introspective dimensions that become value-laden pragmatic signals in the pursuit of an open throat.

4. See <https://youtu.be/kp5KRwokjYc> (accessed October 2014).

### Qualia as Facts of Firstness

To speak of voice is to speak of air, so let me begin with an example of the semiotics of air in motion, wind:

While I am out golfing the scorecard accidentally falls out of my shirt pocket and flutters several feet to the left; my partner drops bits of grass from her raised hand and carefully observes them flutter to the left. Now, the wind will act to blow both the scorecard and the grass to the left quite apart from my partner's interpretation of the movement of the grass as a sign of the wind direction so as to aim her tee shot with the proper compensation. In this elementary semiotic situation, the relationship between the object (the wind blowing in a certain direction) and the sign (the grass blowing in a certain direction) is useful only to the golfer who is already acquainted with the object (that is, that there is this physical phenomenon of wind) and who further understands the ground involved in the wind-grass connection, namely, a combination of physical connect-edness between wind and grass, what Peirce calls "indexicality," and of formal resemblance between wind direction and grass direction, what Peirce calls "iconicity." (Parmentier 1994, 4)

For more than two decades, many students of cultural semiosis have learned the fundamentals of Charles Peirce's theory of signs through Richard Parmentier's anecdote of two golfers as they interact with one another by jointly "taking account of the wind." One central concern of Parmentier's discussion in this first chapter of *Signs in Society* was to demonstrate Peirce's revolutionary conceptualization of thirdness in relation to firstness and secondness. Within the Peircean doctrine of signs, firstness, secondness, and thirdness form the fundamental categories, which can function as distinctive features of sign partials; these differentiable sign partials, furthermore, have combinatorial potentials and limits across various trichotomies. These concepts have become indispensable analytic tools for a semiotically informed anthropology of communication that situates the Saussurean solution to thirdness (the relation between signification and value in a virtual system of differential relations across planes of linguistic analysis) within a broader, comparative ethnographic investigation of social pragmatics and the metapragmatic thirdness of culture. In addition to divesting Peirce for nonintimates, Parmentier's anecdote of "taking account of the wind" foregrounds the vital function of semiotic mediation along dialectically related vectors of determination and representation in the

production of a cultural concept of wind by which an ontology of wind can be posited as interactionally relevant.

In this essay, I also focus on the problem of the semiotic mediation of ontology for a scientific epistemology based on ethnographic research (i.e., socio-cultural anthropology). By analyzing a recording of a voice lesson that I observed in Chicago in 2007, I return to the problem of becoming “acquainted with the object” that Parmentier offers as a condition of possibility for complex semiotic relationships like “taking account of the wind.” In addition to the behavioral attributes of an object (e.g., that air in motion blows in a direction) and its effects (that the motion of air can cause other objects to move, quickly or slowly, foul or favorably), these two golfers know the wind by its predicable sensuous qualities (strong, weak; hard, soft; cold, warm; malodorous, sweet). We can imagine a sort of everyday doctrine of immediate perception, where the wind “is” a synthesis of these various semiotic phenomena to the golfers. Upon observation and reflection, as every scientist knows, the wind as it “is” in a particular moment can be retroductively assimilated to what it “ought to be” theoretically in every moment. This “ought” is not a moral assertion, a standard, or a norm. Rather, the “ought” is an inferential process of what Peirce called “abduction.” By reflecting upon what the wind “is” in terms of what it, under all relevant conditions, “ought” to be, our golfers can arrive at a kind of tacit, rudimentary, settled science, that can seem for a time to collapse the fact/value distinction (Putnam 2004). For the pragmatist golfer who “holds that the purport of any concept is its conceived bearing upon our conduct” (*CP* 5:460), the wind ought to be conceptualized and dealt with as being whatever it is that will help and not hinder their efforts to play a game of golf.

Now let us imagine another interactional setting, a voice lesson. Like the golf game, two or more persons are in a collaborative process of discovering, conceptualizing, and taking account of a culturally stipulated ontology. However, this time the thinginess of the thing they are discerning is a direct result of their individual actions, not a force external to their immediate actions. As in a game of golf, what this thing is at any given moment is evaluated and manipulated according to what it ought to be in all moments. However, in this new situation, the people are not only orienting and adjusting to variations in the behavior of this thing, but are also actively producing this thing through their own behavior. Each variation is a direct causal outcome of their activities. In this finely tuned pragmatic nexus of phonic engagement and sonic orientation, human action and reaction are continuous and mutually constitutive (Harkness 2014).

More like a golf swing than the wind, the voice in this setting is encountered as a bundle of sensuous impressions, exteroceptive and interoceptive, taken up differently by the different participants in the interaction. Vocal technique is a process of gaining semiotic awareness of and control over these impressions, and successful vocal instruction is a genre of activity where two or more people come to agreement over these impressions, despite their differently situated epistemic access to them. Students of voice navigate these impressions by orienting to generalizable, predicable qualities. These qualities have labels like *open* versus *closed*, *relaxed* versus *tense*, *smooth* versus *rough*, *soft* versus *hard*, and so on. These qualities are abstracted hypostatically from predicates (from *soft* to *softness*) according to culturally stipulated aesthetic and ethical frameworks of value, positive and negative. Peirce called qualities operating as signs *qualisigns*, which occupied the first place in the first division of his three semiotic trichotomies—a division according to “the sign itself.”

For Peirce a quality “cannot actually act as a sign until it is embodied; but the embodiment has nothing to do with its character as a sign” (*EP* 2:291; see also *CP* 4.244). The character of a qualisign remains that of quality (Parmentier 1994, 38–39), whether its embodiment is the simplest of sense data (e.g., “feeling of red”) or the most complex assemblage of actions (see, e.g., Munn 1986 on buoyancy). For Peirce, a quality is “a mere abstract potentiality” (*CP* 1.422) not dependent on mind, on some material entity, or on sense. Qualities belong to the realm of firstness, “not referring to anything nor lying behind anything” (i.e., a monadic state, a ground; *CP* 1.356–57). Our empirical access to qualities (conceptualized as true firstness) is through qualisigns (firstness functioning as genuine signs), a condition of which is their embodiment—their manifestation—in sign vehicles.

Readers familiar with Peirce’s trichotomies will immediately notice the gap between qualities as a first degree of the category of firstness and qualisigns as a third degree, that is, genuine sign, of the category of firstness. Filling this categorial gap are qualia as a second degree, that is, what Peirce called “facts of firstness” (*EP* 2:272): “In the ideas of Firstness, Secondness, and Thirdness, the three elements, or Universal Categories, appear under their forms of Firstness. They appear under their forms of Secondness in the ideas of *Facts of Firstness*, or *Qualia*, *Facts of Secondness*, or *Relations*, and *Facts of Thirdness*, or *Signs*; and under their forms of Thirdness in the ideas of *Signs of Firstness*, or *Feeling*, i.e., things of beauty; *Signs of Secondness*, or *Action*, i.e., modes of conduct; and *Signs of Thirdness*, or *Thought*, i.e., forms of thought” (Peirce 1903).



