A SURVEY OF SINGERS: IS MENTAL IMAGERY USED IN THE CONCEPTUALIZATION OF PITCH AND VOWEL?

THESIS

Presented to the Graduate Council of the University of North Texas in Partial Fulfillment of the Requirements For the Degree of

MASTER OF MUSIC

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December 1992

Mental imagery is a common theme in research that clarifies how musical thought relates to musical performance. Unfortunately, minimal information exists regarding mental imagery and singers. The purpose of this study was to probe the role, if any, mental imagery plays in the conceptualization of pitch and vowel. By interviewing singers at differing levels of expertise, basic information was obtained about the mental processes used by singers. Through evaluations of the singers’ mental processes, it was concluded that 95% of the singers in the study employed mental imagery. All singers described using kinesthetic imagery, while the majority implemented sensory and auditory imagery. Viso-spatial imagery was implemented among the more experienced singers. The majority of singers also reported: imaging pitch and vowel interactively; imaging from an internal perspective; and utilizing mental rehearsal. Less than half of the singers described using methods other than mental imagery to conceptualize pitch and vowel.
ACKNOWLEDGMENTS

I wish to thank the members of my thesis committee, Dr. Will May, Dr. Darhyl Ramsey, and Ms. Laurel Miller, for their advice and guidance throughout this project, as well as for their pursuit of academic excellence. Special gratitude is given to Laurel Miller for her personal interest, expertise, wisdom, inspiration, and friendship.

I also wish to thank my parents who inspired in me a love of learning and who always encouraged me in my educational endeavors.

My most heartfelt thanks are extended to my husband, Alan, whose talents as an editor have been invaluable and whose patience, friendship, and support have been a great motivation for me.
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CHAPTER I

INTRODUCTION AND PROBLEM

Introduction

Among the myriad of cognitive processes, mental imagery has elicited much interest among the psychological and philosophical communities. It has been theorized that mental imagery is an important asset in many performance and career areas, from athletics to sales. Research in athletics has revealed "that almost all of the world-class athletes and other peak performers are visualizers. They see it; they feel it; they experience it before they actually do it. They begin with the end in mind."¹ Scientists have emphasized the creative benefits of such introspective cognitive operations. Albert Einstein stressed the utilization of imagined operations in his thinking processes.

In the musical realm, the notion that "a person can succeed only within the limits of his mental image"² has increasingly become more accepted. This concept has been expressed by some of the music world's most heralded performers. In a broadcast interview from Lincoln Center, Luciano Pavarotti recently explained, "Before I sing a

¹ Stephen Covey, The Seven Habits of Highly Effective People (New York: Simon and Schuster, 1989), 134.
Within the area of vocal pedagogy, the topic of mental imagery is receiving increased attention. The scientific applications of physiology and acoustics to the singer have been well researched, "but we don't know about the relationship of physiological-acoustical activities in our bodies and psychological phenomena in our brains during singing."  

This thesis focuses on mental imagery and the musician, specifically the vocal musician. It probes the intimate thinking processes of the individual singer to discover what images are processed from sensory and perceptual information to form the basic elements of singing. The purpose being to acquire information that may lead to a better understanding of the solo singer's perspective of mental imagery. To this end, solo singers, from beginner to professional, were canvased to determine the role, if any, mental imagery plays in the conceptualization of pitch and vowel.

Defining Mental Imagery

The group of concepts which comprise the generic term "mental imagery" have also been referred to by a variety of different names, among which are: imaging, visualization, focusing, and psychological modeling. In the 1969 publication Mental Imagery, authored by Richardson, a four-part definition of mental imagery is offered that includes subjective, as well as, objective perspectives:

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3 Ibid., 4.
4 Ibid., 4.
Mental imagery refers to (1) all those quasi-sensory or quasi-perceptual experiences of which (2) we are self-consciously aware, and which (3) exist for us in the absence of those stimulus conditions that are known to produce their genuine sensory or perceptual counterparts, and which (4) may be expected to have different consequences from their sensory or perceptual counterparts.5

A more succinct definition may be found in Webster’s Dictionary wherein imagery is "a mental representation of something previously perceived in the absence of the original stimulus." Often mental imagery is defined according to discoveries made as a result of scientific research. It is through his specific research on "the mental image" that Shepard concluded:

Mental imagery is remarkably able to substitute for actual perception: Subjects make the same judgments about objects in their absence as in their presence; subjects who imagine a particular object are uniquely fast and accurate in discriminatively responding to related external test stimuli; and, in the process of imagining a spatial transformation, subjects pass through states with a demonstrable one-to-one relation to corresponding states in the external world. Possibly, rules governing spatial structures and transformations, having been incorporated into our perceptual machinery by eons of evolution in a three-dimensional world, are now at the service of creative thought.6

Exploring historical concepts and philosophies of mental imagery leads to a greater understanding of the origins of many contemporary fundamental imagery theories. The current belief that mental imagery is the precursor to language and other concrete thought processes was foreshadowed at the turn of the twentieth century by R. P. Peillaube, who in 1910 wrote:

Images are necessary to the formation of concepts. There is not one concept that is innate. Abstraction has precisely the goal, in its original and generative function with respect to the intelligible, of raising us above the image and enabling us to think its object in a universal and necessary form. Our mind cannot directly conceive anything intelligible except the abstractly intelligible, which can only be produced from the image and with the image by intellectual activity. All the material capable of being exploited by the intellect is of sensory and imaginative origin...7

Background of the Study
A Historical Perspective

The origins of thought and the processing of information have been the subjects of speculation for centuries. The Greek philosophers left a legacy of writings concerning the fundamental concepts of imagery and memory. "Plato’s wax tablet model of memory asserted that 'images' are copies of perceptions and thoughts and this rudimentary model of memory formed the basis for later

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stimulus-race theories." Aristotle is credited with the theory that images are revived memories of former sensations. Aristotle’s theory was the forerunner to the Imagist theory of the British Empiricist Philosophers. The eighteenth century Empiricist philosopher, Berkeley, believed that mental images are primary symbols of thinking, while all other symbols are secondary and derived from images. Among the secondary symbols, words are the most important. "Words have meaning, but only indirectly in relation to images." Berkeley considered words to be substitutes for images. They function as effective substitutes because they can be used more efficiently than images.

In the late nineteenth century, Wundt’s laboratory experiments defining the simplest components of image and percept led to the establishment of Structuralist psychology. The scheme of the Structuralist theory is that sensations create basic information to be received by the sense organs and that images are conceived from and are copies of sensations. Taine writes in his book, De l’Intelligence, published in 1871: "Everything in the mind that exceeds 'raw sensation' is reducible to images, that is to say, to spontaneous repetitions of sensation."

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"Images constitute the elements from which ideas are composed, and in this way they are considered to be the basic elements of thought." Therefore, the central focus of the Structuralist theory is imagery, including the combining and recombining of images depending upon the situation. In this way, the general precepts of the Structuralist theory parallel those of the more contemporary Imagist theory. The general basis of the Imagist theory is that "mental images are considered to be copies of sensations, thus constituting the primary symbols of thought. All other symbols are secondary and derived." 

The Imagery Process

Perception and sensation begin as discrete mental operations which, through the operation of the brain, become a single, unified process. The mind becomes conscious of sensory information and then interprets the information as perception. Through "sensation" we are able to gather raw information, then, through "perception" we prescribe specific meaning to the information. Many contemporary theorists, Piaget, Tomkins, Neisser, Sokolov, and Leoner, have speculated that the brain must construct models of the sensory input so that the perception phase may occur. These models, also referred to as schema, are important building blocks for mental imagery. The

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12 Ibid., 15.
theorist Neisser offers a concise definition of schema in his 1976 publication, Cognition and Reality:

A schema is that portion of the entire perceptual cycle which is internal to the perceiver, modifiable by experience, and somehow specific to what is being perceived. The schema accepts information as it becomes available at sensory surfaces and is changed by that information; it directs movements and exploratory activities that make more information available, by which it is further modified.\(^\text{13}\)

Images then are conscious aspects of our neural models or schemata. It is important to note that the models we create from our meaningful perceptions, based on sensory information, are unique to the individual. What we perceive is subject to many biases and may not replicate reality as it is our own unique model or schema of reality. Therefore, what we image is a conscious representation of an internalized concept. Brainard shares this definition of imagery. He "asserts that an image is a conscious form that functions as the dependent variable indicative of the activation of the conceptual representation."\(^\text{14}\) In his 1971 conceptual developmental model, an image is defined as mediational in that, as previously stated, it is employed as a conscious representation of an internalized concept.