In a paper on Peirce's semiotic approach to phenomenology and the organization of what Peirce called the phaneron, the "total of all that is in any way or in any sense present to the mind" (*CP* 1.284), Nathan Houser (2010) provides a helpful distillation of Peirce's categories to situate qualia in terms of their apparent facticity, that is, appearing "in their secondness." Whereas Peirce adopted the term *haecceity* (thisness) from medieval philosopher Duns Scotus to refer to pure secondness (*CP* 1.405),<sup>5</sup> "qualia" refer to elements of firstness that appear in their secondness:

Firstness, secondness and thirdness are highly abstract universal categories of experience which provide the key to the structure of the phaneron (and, thus, of experience). Perhaps this is easiest to see when we regard firstness, secondness and thirdness as levels of dependency, as expressed above. Some elements of the phaneron are independent; these are elements of firstness. Other elements are dependent only on another element; these are elements of secondness. Still other elements of the phaneron are dependent on two elements between which they somehow mediate; these are elements of thirdness. According to Peirce, these three classes of elements comprise the whole of the phaneron. At this level of abstraction the phenomenological categories appear as characters, or qualities, of elements of the phaneron. They are the phenomenological categories in their firstness. *As qualia, relations, and signs, the categories appear as facts. In this form the categories appear in their secondness. As feeling, reaction, and thought, the categories appear as signs. In this way the categories appear in their thirdness.* (Houser 2010, 98)<sup>6</sup>

What, then, does Peirce mean by "facts" in this typology? Peirce offers the following explanation of secondness as a defining feature of facts:

5. On the influence of Duns Scotus on Peirce, see Moore (1964).

6. See Peirce *CP* 1.304: "Among phanerons there are certain qualities of feeling, such as the color of magenta, the odor of attar, the sound of a railway whistle, the taste of quinine, the quality of the emotion upon contemplating a fine mathematical demonstration, the quality of feeling of love, etc. I do not mean the sense of actually experiencing these feelings, whether primarily or in any memory or imagination. That is something that involves these qualities as an element of it. But I mean the qualities themselves which, in themselves, are mere may-bes, not necessarily realized. The reader may be inclined to deny that. If so, he has not fully grasped the point that we are not considering what is true, not even what truly appears. I ask him to note that the word *red* means something when I say that the precession of the equinoxes is no more red than it is blue, and that it means just what it means when I say that aniline red is red. That mere quality, or suchness, is not in itself an occurrence, as seeing a red object is; it is a mere may-be. Its only being consists in the fact that there might be such a peculiar, positive, suchness in a phaneron. When I say it is a quality, I do not mean that it »inheres« in [a] subject. That is a phaneron peculiar to metaphysical thought, not involved in the sensation itself, and therefore not in the quality of feeling, which is entirely contained, or superseded, in the actual sensation."

There are certain occurrences which, when they come to our notice, we set down as “accidental.” Now, although there is really no more of the factual element in these than in other facts, yet the circumstance that we call them par excellence contingent, or “accidental,” would lead us to expect that which distinguishes the realm of fact from the realms of quality and of law, to be particularly prominent in them. We call such facts “coincidences,” a name which implies that our attention is called in them to the coming together of two things. Two phenomena, and but two, are required to constitute a coincidence; and if there are more than two no new form of relationship appears further than a complication of pairs. Two phenomena, whose parts are not attended to, cannot display any law, or regularity. Three dots may be placed in a straight line, which is a kind of regularity; or they may be placed at the vertices of an equilateral triangle, which is another kind of regularity. But two dots cannot be placed in any particularly regular way, since there is but one way in which they can be placed, unless they were set together, when they would cease to be two. (*CP* 1.429)

A quality is a first, a mere abstract potentiality, a true monad, “a special suchness with some degree of determination, not, however, thought as more or less,” “itself without parts or features, and without embodiment” (*CP* 1.303). A qualisign, however, is a genuine semiotic object, a third with the character of firstness composed of a sign vehicle (its embodiment as a feeling), an object, and an interpretant. The semiotic middle space between qualities and qualisigns is constituted by qualia. And the classic “principle of excluded middle,” according to Peirce, characterizes the individual fact.

The individual fact insists on being here irrespective of any reason, whether it be true or not that when we take a broader view we are able to see that, without reason, it never could have been endowed with that insistency. This character makes a gulf between the individual fact and the general fact, or law, as well as between the individual fact and any quality, or mere possibility, which only mildly hopes it won’t be intruding. But besides that character, individuality implies another, which is that the individual is determinate in regard to every possibility, or quality, either as possessing it or as not possessing it. This is the principle of excluded middle, which does not hold for anything general, because the general is partially indeterminate; and any philosophy which does not do full justice to

the element of fact in the world (of which there are many, so remote is the philosopher's high walled garden from the market place of life, where fact holds sway), will be sure sooner or later to become entangled in a quarrel with this principle of excluded middle. (CP 1.434)

In this discussion of the "excluded middle," Peirce enumerates twelve features of facts. Here is his summary of the first seven:

Thus far, in this section, attention has been called successively (but in no philosophical sequence) to six characteristic features of fact. In recollecting them, we may place at their head the circumstance that fact has distinct features, for this distinguishes it from quality although not from law. The others already examined have been as follows: second, facts are either accidentally actual or involve brute force; third, every fact has a here and now; fourth, fact is intimately associated with the dyad; fifth, every fact is the sum of its consequences; sixth, the existence of facts consists in fight; seventh, every fact is determinate in reference to every character. But in making our distribution of the elements of phenomena into quality, fact, and law, we were led to notice additional features of fact. I continue to take them up promiscuously. (CP 1.435)

And of the five additional features of facts according to Peirce, let me highlight three more (presented in truncated form), which are especially salient for our semiotic conceptualization of qualia:

The eighth feature of fact is that every fact has a subject, which is the grammatical subject of the sentence that asserts the existence of the fact. . . . This subject is a thing. It has its here and now. It is the sum of all its characters, or consequences. Its existence does not depend upon any definition, but consists in its reacting against the other things of the universe. Of it every quality whatever is either true or false. (CP 1.436)

The eleventh feature of dual fact is that if it involves any variation in time, this variation consists of a change in the qualities of its subjects, but never the annihilation or production of those subjects. (CP 1.439)

It is something which happens. (CP 1.440)

Finally, as "facts of firstness" that both occupy the "middle" of the category of firstness between qualities and qualisigns and are subject to the "principle of excluded middle," qualia specifically are defined by the following features:

The quale-consciousness is not confined to simple sensations. There is a peculiar quale to purple, though it be only a mixture of red and blue. There is a distinctive quale to every combination of sensations so far as it is really synthetized—a distinctive quale to every work of art—a distinctive quale to this moment as it is to me—a distinctive quale to every day and every week—a peculiar quale to my whole personal consciousness. I appeal to your introspection to bear me out in this. (CP 6.223)

Each quale is in itself what it is for itself, without reference to any other. It is absurd to say that one quale in itself considered is like one or unlike another. Nevertheless, comparing consciousness does pronounce them to be alike. They are alike to the comparing consciousness, though neither alike nor unlike in themselves. (CP 6.224)

And now I enunciate a truth. It is this. In so far as qualia can be said to have anything in common, that which belongs to one and all is unity. (CP 6.225)

Finally, the self-contained unity of qualia may be differentiated from the degree concept of vividness or intensification. Peirce speaks of the “distinction between two kinds of consciousness, the quale-consciousness and that kind of consciousness which is intensified by attention, which objectively considered, I call vividness, and as a faculty we may call liveliness” (CP 6.222; see also CP 6.308–9). Let me now draw together the salient points for the present discussion: qualia are facts of firstness that consist in features that happen here and now, that exhibit a unitary, synthesized character, however complex upon reflection, which is not (yet) predicated, that are subject to the “principle of excluded middle,” and that occupy a “middle” between quality as mere abstract potentiality (true firstness) and qualisigns as feelings, which constitute genuine semiotic objects (firstness functioning as genuine signs).

As Brian Keeley (2009, 81) explains, although Peirce talked about qualia in *sensuous* terms to emphasize their experiential presence in whatever semiotic mode, he did not conceptualize qualia as *sensory* input or simple sense data.<sup>7</sup> Unlike the more explicitly sensory understanding of qualia (e.g., in the work of C. I. Lewis [1929] and his student, Nelson Goodman [1966]), the earlier and “alternative Peirce-qualia account emphasizes the importance of those el-

7. Peirce speaks of sensuousness in various places, such as the “sensuous element of thought” (CP 2.643) or the “sensuous clearness” of ideas (CP 7.284), and the “function of conceptions . . . to reduce the manifold of sensuous impressions to unity” (CP 1.545).

ements of conscious experience that do not fall neatly under the heading of ‘sensory experience’” (Keeley 2009, 86). Nor did Peirce conceptualize qualia as variations on fundamental categories of quality, whether “primary” or “secondary.” Although we may think of qualia as a particular blueness of blue or sweetness of sweet, we may also speak of the particular todayness of today or the citiness of the city—taking the phenomenological at any scale before its features are further analyzed and decomposed into different components. Notice, then, that this careful, semiotic treatment of qualia pertains as much to affect as it does to discourse, as much to the material as to the ideational. That is, it is the particular, unitary, sensuously present facts of firstness that define qualia, not the actualization or degree of a given quality—not, in the mode of Aristotle, as variation or intensification of quality as “a kind of alteration, which nevertheless leads neither to a corruption of the subject, nor to a mutation of the quality into its opposite” (Solere 2001, 583; cf. *CP* 1.439 cited above). Rather, as I have highlighted above, Peirce thought of qualia as self-contained particularities of experience that, to “quale consciousness,” are completely unitary, each with a character a unique unto itself (cf. “comparing consciousness,” “vividness,” “liveliness,” “intensity,” etc., above).

Qualisigns thus would seem to have a navigational function in the pragmatics of the “pure indescribable quale which is gone in the twinkling of an eye and which bears no resemblance to any memory of it. It is just the quality of the immediately present, which is continually pouring through us, always here but never stopping to be examined. It is always fresh, always new, sporting in unbounded manifoldness” (*W* 6:214). Qualisigns shape the projective discernment of qualia, making qualia as subjects seem to demand comparison and predication. Predicable qualisigns are both the pathway into qualia and the first semiotic responders to the metapragmatic incorporation of qualia into cultural schemata knowledge. It is then through reflexive metapragmatic attention that qualia are assimilated as comparable experiences by degrees of intensity or vividness, as “more or less” the same or different.

The basic point is that qualia—as facts of firstness, as the synthesized features of subjects prior to predication, as a pragmatic middle between qualities and qualisigns—are cultural emergents. They form raw semiotic material for predicating properties of entities and activities in the world according to, on the one hand, culturally conceptualized qualities and, on the other hand, feelings of these qualities in the form of conventional qualisigns. When these *sensuous* pragmatic signals are assimilated to conventional qualisigns of value, they can be “downshifted” (rhematized) from the indexical mode to the iconic

mode (Parmentier 1994), appearing as the *realia* or properties of entities available to sensory experience (see, e.g., Harkness [2013] on the various qualia assimilated to “softness” as a qualisign of *soju* in South Korea). And when assimilated as rhematized indexes, qualia can focus attention on the “feeling of doing,” providing the pragmatic material for organizing and valorizing genred activity—“practice”—according to culturally valorized qualisigns (Harkness 2015). Combining these two functions, qualia have a crucial capacity to link the thinginess of things with the feeling of doing within a broader pragmatic semiotics of culture (Parmentier 1997; Keane 2003; Manning 2012; Chumley and Harkness 2013).

There is, however, an obvious methodological problem. If qualia are supposed to be ineffable, ephemeral, incomparable, and inherently introspective, how do we study them? Or, rather, how do we study their pragmatic role in and consequence for social life? I take up this question in the remainder of my essay by examining field data on the training of the human voice. Focusing closely on one recording of a voice lesson that I observed, I discuss the way the qualisign of “openness” serves a navigational function in developing the singer’s “quale consciousness” of voice and its production within a European classical tradition. I demonstrate how qualia emerge through the sociosemiotic division of labor between the singer and the teacher as the teacher attempts guide the student toward certain modes of semiotic awareness of and control over his body. The voice in this example is revealed to be an interactionally produced cultural ontology.

These data suggest that a methodological approach to the ineffable, ephemeral, incomparable, and introspective is possible by carefully examining how the intersubjective becomes the subjective, the interactional produces the ontological, the exterior illuminates and characterizes the interior. Like qualia, the voice as phonosonic nexus is encountered as a slippery, shape-shifting object of action and reflection, repeatedly “found” and “lost” through processes of training and performance—both processual and objectified, internal and external, naturally emergent and intentionally produced, familiar and mysterious. As one voice teacher put it to me, “There is no such thing as perfect singing. It’s like herding sheep. Great singers know how to shuffle the voice down an imaginary corridor. That’s what makes it so exciting.”