Over the past two decades, research into the phenomenon of mental imagery has increased significantly. In a 1967 study by Pribram, he states that "...there is now ample evidence that when an

\(^{13}\) Ulric Neisser, Cognition and Reality (San Francisco: W. H. Freeman and Company, 1976), 54.

organism perceives[,] he is forming an image, an internal representation of his environment." Concerning the nature of the mental image, Shepard wrote in 1978 that "we need assume no structural isomorphism between the pattern of activity in the brain and the external objects that it represents," but there needs to "be a unique one-to-one correspondence between the external stimulus and the resultant inner pattern of neural activity." In other words, the neural patterns need not perceive an identical, concrete image but instead may perceive a mirrored substitute of the actual image including any functional relationships between the external environment. Therefore, the mental image that is produced when one views an object or hears a sound is a result of individual perception and the neural patterns of that perception.

In 1969, Sheehan and Neisser designed an experiment after which they concluded that there is a significant correlation between imagery ability and incidental learning. In a 1971 experiment by Paivio, high imagers (individuals with the ability to form internal representations of perceptions) and low imagers (individuals lacking significant ability to form internal representations of perceptions) were tested for their intential learning ability and their incidental learning ability.
The results were surprising. While no correlation was found between imagery ability and intential learning, high imagers were superior in their ability to learn incidentally. Paivio concluded that imagery need not be conscious to be beneficial and to influence memory and learning. Bugelski, from 1982 research, maintains that learning itself is a function of imagery and memory. His research, thus illustrates that imagery is a conditioned neural activity, and therefore an image is in a sense "learned." In turn, during the process of learning, the image is influenced by internal interpretations and established relationships as well as by perceived external relationships. Thus, the above research indicates the probability of an interconnection between sensory imagery and learning ability.

The psychologist, George Sperling, considers sensory memory to be the initial stage in memory retention. Sensory memory is a subconscious perception of sensory images. Horning elaborates further by stating that "Sensory memory stores information as it is received from the mental activities of sensation long enough to allow subconscious analysis by the selection process." As the individual becomes aware of a sensory experience, the image of that experience

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19 B. R. Bugelski, "Learning and imagery," *Journal of Mental Imagery*, vol. 6, no. 2 (Fall 1982): 5-11.
21 Thomas Martin Horning, "The Development of a Model of the Psychological Processes Which Translate Musical Stimuli Into Affective Experience" (Ph.D. diss., Case Western Reserve University, 1982), 17.
is transferred from the subconscious to a conscious level. This conscious level is known as short-term memory. According to Sperling's research in 1967, limited storage is available in short-term memory. Horning's research in 1982 verified that only four to ten imagery items may be transferred from sensory memory to short-term memory, especially if the images are isolated. It is, however, only possible to retain and focus an image in short-term memory through rehearsal.

In 1962, Landauer studied rehearsal as it relates to short-term memory and discovered that "rehearsal" is associated with an internal "voice" that emanates from within the brain. During rehearsal, the image is continually repeated by the internal "voice" so that the image does not fade but is instead focused and refocused. Landauer concluded that the mental rehearsal process used in short-term memory is very similar to the process used in physical rehearsal. In his research on rehearsal and short-term memory, Thomas Horning asserted:

Through rehearsal, short-term memory prolongs an image so that processing may take place. Information must be held in short-term memory long enough to permit:
1. organization, categorization, and filing of new images in long-term memory,
2. trial associations between new images and images from long-term store,
3. conscious decisions regarding whether to store or not to store (to forget), and
4. decisions regarding where in long-term memory the new images or the reorganized,

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4. decisions regarding where in long-term memory
the new images or the reorganized,
recategorized, reassociated images should be
filed.\textsuperscript{23}

Mental Imagery and the Vocal Musician

Imagery is a familiar term in vocal pedagogy. It is a term with
multiple definitions. Imagery may refer to the poetic images
expressed in the text. It may also refer to images of concrete objects
that may aid the singer in producing an attractive tone quality, i.e.,
producing "pear-shaped" tones or sounding like a "string of beautiful
round pearls." The term may also refer to tonal or auditory imagery
which is often defined as the preconception or mental reproduction of
sounds not present in the outer environment. Dr. Crispin Spaulding
presented evidence from brain function research that indicates that
the two cerebral hemispheres are becoming more specialized. This
research further suggests that music may have a distinctive neural
function or at least may employ distinctive neural resources using non-
verbal paths such as imagery and mental pictures.\textsuperscript{24} It is Dr.

\textsuperscript{23} Thomas Martin Horning, "The Development of a Model of the
Psychological Processes Which Translate Musical Stimuli Into Affective
Experience" (Ph.D. diss., Case Western Reserve University, 1982), 23-
24.
\textsuperscript{24} Crispin Spaulding, "Performance Training And The Musician's
Health: Helpful Interdisciplinary Links and Applications," Paper
presented at the ISME Seminar: Competition And Its Effects On The
Training Of The Professional Musician, Vienna, Austria, 30 July-3
August 1990, 10.
Spaulding's belief that images "speak to the unconscious" and "are natural facilitators to neuromuscular patterning."  

The linkage between psychology and vocal pedagogy has universally been recognized. As simply put by the vocal pedagogue Marafloti, "The education of the mind...comes first in the exploitation of every art." Thus, discussion of mental imagery and the voice has been prevalent in pedagogical circles for centuries. The old Italian school was founded on psychological procedures for training the mind and the ear which were believed to indirectly cultivate the physical vocal apparatus. More recently, Victor Fields used mental imagery in his description of phonation as having three stages: thinking, imaging of the tone(s); attacking, an expressive release of the tone(s); and sustaining, continuous mental focus and intensified breath support. In his book, "Training the Singing Voice: An Analysis of the Working Concepts Contained in Recent Contributions To Vocal Pedagogy," Fields compiled numerous quotes by contemporary professional vocalists and pedagogues two-thirds of whom also offered similar opinions and speculations:

Voice production is a neuro-muscular response that is psychologically controlled (Gescheidt 1930).  

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25 Ibid., 10.  
27 Ibid., 31.  
28 Adelaide Gescheidt, Make Singing a Joy (1930), quoted in Ibid., 30.
"Mentality and mechanism" are the mainstays of vocal training. We are primarily developing concepts, not muscles (Clippinger 1931).29

The best and most successful teachers train the mind rather than the voice (Hill 1938).30

Correct control of all the vocal muscles can be achieved through "mental pictures" (Queena Mario 1942).31

If we believe that good singing must have a spiritual and mental, as well as a physical basis, then it becomes a part of the teacher's task to help in the development of those aspects of singing which are purely psychological (Toren 1941).32

Voice teaching is positive when it promotes mental activity and negative when it enforces conscious physical controls (Stanley 1939).33

As evidenced by the aforementioned statements, both singers and teachers of singing consider mental imagery to be beneficial to the singer. Although discovering how mental processes relate to musical performance is a common research theme; nevertheless, as of this writing, the role of mental imagery and the singer has not been fully investigated. In researching this thesis, a paucity of research material was available on the topic. It is known that images are processed from

sensory and perceptual information to form basic concepts, but little information is available regarding the images that are processed by singers. The goal of this study was to canvas solo singers on their personal impressions of the role, if any, mental imagery plays and, therefore, gather information on the use of mental imagery by the solo singer, which may serve as the foundation for future research.

**Purpose of the Study**

The purpose of this study was to gather information leading to a better understanding of the solo singer’s perspective of mental imagery. This thesis sought to probe the role, if any, mental imagery plays in the conceptualization of pitch and vowel. To determine each singer’s personal perspective on mental imagery and how individual singers utilize mental imagery, solo singers were canvased as to their personal impressions of mental imagery. To this end, the present study posed the question: "In what way(s) is mental imagery used in the conceptualization of pitch and vowel by singers with differing levels of training?" The answer to this question was not easily discerned. Mental imagery, being an internalized process, was difficult to systematically research, for it was not directly manifested in overt behavior. Direct observation was therefore impossible; a situation which imposed severe restrictions upon research and measurement. Thus, given the subject matter of the survey, the only conclusions which could be drawn were those derived from inductive reasoning.
This study analyzed basic vocal concepts of beginning singers to professional singers for any reported evolutionary perceptual patterns, similarities, and dissimilarities. The Hierarchy of Singers' Mental Processes was devised to classify and evaluate the terms used by the singers to indicate level of mental processing and use of mental imagery. In addition, this study provided descriptions of any mental images or impressions that assisted singers in learning the technique of producing pitch and vowel so that singers and teachers of singing alike may learn from these techniques. Considering the current void of research in the area of mental imagery and the solo singer, this study provided information on the use of mental imagery by the solo singer which may serve as a foundation for future research.

Research Questions

The specific research questions to be answered by this investigative study of mental imagery and the solo singer are as follows:

1. In what way(s) do the singers in this study report using a conscious thought process which incorporates mental imagery to conceptualize pitch and vowel?
   a) Do the singers report imaging pitch and vowel interactively or separately?
   b) Which imagery perspective, external or internal, do the singers report using in the conceptualization of pitch and vowel?
2. Do singers report using any alternative method or additional method other than mental imagery in the conceptualization of pitch and vowel?