### **The Interactional Emergence of Voice**

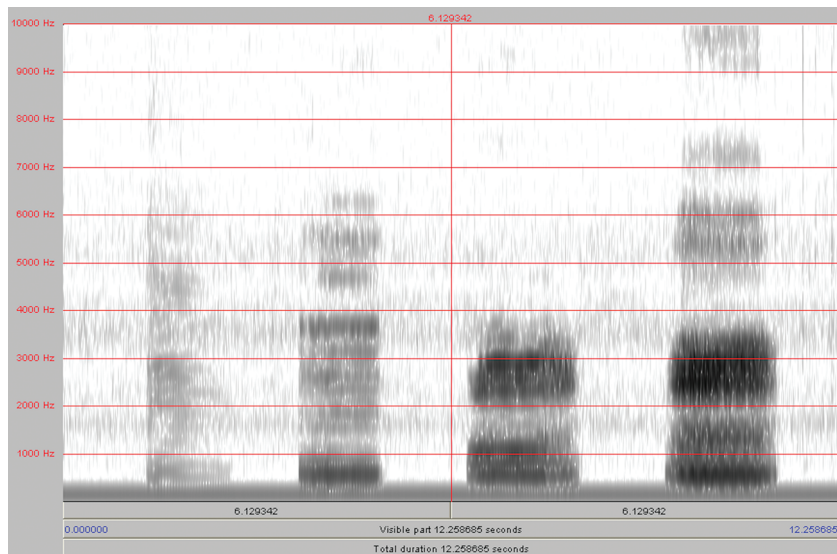
How does one “open” the throat? One major aspect of vocal technique that students struggle with is learning to lower subglottic pressure in order to relax the

muscles around the larynx and use formant resonance (rather than subglottic pressure or tension in the jaw or tongue) for amplitude and timbre. However, there are trained singers who, despite their well-developed technique, sometimes sound as if a small, rounded object were lodged somewhere in their throats (this also is sometimes the sonic effect of older recording technologies that captured only narrow swatches of audible sound). The image of an object in the throat corresponds to the sound of an obstructed vocal tract. This sound is often referred to as a “Knödel,” the German word for a boiled dumpling, which also is etymologically related to the diminutive form of the German word for *knot* (*der Knoten*) as well as *noodle* (*die Nudel*). In the case of well-trained classical singers, there is nothing lodged in the person’s throat. The Knödel sound is often the effect of particular singers’ production of what is called the “singer’s formant” (Sundberg 1987), where formants 3, 4, and 5 cluster around 3000 Hz, using a combination low subglottic pressure, low larynx, expanded pharynx, raised velum, and rhotacization.<sup>8</sup> The singer’s formant creates the so-called ring in the voice and allows singers to produce sounds that can be heard over large orchestras. In some singers, however, a particular combination of articulation and phonation, combined with this concentration of peaks of acoustic energy (the singer’s formant), is interpreted by listeners as the sound of a mysterious “thing” lodged somewhere in vocal tract. The quality of vocal sound is characterized by an inference regarding its production. To the listener, the throat “sounds” constricted or obstructed.

Occasionally people mock opera singers by taking the Knödel model and producing what is sometimes called, in English, a “froggy” voice.” The “frogginess” of the voice involves raising the larynx high in the vocal tract, often to the extent that one can no longer feel it with the hand when touching the throat. Given that opera singers use a lowered larynx in their method of vocal sound production, why would this parodic version do the opposite? Consider figure 1. To create this spectrogram, first I blew a C on a pitch pipe. Then I spoke the vowel [e] on the pitch of middle C. Then I sang [e] on the pitch of middle C using the froggy voice. Then I sang the [e] on middle C, exploiting the singer’s formant.

8. Many students of classical music also use an overly “bunched” or “tensed” tongue as a way of producing the singer’s formant and “darkening” the sound of their voices. This technical approach takes what are sometimes called “r-colored” sounds of a well-trained classical singing voice to an extreme that is ultimately detrimental to the career of the singer. It also has been used extensively in popular music, for example, in what I call the “rhotic rock” singing of numerous American bands from 1990s (Pearl Jam, Stone Temple Pilots, Creed, etc.).

9. Pee-Wee Herman, the character invented by Paul Rubens, used this froggy voice to produce his signature laugh. Some popular singers (e.g., Shakira and Jewel) are defined by their froggy voices.



**Figure 1.** Spectrogram of voice modifications on middle C

Pitch pipe C    spoken [e]    froggy-voice [e]    sung [e]

As the spectrogram shows, the froggy voice, like the operatic voice, concentrates frequencies around 3000 Hz. In the case of the imitators of opera singers, an apperceptive bias (Boas 1889) seems to lead amateur listeners to attempt to produce the timbre of the singer's formant—that is, what they “hear” in the voice—through various forms of “motor equivalence” (Ladefoged 2006), especially, a high-larynx approach to produce a sound that is in fact produced with a low larynx. As such, what trained ears hear as the “ring” of the singer's formant, that is, the narrowing of the upper formants, the untrained ear likely hears as a narrowing of the vocal tract. The Knödel becomes the sensuous orientation point—a deceptive sound.

In 2006, I met a singer who had a distinctively froggy voice. The singer, a baritone in his late twenties, had been a cantor for Jewish services in Chicago and Israel but had begun to “lose” his voice and was unable to perform. He described his dilemma in terms of “loss” because he could no longer sing at services. It had become painful to phonate, and the sounds that emerged were unpleasant to hear. He was taking voice lessons to prevent further vocal “loss” so that he could continue to lead services with his singing voice. He repeatedly told me: “It feels like I am learning to walk again.” I was able to observe one of his voice lessons with a voice teacher in Chicago, a professional singer and instructor in her midforties.



The transcript below (lines 1–115) captures a conversation between the student and the teacher, as the student struggles to sing with a descended larynx (T = teacher, S = student). The teacher tells him to “open the throat,” but the student is having trouble verifying that his throat is in fact open. The feeling of openness evades him, although he insists that he understands it conceptually. And although he can consciously manipulate the placement of his larynx, he says he cannot “feel” it when it ascends during vocalization. As the lesson proceeds, it is organized increasingly around transcending the limits of metapragmatic awareness (Silverstein [1981] 2001) to produce a kind of quale consciousness of certain elements of singing, so that various qualia can serve as the empirical pathway to the technically correct qualisigns of openness and, more generally, the to the culturally appropriate production of voice. I have highlighted these moments with spectrographic analysis to bring the explicitly phonosonic dimensions of the process into view.

1. T: Good. It may sometimes not be exactly where you want it
2. S: right
3. T: but you're not getting the, that real grabby thing
4. S: that's good, [yawning]
5. T: that was happening before. I didn't really hear
6. S: ok
7. T: too much of that
8. S: It's hard for me to you know
9. T: that's good
10. S: I really, I feel like I have no idea if my larynx is coming up or not
11. T: mm hmmm
12. S: I mean when you say “your larynx is up”
13. T: mm hmmm
14. S: Nothing's registering
15. T: mm hmmm
16. S: inside for me
17. T: mm hmmm
18. S: You know that's indicating to me oh my larynx is up
19. T: mm hmmm
20. S: I don't know if there's somewhere I should, I should,  
[inaudible] sure could feel it [inaudible]
21. T: Yeah
22. S: I should do, or
23. T: Yeah, well, it's, it's easier to perceive in other people probably
24. S: right

25. T: but, but you'll, you will learn, you'll learn
26. S: ok
27. T: to feel it. I mean, you know, one of the things you can do is just, just play around with dropping it, you know, we talked about the ways you can make it drop
28. S: right
29. T: um, it doesn't hurt to just kinda practice dropping
30. S: yeah, that I can feel
31. T: your larynx without even
32. S: right
33. T: making any sound
34. S: right. I can feel what I did there was like I did that and tried to lift the back of my palate
35. T: mm hmmm
36. S: you know that's like, that's like a you know
37. T: so if I said your larynx is high that's what you would do
38. S: yeah
39. T: right, ok, so you can correct it
40. S: right
41. T: you're just not always noticing that it's slipped
42. S: I just can't tell that it's happened yet
43. T: uh huh, yeah, well because as we sing higher, again it does, it's still, you know, we're always looking for it in a, in the relatively low position
44. S: right
45. T: I mean it isn't as low when you sing high notes as it is when you sing very low notes
46. S: right
47. T: so you know you're ascending and naturally your larynx is, is, position is coming up
48. S: right
49. T: a little bit and so it's easy to not notice that it's come up a lot
50. S: right
51. T: But you know [plays C on the piano] when you, when I, if I say open throat, does that, I mean that's that
52. S: I mean open throat means something to me
53. T: mm hmm
54. S: but I'm not sure if it has anything to do with the larynx. It could
55. T: Well



and his signature laugh—to expand the array of qualia for the student to reflect upon, predicate, and assimilate to the emergent concept of “openness” as it relates to the interactionally emergent ontology of voice (figs. 3, 4). The teacher shifts from a narrowed qualic focus—the anatomical specificity of the larynx within a more general space of the throat—to an expanded one. She synthesizes in a familiar character features that include a corpulent body that is “bigger” than his sound; a robust, outgoing personality; aged authority; a belt tied around the protruding stomach, and so on. Although familiar as a figure in the popular imagination, it is also a markedly Christian model, making it an odd pedagogical choice for this student.

57. T: When your larynx is high, your throat’s not

58. S: Right, uh huh

59. T: Can’t really be open

60. S: It’s engaged

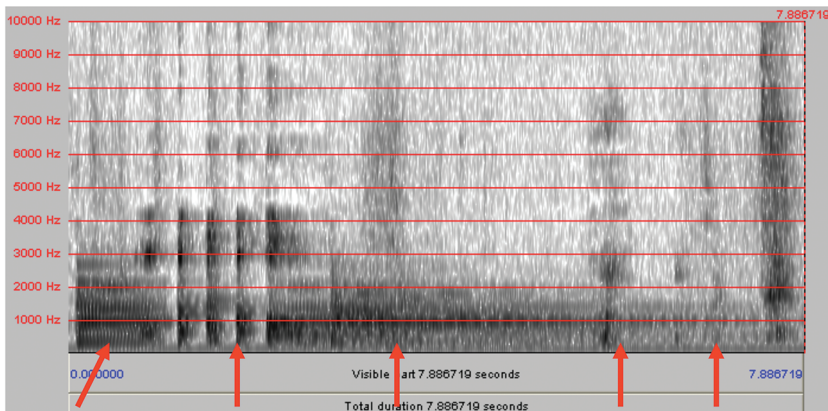
61. T: Mmm hmm

62. S: Ok, uh

63. T: Let’s do some staccati [plays D on the piano]

64. S: OK

65. T: [plays C on the piano] How about



**Figure 3.** Spectrogram of line 66 (19:57–20:01)

66. T: [C][o][ho] [ho] [ho] [ho:.....] [S: yawning] [S: yawning]

67. T: It’s ok. We like to stimulate that yawning reflex

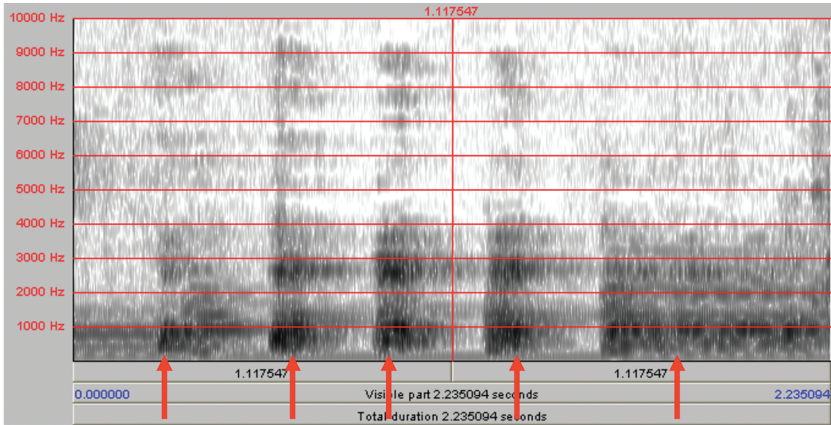


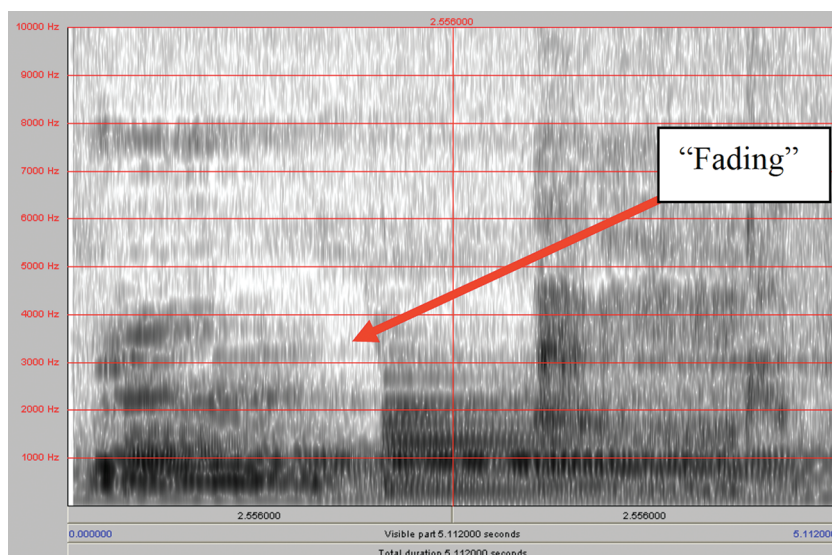
Figure 4. Spectrogram of line 68 [20:08–20:11]

68. S: [o] [ho] [ho] [ho] [ho:.....]
69. T: Ok, that could be, again, lower larynx
70. S: Ok
71. T: Opener throat, or I could say more like Santa Claus

In this interaction, a tension emerges between the quale consciousness of voice and gradients of intensification or vividness of its qualisigns of value. On the one hand, the teacher employs various descriptions to try to stimulate the student's quale consciousness: from the anatomical ("low larynx"), to the more impressionistic ("open throat"), to other experiences involving the mouth and throat ("yawn reflex"; sometimes "breathing through scuba mask"), to the characterological (the "ho ho ho" of Santa Claus). These are intended to stimulate and bring to awareness the various qualitative facts of vocalization that are to be manipulated. At the same time, she relies on degrees of comparison—*lower larynx*, *opener throat*, *more like Santa Claus*—to sort and assimilate these facts according to differently valorized of qualisigns. This is a complex metapragmatic process of invoking the abstract potentiality of openness, positing a feeling of openness, a qualisign, as the navigational orientation point, and then actively generating facts of firstness in the form of qualia to link the quality to the feeling and the feeling to the voice. The student's progress is dependent on his ability to personally internalize the general "we" of the generic professional singing throat, for example, when the teacher says, "We like to stimulate that yawning reflex." This way the student can isolate, sort, regiment, assimilate, and discard qualia according to the principle of excluded middle,

that is, that “of [the fact] every quality whatever is either true or false.” (*CP* 1.436).