3. Are the imagery concepts described by singers incorporated in their practice routines as silent mental rehearsal?

Definition of Terms

Mental imagery is a very individualized, internalized process. It has a multitude of definitions which vary according to the research area in which it is being studied. Therefore, the definitions of mental imagery used in this study are tailored to better express the precise purposes of this thesis. Specific to this thesis, the term "mental imagery" is limited to a conscious representation of an internalized concept that is described by the singer as being heard, felt, sensed, or visualized. Mental imagery encompasses "auditory imagery," the mental process by which the singer recalls a musical image from long-term memory accompanied by the same neurological sensations present during the actual singing of a particular pitch(es) or vowel(s); "kinesthetic imagery," a mental image of overt muscular activity used in singing that produces minute muscular movements within the group of muscles whose contraction would be required during the actual singing performance; "sensory imagery," a singer's mental recollection of a neuro-muscular experience which is perceived consciously and/or subconsciously as a feeling or sensation; and "visuo-spatial imagery," a mental formulation or recreation of a visual image.
or an imagined shape which occupies a designated space that the singer reports as being beneficial in the execution or recollection of a vocal concept. The definition of mental imagery also incorporates two contrasting physiological perspectives, external and internal.

"External imagery" is an imagery perspective that places the singer in the position of an observer who is viewing himself or herself in the process of singing, while in "internal imagery" the singer images a task from the first-person perspective which enables the singer to replicate a performance or practice situation utilizing kinesthetic imagery. Another important term is "interactive imagery," an encoding process by which one image is presented as a cue to recall another image, such as, a singer mentally recalling pitch in combination with vowel. "Mental rehearsal" is also a significant term used in this research. It is defined by singers as a silent, rather than physical, rehearsal style that reinforces memory retention and incorporates mental imagery.
CHAPTER II

RELATED LITERATURE

Review of Literature on Mental Imagery

The concept of mentally rehearsing a skill was investigated early in this century, by Köhler in 1925.¹ In his experiments with apes and problem solving, he observed that the animals were occasionally able to solve specific problems without utilizing physical trial and error procedures. Thus, this early study indicated that through the use of mental imagery, the apes were able to mentally rehearse an appropriate solution. Many later studies have examined the relationship between mental imagery and skill acquisition. Imagery ability is frequently regarded as a skill that can improve with practice. According to Graham Powell, what individuals focus upon when using imagery is crucial to the success of their mental practice and physical performance. Powell designed a study in 1973 that controlled the imagery implemented by the subjects. The task was to throw five blocks of twenty-four darts at a target of twelve concentric bands. The subjects were divided into two imagery groups; 1) Positive mental practice (MP+) - imaging darts landing near the center of the target,

or 2) Negative mental practice (MP-) - imaging poor throwing skills.

Powell wrote in his conclusions:

The prediction that MP(+) would be a more effective learning procedure than MP(-) was strongly supported, reinforcing the suggestion that what S imagines during MP is liable to affect differentially later performance. The surprising result was that MP(-) led to no improvement at all, with even a slight negative trend.2

These results were reinforced by Ryan and Simons in a 1982 study that investigated the mental imagery aspect of mental rehearsal through the execution of a simple balancing task. They determined that vivid mental imagery facilitates enhanced performance. Thus, "the use of visual and kinesthetic imagery in mental rehearsal appears significantly better than cognitive styles without imagery."3 Start and Richardson, in a 1964 study of imagery ability and motor performance, discovered that subjects tested to be "vivid imagers" who did not have control of their imagery, performed at a poorer level than did any other subjects.4 In 1969, Williams employed a post-test-only design in his study of the effectiveness of motor skill acquisition through four treatment schedules: 1) strict control, 2) placebo control, 3) physical practice, and 4) mental practice. Williams summarized his findings concerning mental practice as a process which

apparently can facilitate learning, which is not attributable to experimenter bias. Therefore, the covert process of mental practice appears to possess a learning component other than motivational variables. This component may bring about changes at the cortex level in much the same way as overt practice.5

A research project conducted in 1969 by Joseph Oxendine attempted to diagnose the most effective combination of mental and physical practice in order to promote the rapid learning and performance of three motor skills.6 Within the parameters of a specific practice time, a treatment combining 50% mental practice and 50% physical practice was as effective in learning a motor skill as was a treatment devoted entirely to physical practice. In addition, at the conclusion of the project, participants were surveyed for to their opinions of mental practice. Almost all of the subjects believed that mental practice directly aided their acquisition of the skill. Some expressed the opinion that the task became easier after mental practice.

Musicians also utilize cognitive and motor skills in physical practice and performance. In 1989, Dennis Siebenaler studied the "effectiveness of mental practice, physical practice, and a combination of mental and physical practice on the performance of a short piano

composition." In this study, the subjects, comprised of novice pianists and graduate level pianists, were asked to rank the effectiveness of each practice treatment. Mental practice was ranked lower than physical practice or a combination of physical and mental practice by the novice pianists. The rankings of the advanced pianists showed no significant difference between the effectiveness of the three procedures. In a 1988 study to examine the effectiveness of specific practice conditions on the performance of a musical composition, Rosenthal, Wilson, Evans, and Greenwalt placed advanced instrumental students in one of five practice conditions. The various practice techniques to be studied were:

Group 1  modeling - subjects used their practice time to listen to a recording of the composition, with the written music available.
Group 2  singing - subjects used their practice time to sing the composition.
Group 3  silent analysis - subjects spent time silently studying the music.
Group 4  free practice - subjects practiced the selection using their instruments, playing continuously.
Group 5  control - subjects practiced an unrelated musical composition and then performed the experimental composition.\textsuperscript{8}

Rosenthal et al. concluded that the practice condition of modeling was as effective as practicing. In fact, the students in the modeling group

\textsuperscript{7} Dennis Siebenaler, "The Effect Of Mental And Physical Practice On Musical Performance" (Ph.D. diss. abstract, University of Texas at Austin, 1989).

attained the highest scores for articulation and performance of correct notes. The effectiveness of silent analysis was considered generally low with the exception of rhythm performance which was significantly better than in the other groups. This study by Rosenthal et al., shows that mental imagery is an important element in both modeling and silent analysis. The results of this study demonstrate the practical applications of imagery during private rehearsal. Stewart Ross reached the same conclusion in a prior study which tested the effectiveness of mental practice in improving trombone performance through a pilot study designed to compare five different methods of practice. Ross wrote in his conclusions:

Mental practice, unlike physical practice, focuses the performer's attention on the cognitive aspects of music performance with less emphasis on the sounds being made. The performer can now think more carefully about what kinds of things might be tried, the consequences of each action can be predicted based on experience, and inappropriate courses of action ruled out.

As in other mental practice experiments, the chance to practice mentally between physical trials helped focus attention on the cognitive elements of the music: what positions to use and identification of melodic and rhythmic patterns. In fact, during the experiment, it soon became evident that most of the subjects, even after mental trials alone, improved their interpretation, tone quality and general ease of playing when compared to their pretest performance.9

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Mental imagery plays an influential role not only in cognitive operations but also in physical operations. A mental image of overt muscular activity will produce minute motor effects in the localized muscles that would be engaged during the actual activity. Edmund Jacobson pioneered a series of experiments in 1930 in that vein. He attached electrodes to specific muscle regions in order to measure neuro-muscular states during imagination and recollection of a performance activity which used that musculature. Jacobson reached some definite conclusions with regard to his neuro-muscular imagery perspective:

Contraction of specific muscles takes place following the instruction to imagine an act performed with the voluntary musculature.

The movement usually is of microscopic extent and generally is confined within the group of muscles whose contraction would be required for the actual performance of the voluntary act.

Imagination of a particular act performed by some portion of the body fails to occur if at the same time the muscles of this portion are completely relaxed. This supports the view that the contraction of specific muscles is essential to the occurrence of at least certain mental activities.\(^\text{10}\)

This affords further evidence that mental activity is not confined to closed circuits within the brain, but that neuro-muscular regions participate.\(^\text{11}\)


Jacobson's findings were substantiated in 1976 by Schwartz, Fair, Salt, Mandel and Klerman. When subjects were asked to form an image of a previous kinesthetic event or to form an original image, patterns of sense organ and postural adjustment were produced that would be mobilized during the actual event. "Subsequent work, much of it by McGuigan (1970) and colleagues, has focused heavily on activity of the mouth and larynx." Such studies have shown that reading silently produces motor activity in the vocal musculature. Laryngeal activity is also present during the hallucinations of schizophrenics. These results lead to the conclusion that kinesthetic imagery is directly applicable and would be of benefit to singers.

According to Maloney and Avenor, mental imagery exists as two distinct psychological perspectives, external and internal. The external perspective incorporates visual imagery placing the imager in the position of an observer. In comparison, the internal perspective utilizes kinesthetic imagery which allows the imager to review a task from the first-person perspective. The 1977 study went on to report that elite male Olympic gymnasts more frequently incorporated internal imagery than external imagery in their rehearsals and that the use of external imagery often relates to negative motor performance due to lack of useful kinesthetic feedback. In 1980, Martha Epstein examined the relationship between internal and external imagined

rehearsal as applied to dart throwing. Epstein concluded that there is a small, negative connection between spontaneous external imagery and physical performance.\textsuperscript{14} Also, males who were able to internally image tactile sensations were more skilled at dart throwing.