As the student struggles to feel when his larynx ascends, the teacher notices that the larynx ascends and the throat “closes” when the student sings across intervals of pitch. She points out that the student’s voice sonically “fades” on descending glissandi, and she further enlarges the anatomical domain of “openness” from the throat proper to the entire respiratory apparatus. She points out that the student’s larynx ascends and the throat “closes” when he stops “expanding” his ribcage. In addition to images of the larynx, the throat, Santa Claus, and so on, this new information draws in another domain of qualia to discern the problematic qualisigns of “openness.” The teacher asks the student to imagine that he his wearing a corset, and that an expanding ribcage produces the sensation of pressing against the corset. The imaginary resistance of this imaginary corset is yet another pragmatic field through which to become aware of the facts of firstness pertaining to voice. And with the introduction of the corset as a sensuous image to guide the student’s singing, the teacher has introduced another figure for the student to imagine, this time markedly gendered, rather than religious. She plays a descending interval from E to C, which the student attempts to sing on an [o] vowel without “fading.” In the spectrogram below, “fading” is captured by the relative whiteness at 3000 Hz.



**Figure 5.** Spectrogram of line 72 [28:58–29:04]

- 72. S: o:.....
- 73. T: eh eh eh, ok, that . . . um . . .
- 74. S: I don't know what's fading. Something's like
- 75. T: It's the, it's the corset. You need to, you need to
- 76. S: The corset, ok
- 77. T: Yeah, yeah, you need to
- 78. S: ok, all right
- 79. T: use the corset more to change [inhales through the nose and begins to play the piano]

In figure 6, the raised larynx corresponds to acoustic energy at higher frequencies.

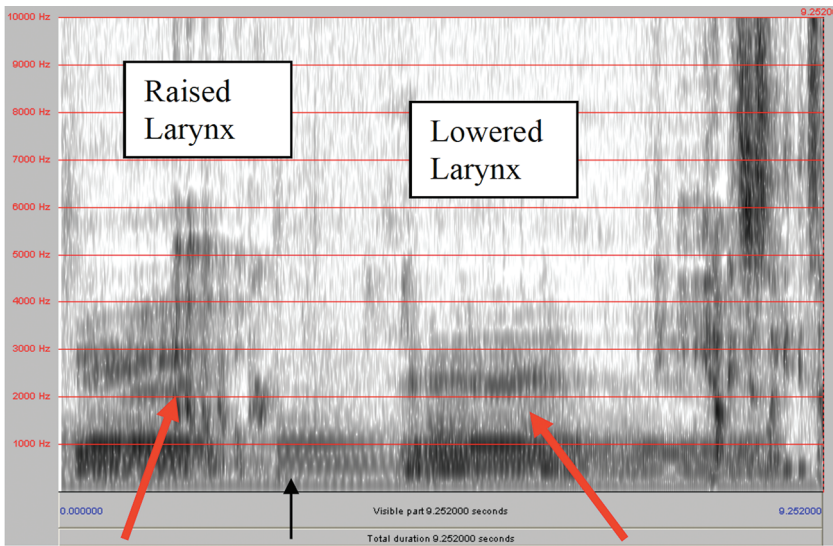


Figure 6. Spectrogram of line 80 [29:15–22]

- 80. S: o:..... T: No, no, no, opener [E] S: o:.....
- 81. T: You know, it's just like, it sounds like it's just squishy here, I hear

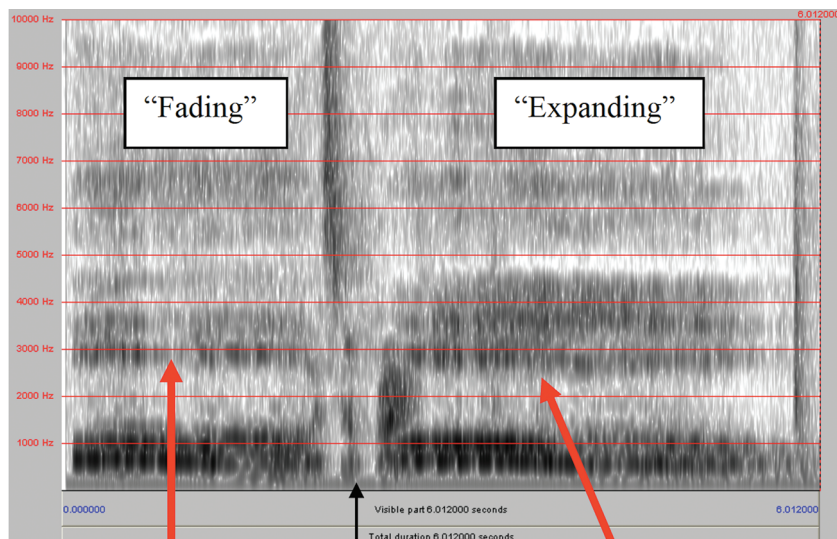


Figure 7. Spectrogram of line 82 [29:25–32]

82. T: o:..... S: right T: instead of o:.....
83. T: You gotta really think you're expanding here. I could, I got a belt I could tie around your chest
84. S: [laughing]
85. T: if you like

Eventually, the teacher does fasten a belt around the singer's ribcage. The exercise is designed to help the student use the sensation of an expanded ribcage, initially produced by the belt's resistance against the skin, as an index to confirm that he has a lowered, evenly phonating larynx. The belt's resistance against the skin is clearly meant to stimulate a certain kind of haptic *sensory* experience. However, understood within a more striking cultural image of the corset, it is supposed to produce a more semiotically complex, culturally specific, *sensuous* synthesis of the experience of singing in the form *qualé* consciousness. These various pedagogical moves are intended to help the student rely on the body as a deictic origo of indexical information, from which he can further parse the specific kinaesthetic dimensions of singing. This way, he can become aware of and can control the coordinative structure of a closed circuit of indexical relations among navigational feelings as well as emergent facts of "openness" at any point along the segmentable units of a musical phrase.