Corbin observed in 1972 that internal imagery is accompanied by direct kinesthetic responses that positively influence overt motor performance. He suggests that "kinesthetic feedback is essential to mental rehearsal efficacy, higher levels of physical performance may be concomitants of internal imaging as opposed to external imaging because the former is accompanied by greater somatic and sensorimotor activity than the latter."\textsuperscript{15} A distinctive view of internal imagery, referred to as focusing, was expressed by Gendlin. He theorized in his 1978 publication that the physical sensations of an event often precede the expression of that event in words or images.\textsuperscript{16} The image will emerge from the physical sensations, then a representative image is formed that can affect the motor sequence that is implicit in the actual physical event.

Research has shown that interactive imagery is advantageous for later recall. As defined above, interactive imagery is a mental operation whereby one image is studied in direct association with

\textsuperscript{14} Martha L. Epstein, "The Relationship of Mental Imagery and Mental Rehearsal to Performance of a Motor Task," \textit{Journal of Sport Psychology}, no. 3 (1980): 211.


another image. In that way, one image is presented as a cue for the individual to recall the other image. This encoding process, which is part of interactive imagery, is known as cued recall. In a 1978 study comparing separate imagery instructions to interactive imagery instructions, Begg demonstrated that interactive imagery yields fewer but larger memory traces as opposed to separate imagery which requires a separate image for each item.\(^{17}\) He also discovered that the level of organization in free recall is higher when cued recall is implemented. Other investigations, such as Bower in 1970 and McGee in 1980, have also concluded that interactive imagery is instrumental in binding items together in the memory. Hall and Buckolz, 1983, presented subjects with pairs of movements and instructed one group to form separate images of each pattern while another group was instructed to form interactive images within the pattern.\(^{18}\) Cued recall was much enhanced through interactive imagery, especially by those subjects who were not restricted to assigned patterns of interactive imagery but were instructed to freely construct their interactive images.

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Review of Literature on Pitch and Vowel

Various theories attempt to clarify the neurological and psychological processes that underlie the ability to mentally reproduce an auditory sensory experience. Two predominant theories are the Helmholtz theory and the more modern auditory theory of von Bekesy.

Hermann von Helmholtz, a nineteenth century German physicist and physiologist, included in his auditory theory a rationalization for pitch perception. In a summary of his theory, Helmholtz stated that a pure sound of given frequency and intensity would set a particular, spatially limited region of the basilar membrane (part of the elongated cavity of the inner ear known as the cochlea) into resonant oscillations. The position of the resonance region would depend on the frequency, and its location on the basilar membrane would lead to the sensation of pitch.\textsuperscript{19}

Georg von Bekesy, Nobel prize winner in medicine and physiology, theorized that the correlation of sound does not take place on the basilar membrane, but instead, signals received from the cochleas are processed at a higher center in the neural system. The nervous system refines the signals from the basilar membrane as they travel through the nerve fibers from the cochlea to the brain.\textsuperscript{20} This phenomenon supports the theory of Thomas Horning, developed in

\textsuperscript{19} Hermann von Helmholtz, \textit{On The Sensations of Tone as a Physiological Basis for the Theory of Music} (1863), quoted in Thomas Martin Horning, "The Development of A Model of the Psychological Processes which Translate Musical Stimuli Into Affective Experience" (Ph.D. diss., Case Western Reserve University, 1982), 79.
\textsuperscript{20} Ibid., 88.
1982, that "the psychological processing of musical stimuli begins at auditory sensation."²¹ According to Homing, the formation of auditory images is preceded by three pre-imaging auditory networks.

The first pre-imaging auditory network processes the information indicating the area of maximum resonance on the basilar membrane. This network enhances the sensations of primary pitch, dynamics, and tone quality. The second pre-imaging auditory network processes signals from corresponding regions of both cochleas and correlates them, leading to the sensation of the direction of origin of the sound source. The third pre-imaging auditory network of nerve fibers correlates vibration patterns which are received at about the same time and yields the sensations of subjective pitch, phrase relativity, and also enhances the sensation of tone quality.²²

In other words, sound is not "heard" by the human ear but, instead, is initiated by sensations received in the ear, transmitted to the brain and then mentally recreated.

Another process essential to the musician is internal hearing. Through internal hearing, the musician consciously recalls a musical image from long-term memory, which is then channeled into sensory memory which creates a response by the auditory nerve fibers. The voice professor, Victor Fields, refers to the ability to internally conceive sounds as "auditory visualization."²³ Consistent with the studies on kinesthetic imagery, this internal auditory concept is accompanied by the neurological sensations that are present during

²¹ Ibid., 84.
²² Ibid., 170-171.
the actual singing of a particular pitch or pitches. Cuddy theorized in 1968 that musicians develop a "tonal cognitive structure" utilizing specific pitches as anchors in an individualized identification process. In a similar 1982 study, Shephard concluded that the musical listener hears a particular key within a context that "induces an internal cognitive framework or hierarchy of tonal functions." Johann Sundberg defines the singer's ability to change pitch as "the result of a change in the muscular activity in the larynx and the breathing apparatus." Due to the fact that auditory feedback is a slow process, the singer must have a mental image and a muscular image, or muscular memory, of the target pitch prior to the initiation of that pitch.

In a 1966 study by Madsen, students ranging from elementary school age through undergraduate music majors in voice, piano, and violin were tested to determine if a correlation existed between intonation and scale direction in unaccompanied solo vocal scalar passages. A highly significant difference was discovered between intonation and solo performance depending upon scale direction.

Subjects exhibited superior vocal pitch acuity on the descending scale.

passages. This skill differential was attributed to the participants' aural perception of melodic lines in the context of direction and because the neuro-muscular reproduction of pitch is dependent upon physical factors related to melodic direction. David Sogin proposed a similar study in 1989 that observed the intonational performance of stringed instrumentalists in relation to direction and vibrato. A propensity towards sharpness was noted in this study, as was noted in prior research. Possible explanations for this tendency include the ability of trained musicians to more accurately determine flatness than sharpness and individual psychological interpretations of tone and timbre.

Current research by Robert Walker, 1981 and 1985, has taken the concept of internal hearing a step beyond to the less observable state of internalized schematization of auditory sensory input. A 1981 study by Walker was devised to illicit external representations of internal musical images. "Three experiments were conducted which were designed to produce data on internalized thought images as subjects transferred information cross-modally utilizing deployments of visual and auditory space." A. The subjects were asked to invent sounds in response to visual shapes and, vice versa, to invent visual

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shapes in response to specific sounds. A significant majority of subjects created visual shapes in response to specific sounds that did not utilize any established language. These responses reinforce the theory that cross-modal perceptions can be transferred from internal images to external thought. "It was felt that the findings of cross-modal movement correlations were some evidence of the symbolic representation present in internal thought images." In an attempt to diagnose whether the auditory imagery expressed externally was dependent upon visual experience, Walker, 1985, researched the mental images of musical concepts employed by the congenitally blind. Utilizing a nonvisual, tactile analogy, the blind subjects responded to externalizations of internal musical images with responses similar to those of the sighted subjects; i.e., vertical movement was associated with dynamic change. Walker concluded that certain basic responses to auditory images seem to be independent of language or cultural experience.

As the foregoing studies indicate, the imaging of pitch has received attention from many researchers. The imaging of the vowel has also been the object of academic interest and study. In singing, the vowel provides an avenue for continuous vocal sound. Pitch is dependent upon vowel production and vowels are dependent upon pitch frequency. "For each distinct vowel sound, there is a definite change in the shape of the pharyngeal and oral cavities, each change being accentuated by characteristic positions of the lips, tongue and

30 Ibid., 110.
palate." Every vowel sound is composed of a unique fundamental pitch frequency and series of overtones that combine to form a distinctive tonal spectrum known as the vowel formant. The singer learns to associate each vowel sound with its own characteristic pattern of articulator adjustments that produce a specific combination of formant frequencies. Vowel quality is determined primarily by the two lowest formant frequencies.

In a 1983 experiment to diagnose the interdependency of intonation and vowel sound, Sundberg, Ternström, et al. asked choral singers to sustain long tones, then shift the vowel in accordance with an assigned sequence. At times, auditory feedback was eliminated by the use of earphones. Phonation frequency and all changes brought about by the vowel shift were monitored and analyzed.

The vowel /i/ was mostly associated with a high pitch; when the subjects switched from /i/ to either /e/, /e/, or /a/, phonation frequency tended to drop. Some other vowels seemed associated with a low pitch, so that when the vowel was changed from /o/ or /ə/ to /y/ pitch rose in most cases.

Such intonation trends can be detrimental for the singer. Thus, "singers learn how to avoid these effects by reducing the influence exerted by the articulatory system on the pitch regulating system." To further illustrate the unique vowel concepts used by singers,

33 Ibid., 143.
Sundberg's 1974 research documented that the vowel qualities used in normal speech by male opera singers deviate from the vowel qualities used by nonsingers. Such vowel differences influence the production of formant frequencies which result in differing vibratory sensations. These vibratory sensations make it possible for the singer to perceive formant frequency differences. Use of this extra formant, sometimes referred to as the "singer's formant," improves the ability of the vocal tract to transfer sound.

Pawlowski et al. used holography to visually detect the vibratory patterns on the face and neck of singers during the production of various vowels. They discovered that the strength of the vibration amplitude on the larynx and the lips varied according to the vowel being sung. It was also concluded that the amplitude of the vibrations on the skull were influenced by phonation and were vowel dependent. This 1983 study therefore illustrates that, through vibratory sensations, it is possible for the singer to kinesthetically image vowel, as well as pitch. This interpretation is similar to that of William Drew, who described "the act of phonation as an involuntary auditory reflex governed by 'thinking of a sound' rather than by thinking of an action." Similarly, Johann Sundberg hypothesized

that "Probably in our imagination we project the voice timbre we hear from our own voice organ, and we analyze how phonation would feel under these imagined conditions."\textsuperscript{36}

Previously discussed research pertaining to dancers, athletes, and musicians show that higher levels of physical performance have been achieved using internal mental imagery. Also, through the internal imaging of a sensorimotor activity, an image may be focused and refocused in short-term memory. This imagery process is advantageous for the singer because two rudiments of singing, pitch and vowel, are sensorimotor activities. All the foregoing studies illustrate that the use of visual, auditory, sensory and kinesthetic imagery augment and improve the rehearsal process and, consequently, performance. Therefore, it is the hypothesis of this thesis that mental imagery, being an initial step in cognitive operations, is beneficial to the singer.

CHAPTER III

METHODOLOGY

In his dissertation to "develop a comprehensive model of the mental activities involved in the processing of music," Thomas Martin Horning theorized that "the psychological processes which translate musical stimuli into subjective [sic] felt experience are continuous, from the initial sensation which is detected by the ear to the final stages of mental activity which results in a felt response." Although the focus of his dissertation varies from that of this thesis, Horning's theory provides an intriguing basis for further investigation into the mental activities of the musician. Before embarking upon such an investigation, however, basic information must first be gathered. This study was designed to solicit basic information and impressions on mental imagery, particularly focusing upon pitch and vowel production, directly from the solo vocal musician. It is hoped, therefore, that this study will begin to fill the current void in research material on mental imagery and the vocal musician.

1 Thomas Martin Horning, "The Development of a Model of the Psychological Processes Which Translate Musical Stimuli Into Affective Experience," (Ph.D. diss., Case Western Reserve University, 1982), ii.
Mental imagery, being an internalized process, is difficult to systematically research, for it is not directly manifested in overt behavior. Therefore, direct observation is impossible; a situation which imposes severe restrictions upon research and measurement. Instead, all observations must be made from the perspective of the individual solo singer through the observational technique of self-report. Due to the current void of research in the area of mental imagery and the solo singer, no precedent has been established as to an appropriate research design. In addition, minimal information exists upon which an experimental study may be based. A survey was determined to be the most accurate way to research the thoughts, perceptions, images, and opinions of the singers with respect to their processing of pitch and vowel. Therefore, it was decided that the research design which could best serve as a catalyst for self-report, as well as a forum to collect basic data, was a survey.

The survey was administered through a personal interview, as it was a medium that allowed the singer to freely elaborate on the use of imagery. The questions were carefully worded so that the interviewee would not be lead to give a specifically desired answer. In the interview, inconsequential questions were interspersed with pertinent questions so that the interviewee would be unable to detect the focus of the study.
Construction of the Survey

The process of developing the survey questions began by defining the research questions for this study. After the focus of the research questions was established, survey questions were designed that would solicit responses that would provide answers to the research. Initially, the survey questions specifically addressed personal imagery perspectives on pitch and vowel. A series of discussions with this Thesis Committee resulted in the decision that such specific and direct questions could lead the interviewees, and thus invalidate the data; therefore, questions were created that addressed many topics pertinent to singers, including: jaw position, soft palate position, pitch concepts, vowel formation, mouth and tongue position, etc. These topical questions were structured so that if the interviewee employed mental images, that information would be elicited. The term "mental imagery" was stricken from all questions. Useful follow-up questions were devised to further probe each singer's use or lack of use of mental imagery. The follow-up questions were typically structured in such a way as to allow the interviewee different response options, i.e.: What thoughts or physical adjustments help you to achieve (blank)? Each interview was begun with an "explanation" of the purpose of the study and a series of personal data questions. This opening was an opportunity to become acquainted with the interviewee and to put the interviewee at ease. The actual purpose of
the study was not revealed to the interviewee. Instead, the
interviewee understood the study as an investigation of various vocal
concepts that are beneficial to the solo singer.

Pilot-testing of the Survey

The pilot-test consisted of interviewing three singers of
differing levels: a high school student, a graduate student, and an
amateur singer with a Bachelor's degree in drama and music. The
purpose of the research was not revealed until completion of the
interview. Upon completion of the pilot interview, the singers were
accurately informed as to the purpose of the study. All three singers
expressed that the purpose was not evident in the questioning,
although all three singers did offer imagery descriptions. Therefore,
the pilot test positively indicated that the interview did not lead any of
the pilot test interviewees while successfully eliciting imagery
information. The three singers were requested to offer any input that
might enhance or better clarify the survey. The high school student
did not offer any suggestions. It was, however, evident through the
interview with the high school student that some pedagogical and
biological terms would need further clarification for younger singers.
The graduate student observed that there were numerous questions
regarding pitch. This observation thus lead to the conclusion, on the
part of the graduate student, that this study was an investigation of
singers with intonation difficulties. The amateur singer suggested that
a question be included inquiring if singers were dependent on an
instrument to obtain their pitch(es). This suggestion was implemented in the final version of the interview. A copy of the final form of the survey may be found in Appendix A.

Description of Subjects

Twenty singers were surveyed to determine what individual methods are used in the conceptualization of pitch and vowel. The singers were chosen from four different categories which ran the gamut of perspectives, from the beginner to the experienced singer. These twenty singers were divided as follows: five high school students, five undergraduate students, five graduate students, and five professional singers.

The high school students ranged in age from 14 to 17 years and were in the second semester of their freshman, sophomore or junior year at the time of this study. These students met the prerequisites of: 1) high school choir enrollment, and 2) at least four months of prior private voice instruction. The prerequisite of high school choir enrollment was chosen because it offered the students the opportunity to become familiar with various choral and vocal concepts. Also, by requiring four months of prior private vocal study, the young singer would have already experienced at least a semester of the personalized vocal instruction that often is a catalyst for the formation of their own vocal concepts. These students were recruited from the Dallas Independent School District, Mesquite Independent School District, and Plano Independent School District. They were an economically,
culturally, and racially diverse group of three females and two males. This group represented the studios of three different voice instructors. Each high school singer was chosen by their respective voice teacher to participate in this study.

The undergraduate students were enrolled in the second semester of their freshman, junior, or senior year and ranged in age from 18 to 22 years. All of the undergraduates fulfilled the prerequisite of a minimum of one year of previous private voice instruction. Again, requiring prior private instruction presumed the opportunity for greater vocal awareness. This group was the most culturally, economically, and racially homogeneous of the four groups interviewed. The one male and four females were enrolled and in attendance at the University of North Texas, Texas Woman's University, or Southern Methodist University. These undergraduates were representative of the studios of five different voice professors. Each undergraduate singer was chosen by their respective voice teacher to participate in this study.

The graduate students consisted of four females and one male who ranged in age from 25 to 32 years. These singers were economically, culturally, and racially diverse. The group included three Masters and two Doctoral degree candidates, all of whom had received at least a Bachelor's degree with major or minor emphasis in music. All were enrolled and in attendance at the University of North Texas, Southern Methodist University, or Texas Woman's University.
These singers came from four different voice studios. With one exception, the graduate singers were chosen by their voice teachers to participate in this study.

The professional singers were a culturally, economically, and racially diverse group of two females and three males. They varied in age from 29 to 48 years. The professional singer was defined as one who has regularly performed as a paid singer for a minimum of two years and who earned over fifty percent of their income as a performing singer and/or in a related musical field. Although this definition was applicable to many local singers making it possible to recruit a greater variety of interviewees, in the final analysis, with the exception of one singer who had sung professionally for two years, all the singers had sung professionally for ten to twenty years. Most had sung internationally and all had sung nationally. All of the professionals had studied voice with more than one voice teacher. Although all of the professionals were performing singers, one was also employed as a church choir director and three taught voice on at least a part-time basis. The professional singers were chosen for this study on the recommendation of other singers.