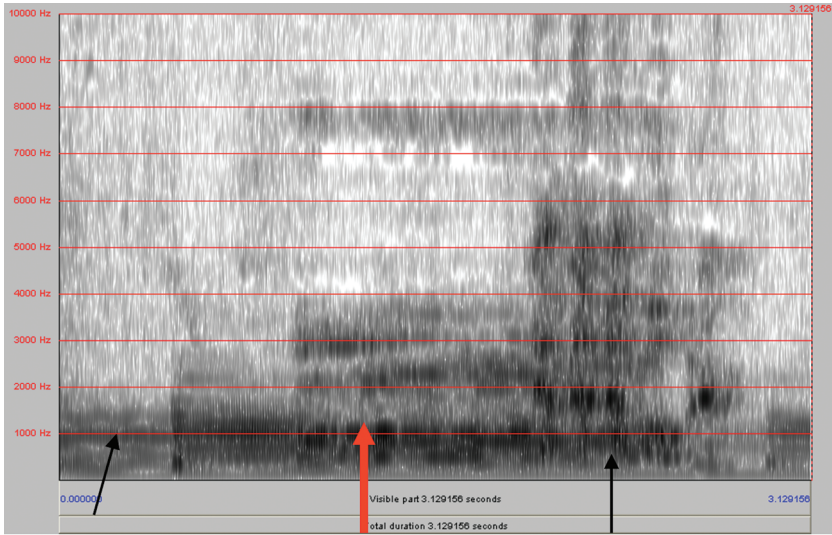


Figure 8. Spectrogram of line 86 (29:39-40)

86. T: [plays E-C]    S: o:.....    T: No, no, no, opener

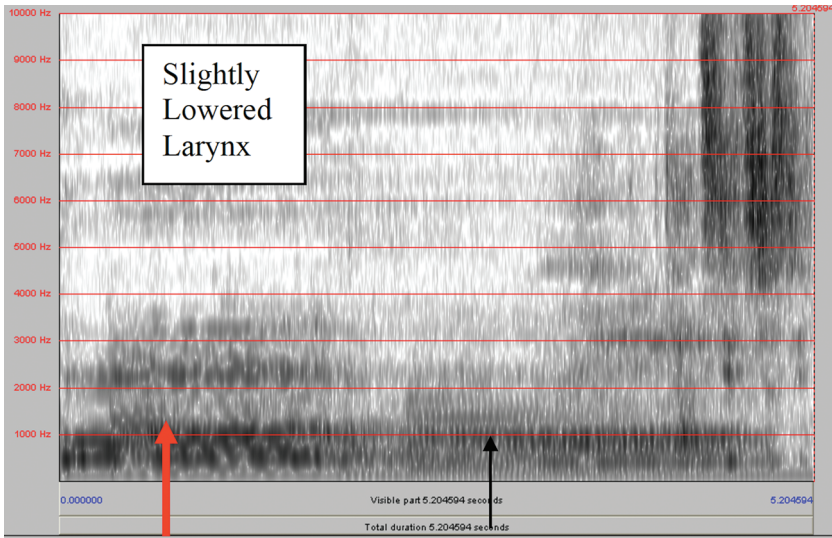


Figure 9. Spectrogram of line 87 (29:44-49)

87. S: o:.....    T: That's, it's just, it's just kinda [inaudible]

88. T: Can I tie this thing around you?  
89. S: Yeah, of course  
90. T: Have I done, have I done this once?  
91. S: No  
92. T: I've never done this?  
93. S: No  
94. T: Some people really love this  
95. S: Ok  
96. T: Cause, you know, it enables them to feel some feedback  
[The teacher ties the belt around student's chest, just below the sternum]  
97. T: Ok, let's see where we need to poke this thing through for you. So  
I want it to be fairly snug  
98. S: Right  
99. T: I'm always a little about, you know, like I'm gonna, you know  
100. S: Right  
101. T: cut off people's breath or something, so you tell me if it's too  
snug. But I tend to be [inaudible] about that  
102. S: It's ok, I mean, it's snug  
103. T: Yeah, but it's not gonna  
104. S: Yeah, it's not gonna  
105. T: Punch a new hole in here. It's just kinda there  
106. [The teacher inhales audibly and walks back to the piano]  
107. T: Ok, see if you can break that thing for me  
108. S: Ok  
109. T: [Laughs] um, [plays F on the piano] let's start at the beginning again  
110. S: [Placed one hand just below the sternum and the other on the throat  
to gauge the placement of the larynx]

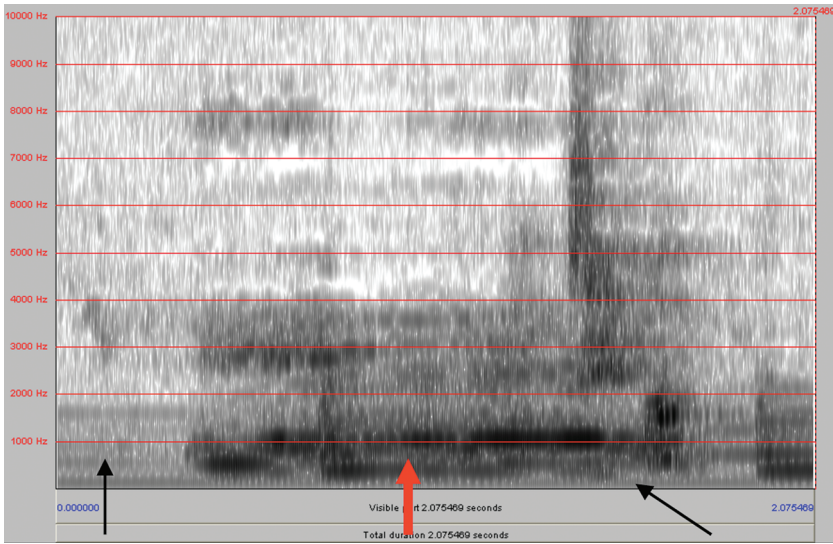


Figure 10. Spectrogram of line 111 [30:41–2]

111. T: [plays F]      S: [o::::::::::::::::::::::::::]      T: Deeper [plays F]

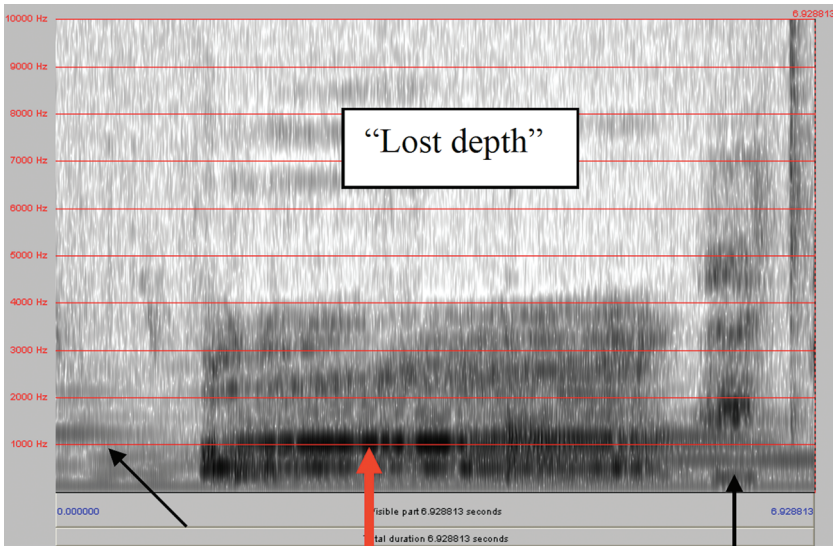


Figure 11. Spectrogram of line 112 [30:46–30:50]