The participants in this study were not chosen randomly. It was not possible to do so because the populations to be surveyed were very specialized. Nevertheless, a broader perspective was achieved by interviewing singers at differing levels who have been exposed to
different vocal techniques. This study was also designed to include a sampling of singers from a variety of educational, economic, and cultural backgrounds.

**Implementation of the Main Study**

Each vocalist participated in a personal interview of approximately twenty to thirty minutes in length. The interviews were recorded on cassette tape with the consent of the interviewee. A Sony microcassette-corder M-330 was used to tape each interview at a tape speed of 1.2 cm./sec. The recorded interviews were then transcribed. The results of the surveys were compiled and compared for similar and varied responses. Any significant trends were noted, as were any dissimilar views. Although each interview varied with the individual, the basic format of each survey interview is found in Appendix A.

Through subtle inquiries as to each individual's awareness of jaw, soft palate, air flow, lips and tongue, the survey questions were designed to elicit responses to the research question, "In what way(s) do the singers in this study report using a conscious thought process which incorporates mental imagery to conceptualize pitch and vowel?" The singers were also asked to elaborate whether the above physical factors influence pitch and vowel. Insights into imagery use were acquired through descriptions of methods for vowel formation and vowel placement. Further imagery information was obtained through questions that addressed sensation as it relates to proper intonation.
and physical manifestation of pitch. In this regard, the interviewees were asked to describe how pitch is conceptualized, internally or via an instrument. To discover if pitch and vowel are imaged interactively or separately, questions were included that allowed the singers to describe if and/or how pitch and vowel influence each other. All basic questions included follow-up questions that provided alternatives to mental imagery. To discern if mental imagery concepts are incorporated into the singers' practice routines, questions were included in the survey interview that probed the use of mental rehearsal.

Preparation of Data for Analysis

The interviews were initially transcribed by a professional typist. Due to the fact that the typist was unfamiliar with many musical terms, it was necessary to carefully read and correct the transcripts. In addition, it was necessary to listen to the original recorded interviews to compare them to the transcriptions. The interview transcripts were then reviewed in order to delete most unnecessary text; such as, "uhm," "like uh," or "humm." All "yeah" terms were changed to "yes" and "nah" terms were changed to "no," so that all answers were easily discerned by the reader. The revised transcripts were then input into the computer. Two additional revisions were made to correct spelling and insure the clarity of the text.

The final version of the transcripts, which can be found in Appendix B, was then used for analytical purposes. A listing of
appropriate responses from each singer was compiled for all of the research questions. In order to properly assess the thought processes utilized by the individual singers, a system of evaluation and classification was needed. Thus, the Hierarchy of Singers' Mental Processes (HSMP) was devised. Inspired by Benjamin Bloom's Taxonomy of Educational Objectives, the HSMP utilized illustrative behavioral terms that are unique to the mental processes and performance outcomes of singers. Through this system, it was possible to diagnose two cognitive components: 1) the level of mental process implemented by the singer and 2) mental imagery use by the singer. After mental imagery use had been established, a listing of the most commonly described images was compiled.

The Hierarchy of Singers' Mental Processes is comprised of four categories that are based upon the illustrative behavioral terms described by the singers. These categories outline the levels of mental processes implemented by the singers who participated in this study. The higher levels of mental processes are configured from the information and skills learned at the lower levels. The categories are arranged in the order of complexity as follows: Assimilation, Concrete Application, Analysis, and Abstract Application. The definition of Abstract Application includes the ability to produce mental images. Thus, any assessment of mental imagery ability was recorded under Abstract Application. Each category is defined by illustrative behavioral terms and by example:
1. **ASSIMILATION.** Comprehends, understands, defines, learns, recognizes, remembers, knows, identifies, matches, describes, explains, generalizes, reproduces. Example: Recognizes tension in jaw; matches pitch; knows a raised soft palate makes for better vowels.

2. **CONCRETE APPLICATION.** Develops, applies, strives for, forms, adjusts, maintains, notices, places, implements, produces, prepares. Example: Maintains high soft palate position by raising the eyebrows; forms vowels by keeping jaw in one position and only changing the tongue formation; strives for a feeling of an open, dropped jaw.

3. **ANALYSIS.** Connects, influences, reviews, solves, relates, modifies, broadens, plans, indicates, discriminates, illustrates. Example: Modifies an /a/ vowel by thinking /I/ while singing /a/; relates good breathing technique to a feeling of an easy air flow; a feeling of resonance in the nose indicates proper singing.

4. **ABSTRACT APPLICATION.** Senses, feels, images, visualizes, sees and hears internally, directs, aims, shapes, focuses, imagines, sends, memorizes, approaches spatially, interprets, reconstructs, composes, criticizes, creates, devises. Example: Directs the vowel over a wall at the cheekbones; feels a spinning sensation when the voice is in tune; images an arch to open the soft palate.
The transcripts were then evaluated to determine the imagery perspective utilized by the singers, be it internal or external. A determination was also made as to whether the singers reported imaging pitch and vowel interactively or separately. Additional data was gathered regarding any alternative method used by the singers in the conceptualization of pitch and vowel. A final analysis of the interview responses ascertained whether mental rehearsal was used by the singers. A thorough evaluation of the content of the survey material was made comparing similar and dissimilar responses and noting any significant trends. The resulting data was then organized with respect to applicable percentages.

Validity and Reliability

The internalized process of mental imagery is difficult to measure because it is not directly manifested in overt behavior. This makes direct observation impossible, thus imposing severe restrictions upon research and measurement. As a result, the observational technique used in this study was that of self-report. Through self-report, all observations must be make from the individual solo singer's own perspective which limits the type and amount of information that may be gathered. Due to these restrictions, validity can not be assessed.

There are other empirical limitations present as well. The singers interviewed may not have fully revealed all pertinent information regarding their use of mental imagery. It was also possible
that individual singers may have misinterpreted questions or that they used mental imagery but were unaware of its' use or were unable to describe it. In addition, the singers' descriptions of their imagery techniques were analyzed using subjective content analysis. This analysis technique can invite error in information gathering and presents an opportunity for investigative bias. In an attempt to avoid influencing the interviewees, each singer was informed that the purpose of the study was to investigate beneficial vocal concepts. Questions regarding the mechanics of singing, as well as questions probing the thought processes of the singers, were included in the interview. Furthermore, content validity was attempted by designing valid questions that investigated a variety of mechanical approaches, such as, jaw position. Because conventional methods for establishing validity were impossible to employ, great care was taken with the interview design, in order to eliminate all aspects of the survey that might bias the subjects.

The interview questions were designed to acquire information pertinent to the research questions. The pilot-test verified that the interview questions elicited appropriate information. The questions addressed a variety of topics, all of which influence the conceptualization and production of pitch and vowel. The topics included: jaw position, pitch sensations, internal hearing, instrument dependency, pitch concepts and relationships, soft palate position, interactive and separate pitch and vowel concepts, vowel formation and placement, air flow, mouth positions, and silent practice.
Inquiries into these many and diverse aspects of singing assured answers that satisfied the needs of this research study. In addition, the opportunity for investigative bias was decreased because inconsequential questions were interspersed with pertinent questions.

The contents of the twenty interviews were repeatedly reviewed and analyzed. Such repetitious analysis and scrutiny of the interview responses guaranteed the accumulation of all relevant material. The conclusions of that subjective content analysis were a product of inductive reasoning. The resulting information was categorized according to which research question the response related. Percentages were then calculated and applied to these conclusions.

To establish reliability of analysis, an impartial expert was requested to examine the interview responses and amend, if necessary, the conclusions of this researcher. The expert who was chosen is an Associate Professor at the University of North Texas. This individual is a professional musician who sang nationally and internationally for thirty years and who has taught voice for forty years. Her pedagogic experience includes teaching singers of all levels; from beginning amateurs and teens to professionals and aging voices. During her teaching career, she has instructed singers who have learning problems, such as vocal technique and musical deficiencies. She has always been interested in the causes of and reasons why singers have difficulties learning to sing. Her interests and pursuits uniquely qualify her as an expert on singing and the mental concepts used by singers.
The study initially focused on the use of auditory, kinesthetic, and viso-spatial imagery. As a result of the impartial expert's recommendations, the singers responses were also assessed as to implementation of sensory imagery. The expert also observed that Graduate singer #14 used a different approach to singing than did the other singers, a mechanical approach. Thus, proposing that any use of imagery by Graduate singer #14 did not incorporate the higher cognitive skills intrinsic in Abstract Application. The expert and this researcher differed in the analysis of Undergraduate singer #7 and the singer's use of auditory imagery. The expert suggested that Undergraduate Singer #7 did use auditory imagery but that the singer was unsure in its use. The expert also determined that the use of external input by Professional singer #19 was merely a check for proper use of technique, not an alternative method to produce pitch and vowel. Various specific imagery descriptions were also amended by the expert for the purpose of clarification. There was a high correlation between the expert's and this researcher's subjective analysis of the data. This indicated that there is a correspondingly high inter-rater reliability present. Therefore, the second analysis provided by the impartial expert imparts greater reliability and validity to this study.
R. P. Peillaube wrote in his book *Images* that "images are necessary to the formation of concepts."\(^1\) This belief has been echoed by researchers in various fields. It is also a common theme in the opinions of music professionals, as well as in research that attempts to clarify how musical thought relates to musical performance. It was the purpose of this thesis to investigate the thought processes used by singers to produce pitch and vowel. By interviewing singers at differing levels of expertise, from beginning singers to professionals, basic information was obtained about the mental processes used by vocal musicians. The broad question under investigation was: "In what way(s) do the singers in this study report using a conscious thought process which incorporates mental imagery to conceptualize pitch and vowel?" Through their interviews, each singer revealed the thoughts, methods, and perspectives they used to produce pitch and vowel. To present these various mental processes without ambiguity, a system of classification and evaluation was needed, and thus devised. This

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system was influenced by Benjamin Bloom's *Taxonomy of Educational Objectives*. This system has been titled the *Hierarchy of Singers' Mental Processes* (HSMP). While Bloom's Taxonomy utilizes general instructional objectives and behavioral terms that refer exclusively to the cognitive domain, HSMP utilizes illustrative behavioral terms that are unique to the mental processes and performance outcomes of singers. HSMP was created as a tool for distinguishing the use of mental imagery by singers of varying levels.