112. T: [Plays F]      S: o::::::::::::::::::::::::::      T: mmmm

113. T: It lost depth as you went down  
 114. S: Yes  
 115. T: Ok, So you're gonna, you're gonna break that belt to go down  
 [inhales audibly through the nose]

The exercises in this lesson are organized around honing the student's sensuous orientation to various qualisigns of "openness." These qualisigns are related first to the general area of the throat, and then elaborated through the more specific placement of the larynx, the expansion of the ribcage, the bellowing laugh of a characterological figure like Santa Claus, the constraining feminine garment called a corset, and finally a new domain of predicable feeling, "depth." Ideally, the student will cultivate a quale consciousness of these different subjects as phonosonic facts of firstness, which he can then assimilate and integrate into skilled modes of focused attention on the feelings (i.e., qualisigns) of doing. To do so, he should learn to discern qualia at different scales of synthesis, whether as the total unity of voice or as more the fine grained but no less unified qualia of an open throat, a low larynx, Santa Claus, an expanded ribcage, a corset, or simply "depth." The teacher's job is to help the student find those sensuous facts that work best for achieving certain kinds of phonosonic effects. Once these qualia are brought into consciousness—however fleetingly and unevenly—and attention is focused on the feeling of doing, the student can begin to work specifically on the increasingly vivid feelings of doing more or less correctly. Correctness in this case is judged according to the culturally valorized quality of openness. These two forms of consciousness—of qualia and of vividness—combine in the semiotic cultivation of technique and the production and refinement of a cultural ontology of voice.

### Discussion

The voice lesson is an interactional, intersubjective, collaborative space from which a certain kind of voice emerges. The interactional emergence of voice, as much as it can be said to belong to only one of the participants of the interaction, takes place through a complex nexus of phonic production and engagement with shifting frameworks of sonic orientation. This phonosonic nexus is often characterized by its most obvious metonyms: the oral/aural, the articulatory/acoustic, inside/outside, body/sound, individual/social, and so on. But as we see from the teacher's various attempts to guide the student to engage phonically with a specific sonic framework of value, the phonosonic nexus is a

more encompassing, general, processual dialectic that can account for larynxes and ribcages, depth and squishiness, Santa Claus and corsets, individuals and groups.

Across all of these predictable domains of phonosonic experience, the student and the teacher are engaged in the production of qualia, or facts of firstness that make up the raw material of the sensuous present and link culturally conceptualized qualities to conventional qualisigns of value. In this “middle” of continuous and contiguous semiotic phenomena, qualia have an inherently indexical function. Unified as they may be among themselves, they emerge from and are reflected upon in relation to a broader pragmatic field of conduct. As these qualia, as value-laden indexes within a quality space, focus attention on the feeling of doing, they are assimilated to qualisigns. As this happens, they are downshifted, rhematized, from the indexical to the iconic mode. The qualic unity of Santa Claus, larynxes, throats, corsets, ribcages, and so on become iconic manifestations—construed as actualizations—of “openness” as an idealized property, an abstract potentiality, a valorized quality of voice.

While qualia may reasonably be characterized as inherently subjective, interior, and ineffable, they clearly are produced through intersubjective processes, in interactional settings, and projected from relatively stable, predictable cultural concepts. They are, thus, cultural emergents, derived from broader processes of cultural semiosis and subjected to inherently cultural modes of awareness and reflection. As we saw above, the interior closing of the semiotic circuit in the cultivation of voice is precisely this kind of interiorization of something (voice) that begins, in the voice lesson, as socially, interdiscursively exterior. The point is that for whatever limits might be placed on two or more person’s ability epistemically to “share” the experience of something, in matters of voice, these two or more persons interact and thereby collaboratively draw on widespread, recognizable, “shared” (if unevenly distributed) cultural forms to produce their experiences of the what they understand to be the “same thing.” Even the most radically subjective experiences they may have of voice are derived from complex intersubjective, interactional, cultural processes. People may differently encounter a single phonosonic token emanating from a single body, but they are jointly involved in its phonosonic reality.

The professional concert inverts a crucial feature of the voice lesson. Rather than finding an overtly interactional, collaborative production of voice, we usually encounter the classical voice in concert settings in terms of social space that is clearly demarcated between performers and the audience. The different spaces

are assigned values and essentialized as fundamentally different (hence the genre of “interactive” theater meant to confront these demarcations and essentializations). These settings have all of the features of ritual, where “macrocosmic order is figured through microcosmic action” (Stasch 2011). The macrocosmic order figured by these events is the set of cultural distinctions between orality and aurality, body and sound, interior and exterior, and so on that are so central to conceptualizing voice. Listeners as connoisseurs pay to hear the singer’s voice emanate from the singer’s body. And yet, as we have seen in the examples above, the voice that is encountered outside of the singer’s body is not the voice that the singer encounters inside her body. It is precisely the demarcation of the two in a concert that validates both sides of the equation: a proprioceptive-kinaesthetic body organized around the interior qualia of voice, and listening ears organized around the exterior qualia of voice. This demarcation is strengthened when both sides are enveloped within a certain kind of resonating chamber that can facilitate the volume and timbre of this type of trained voice, such that a singer can sing the “right way” and there appears to be no prosthetic device mediating the delivery of voice from singer to audience (i.e., no microphone or artificial amplification). Ideologies of the natural truth of the voice, the science of technique, the acoustic design of the concert hall, the cultivated connoisseurship of the listeners, and so on, all converge and are reinforced in concert, where “voice” then becomes a complex, multidimensional phonosonic site of saturated sociality organized around qualia. And yet, what the singer hears and what the audience hears are different, not merely because one is a specialist and one is not. These kinds of performances are the ultimate site in which the categories of interior and exterior that have been established through pedagogy and practice can be validated. The context is designed precisely to showcase these very categories, their values, and their naturalization.

The social world at these moments is organized around a collaboratively achieved cultural ontology of voice as it “really” is. Voice is necessarily known and experienced differently by the different social beings who gravitate toward this phonosonic nexus in performance. The voice lesson, however, tells us that each individual, introspective, interior, ineffable experience of voice in these moments of performance is a product of, and further contributes to, cultural semiosis across phonosonic events. And if subjectivity is derived from intersubjectivity, individual interiority from cultural exteriority, then it follows that the former is only accessible for observation, analysis, and theorization through the latter. It also suggests that the human throat is already much more open than we might have thought.

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