**Interpretation of Data and Findings**

The *Hierarchy of Singers' Mental Processes* is composed of four categories: Assimilation, Concrete Application, Analysis, and Abstract Application. The definition of Abstract Application encompasses the ability to produce mental images. Thus, any assessment of the mental imagery abilities of the singers was recorded under Abstract Application.

Using the *Hierarchy of Singers' Mental Processes*, content analysis of the survey responses was performed. In evaluating the terms used by the singers, it is important to note that the terms "think," "direct," and "place" occur frequently within the vernacular of the singers. Thus, the level of mental processing can only be assessed through an understanding of the context in which the term appears.
TABLE 1

ANALYSIS OF THE MENTAL PROCESSES USED BY SINGERS TO CONCEPTUALIZE PITCH AND VOWEL UTILIZING THE HIERARCHY OF SINGERS' MENTAL PROCESSES

<table>
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<tr>
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<th>Assimilation</th>
<th>Concrete Application</th>
<th>Analysis</th>
<th>Abstract Application</th>
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<td>Prof %</td>
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<td>100%</td>
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<td>100%</td>
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<tr>
<td>20</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Total %</td>
<td>60%</td>
<td>100%</td>
<td>75%</td>
<td>95%</td>
</tr>
</tbody>
</table>

TABLE 1 illustrates the mental processes reportedly used by singers to conceptualize and produce pitch and vowel. The conclusions of the subjective content analysis based upon the Hierarchy of Singers' Mental Processes were a product of inductive reasoning, which were, however, reviewed, substantiated, and amended by an impartial expert. Therefore, the content analysis of
the singer's thought processes has greater validity due to this design which profits from a second analysis.

A review of the cognitive processes expressed by the total group of singers indicated that 60% employed Assimilation; 100% employed Concrete Application; 75% employed Analysis; and 95% employed Abstract Application. Therefore, the majority of singers at all levels utilized some form of Abstract Application and Analysis in their conceptualization of pitch and vowel, while all singers implemented some form of Concrete Application. The auditory, kinesthetic, sensory, and/or viso-spatial images described by the surveyed group of singers were, for the most part, inventive and unique to the individual, indicating advanced thought processes. Although the high school singers and Undergraduate singer #10 described some unique images, their imagery descriptions generally were not as advanced or complex as those of the professional singers, as well as those of most graduate singers. In addition, while 19 of 20 singers utilized some type of imagery, Graduate singer #14 used a strictly mechanical approach to the conceptualization of pitch and vowel. Thus, the "imagery" reported by Graduate singer #14 was rudimentary and did not utilize the higher cognitive processes indicative of Abstract Application.

An assessment of each of the four groups of singers suggests that among the high school singers: 100% used Assimilation in their conceptualization of pitch and vowel; 100% used Concrete Application; 60% used Analysis; and 100% used Abstract Application. The results of the undergraduate singers denoted somewhat of a
decrease in the use of lower cognitive skills: only 60% described using Assimilation; 100% used Concrete Application; 40% used Analysis; and 100% used Abstract Application. The percentages for the graduate singers were generally higher than those of the undergraduate singers in all categories except Abstract Application. Among the graduate students: 80% reported using Assimilation; 100% reported using Concrete Application; 100% reported using Analysis; and 80% reported using Abstract Application. In stark contrast to the other groups, the professional singers utilized only higher mental processes: 100% used Concrete Application; 100% used Analysis; and 100% used Abstract Application. It is important to note that all higher mental processes are built upon the information and skills learned at lower mental processing levels.

Analysis of the Use of Specific Imagery Processes

Inherent in the definition of Abstract Application is the ability to produce mental images. The imagery processes indicative of Abstract Application are: auditory imagery, kinesthetic imagery, viso-spatial imagery, and sensory imagery. The singers use of certain behavioral terms connoted the implementation of each specific imagery process, such as: 1) hears internally, creates internal sound(s), and mental pitch refers to auditory imagery; 2) feels, mental muscular movement, and mentally positions refers to kinesthetic imagery; 3) visualize.
direct, send, mentally sees, and approach spatially refers to viso-
spatial imagery; 4) senses, feels, mental vibration, and aims for
sensations or vibrations refers to sensory imagery.

In a specific analysis of the imagery processes described under
Abstract Application, all singers detailed the use of kinesthetic
imagery. A slightly smaller percentage, 95% of the total group,
revealed the use of sensory imagery, while 90% reported using
auditory imagery, and a little more than half of the singers, 60%, used
viso-spatial imagery. The reported use of each form of imagery varied
between groups. As is illustrated in TABLE 2, high school singers
almost exclusively used auditory, kinesthetic, and sensory imagery.
Only a small percentage of high school singers revealed using viso-
spatial imagery. While use of kinesthetic imagery remained constant
among all groups, the undergraduate and graduate singers utilized
auditory imagery to a lesser degree than did the high school and
professional singers. Viso-spatial imagery showed a consistent pattern
of increased usage corresponding with increased level of singing
experience. The professional singers, more than any other group,
incorporated all forms of imagery in their conceptualization of pitch
and vowel. The most significant finding was that sensory imagery was
reported almost uniformly by all four groups of singers. The exception
being the undergraduate singers, slightly fewer of whom described the
use of sensory imagery.
TABLE 2
ANALYSIS OF THE IMAGERY PROCESSES DESCRIBED UNDER ABSTRACT APPLICATION

<table>
<thead>
<tr>
<th>Name of Group</th>
<th>Auditory</th>
<th>Kinesthetic</th>
<th>Viso-spatial</th>
<th>Sensory</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>100%</td>
<td>100%</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>80%</td>
<td>100%</td>
<td>60%</td>
<td>80%</td>
</tr>
<tr>
<td>Graduate</td>
<td>80%</td>
<td>100%</td>
<td>80%</td>
<td>100%</td>
</tr>
<tr>
<td>Professional</td>
<td>100%</td>
<td>100%</td>
<td>80%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>90%</td>
<td>100%</td>
<td>60%</td>
<td>95%</td>
</tr>
</tbody>
</table>

Reported Use of Imagery in the Conceptualization of Pitch and Vowel

All of the singers acknowledged using mental imagery in the conceptualization of pitch and vowel. Undergraduate singer #10 was an anomaly. When asked during the interview, "Do you have a method for forming vowels?" (10:160) and "Any concepts or images that you use to form vowels at all?" (10:162), Undergraduate singer #10 replied negatively (10:161, 10:163). Also, prior questioning revealed that this singer's knowledge and concept of pure vowels was based on external input from the voice teacher (10:155-10:159). Therefore, although Undergraduate singer #10 did admit using mental imagery in the

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2 The notation (10:160) refers to Interview #10, line number 160. All references to the interview transcripts are in the same format.
conceptualization of pitch, mental imagery was not applied to the conceptualization of vowel. Thus, the percentage of singers reported utilizing mental imagery totaled 97.5% as is presented in TABLE 3.

TABLE 3
PERCENTAGE OF SINGERS WHO REPORTED USING MENTAL IMAGERY IN THE CONCEPTUALIZATION OF PITCH AND VOWEL

<table>
<thead>
<tr>
<th>Name of Group</th>
<th>Percentage of YES Answers</th>
<th>Percentage of NO Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>90%</td>
<td>10%</td>
</tr>
<tr>
<td>Graduate</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Professional</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>97.5%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Due to the research design, the survey questions were carefully worded in such a way as would not "lead" the interviewee, but would instead generate a spontaneous response. For that reason, the term "mental imagery" was not used in the questions. Thus, in answering the survey questions, the interviewee may have given an opinion of a technique or an account of a physical adjustment without depicting it as a mental image, even though they may conceptualize it as a mental image. Therefore, in reporting the mental images used by the singers, only responses which explicitly refer to images are included.
Descriptions of the Most Common Mental Images

After the prevalence of mental imagery had been established, it was necessary to explore the specific mental images utilized by each individual singer to conceptualize pitch and vowel. Some of the most common mental images described by the singers included: the auditory image of hearing pitches internally, the sensory image of feeling the sensation of pitch, the auditory image of hearing internally the specific pitch of a piece to be performed before singing, the sensory image of feeling vibrations or sensations in the nose or "mask" area of the face, the sensory image of feeling the vowel prior to singing, the viso-spatial or sensory image of directing the vowel forward, the kinesthetic image of a relaxed jaw, and the kinesthetic image of a raised soft palate. TABLE 4 outlines the survey responses of each singer and the resulting percentages. Commentary is included in TABLE 4 to more accurately show any individual imagery variations. The total percentage of singers who imaged hearing pitches internally was 85%. Interestingly, the same percentage of the total group, 85%, imaged feeling the sensation of pitch. An increased percentage of singers, 90%, imaged hearing internally the specific pitch of a piece to be performed before singing and the same percentage used an image to direct vowels forward. Only 75% of the entire group imaged the feeling of vibrations or sensations in the nose or "mask" area of the
A slightly lesser percentage, 70%, imaged a relaxed jaw. The greatest number of singers, 95%, reported imaging a feeling of the vowel prior to singing and reported imaging a raised soft palate.

The results of the most commonly described images reveal some interesting comparisons. Although most of the professional singers stated that most aspects of their singing had become automatic, it was the professional singers who most frequently implemented these eight common mental images. The high school singers also frequently utilized these common mental images but at a slightly smaller total percentage than did the professional singers. The total percentage of utilization of these common mental images was lower among the graduate singers and the lowest level of implementation was found within the undergraduate singers. All of the high school and professional singers reported that they imaged hearing pitches internally and also imaged hearing internally the specific pitch of a piece to be performed before singing. The graduate singers reported somewhat conflicting information. While 80% of the graduate singers reported that they imaged hearing internally the specific pitch of a piece to be performed before singing, only 60% reported that they imaged hearing pitches internally, although 100% described the image of feeling the sensation of pitch.
TABLE 4
THE MOST COMMON MENTAL IMAGES DESCRIBED
BY THE SINGERS IN THIS STUDY

<table>
<thead>
<tr>
<th>Singer</th>
<th>Hears voice</th>
<th>Feels sensat'n</th>
<th>Hears pitch intern'y</th>
<th>Feels vibrat'n in nose</th>
<th>Feels vowel before</th>
<th>Directs vowel forward</th>
<th>Thinks relaxed jaw</th>
<th>Thinks palate</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>85%</td>
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<tr>
<td>H. S. %</td>
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<tr>
<td>Undgr %</td>
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<td>60%</td>
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<tr>
<td>Grad %</td>
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<tr>
<td>Prof %</td>
<td>100%</td>
<td>80%</td>
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<tr>
<td>Total %</td>
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<td>85%</td>
<td>90%</td>
<td>75%</td>
<td>95%</td>
<td>90%</td>
<td>70%</td>
<td>95%</td>
<td></td>
</tr>
</tbody>
</table>
a #3 - Also feels vibration in vocal cords.

b #5 - Feels high notes in top of head and nose. Feels low notes in back of throat.

c #7 - Feels high notes in mouth area and low notes in the chest area.

d #8 - Feels high notes upward through the mouth and sinuses. Feels the middle notes at lips and teeth. Feels low notes as a buzz at the mouth.

e #9 - Feels high notes in the head and low notes in the mouth and chest.

f #11 - The high notes have a higher vibration and feels the low notes in the sternum.

g #15 - Feels a buzz in the cheeks and in the back of the hard palate.

h #17 - Feels low notes in the mouth and very high notes in the top of the head.

i #18 - Feels vibration in the sinuses.

j #19 - Feels vibration in the eyes.

Descriptions of Images Used for Vowel Formation and Modification

Another prevalent image was that of vowel formation. The images used to form, produce, and place vowels were highly individualized and frequently inventive. All of the high school singers described imaging vowel formation; as did 60% of the undergraduate singers; 80% of the graduate singers; and 80% of the professional singers. It is interesting to note that the images become more complex in relation to years of singing experience. Also, the images of the professional singers have very practical applications. The following is an account of the specific singers' respective images used in vowel formation:
#1 - Mentally images the sound of the vowels (1:238-246)
#2 - Mentally images rich vowels by thinking of the sound and formation of each vowel (2:212-223, 227-232)
#3 - Mentally images exaggerated vowel sounds (3:234-242)
#4 - Mentally creates individualized mouth positions for each vowel (4:167-172)
#5 - Mentally focuses on keeping one jaw position and only changing the tongue formation (5:134-138)
#6 - Mentally images the vowel to form the vowel (6:163-171)
#7 - Mentally images the vowel coming through the upper lip and nose area and creates a sensation of space in the mouth for rounder vowels (7:196-199)
#8 - Mentally images the sensation of the /i/ vibrating through the top of the front teeth prior to singing; mentally images the letter "AW" to sing /a/; mentally focuses vowels by using a nasalized "witch sound" (8:219-224, 232-239)
#11 - Mentally images and feels pure, round Italian vowels coming through a rectangle in the soft palate area (11:208-227)
#12 - Mentally images an arch or two arrows aimed from the cheekbones to a high, forward point (12:198-203)
#13 - Mentally images sending the vowel up and over while feeling the air blowing through the nose for a pointed vowel focus; mentally feels the jaw drop and open lower for a dark vowel sound (13:189-195)
#15 - Mentally images the vowel while inhaling (15:181-196)
#17 - Mentally images the mouth as a trumpet bell that shapes the vowels (17:190-195)

#18 - Mentally images each vowel in relationship to the space required; mentally concentrates on back pharyngeal space while thinking the words on the teeth and the tip of the tongue and while releasing the air through the top of the nose and the mouth (18:186-192, 224-236)

#19 - Mentally images a relaxed jaw, open mouth, and forward tongue based on the /a/ position and moves from open to closed vowels (19:225-233)

#20 - Mentally images a different soft palate position and tongue position for each vowel while inhaling and singing (20:160-171)

Images to achieve vowel modification, a more advanced concept, were applied by a smaller percentage of the total group. None of the high school singers made any reference to vowel modification. Within the groups of undergraduate and graduate singers, 40% of the singers in each of these groups described images of vowel modification. The response from the professional singers involved only 20% of the professionals interviewed. The greater occurrence of this image among undergraduates and graduates may be due to the emphasis of vowel modification in university music curricula. The images of vowel modification described were as follows:
#8 - Mentally images higher pitches resting above the pitch and migrating to more open vowels (8:206-211)

#9 - Forms the /a/ vowel by mentally imaging /i/ while singing /a/ (9:217-221)

#12 - Mentally images /a/ combined with /u/ for better /a/ vowel placement; mentally images /o/ or umlauted vowels to produce more focused vowels (12:213-229)

#15 - Mentally images vowel modification and darkening in the upper range (15:162-166)

#17 - Mentally senses the forward position for the /i/ vowel and places the /a/ vowel in the same position; mentally images open vowels being modified towards a closed vowel position (17:28-38, 184-189)

As was reflected in TABLE 4, with the exception of one high school and one undergraduate singer, all of the singers reported utilizing an image to direct vowel placement. The majority of these singers revealed commonly used images for directing vowel placement. More personalized and unique images were described by 20% of the total number of high school singers; 20% of the total number of undergraduate singers; 40% of the graduate singers, and 80% of the professional singers. These results suggest that individualized and atypical images are developed through familiarity
with the voice and through years of singing experience. The following list is a compilation of the images described to direct vowel placement:

#1 - Mentally images raising the eyebrows to direct the vowel forward (1:198-208)
#3 - Mentally images reaching over a wall at the cheekbones to direct the vowel (3:189-202)
#4 - Mentally images directing the vowels up and over (4:173-179)
#5 - Mentally images directing the vowel up and out between the eyes (5:139-141)
#6 - Mentally directs most vowels behind the teeth and out using a vertical placement, the higher notes are imaged in the nose and cheek cavities (6:172-178)
#7 - Mentally images the vowel coming through the upper lip and nose area for higher/vowel placement (7:196-199)
#8 - Mentally directs the vowel placement forward using the eyebrows and eyes (8:240-256)
#9 - Mentally images sending the vowel up to a dot inside the middle of the head and making the dot vibrate (9:222-237)
#11 - Mentally images all vowels in the same forward placement directed through a rectangular image in the mouth, the lines of which will intersect if the vowel is properly placed (11:251-266)
#12 - Mentally images arrows or triangles to direct vowel placement (12:230-237)

#13 - Mentally directs vowel placement by thinking: forward, back, brighter, darker, nasal, or spread (13:177-182)

#14 - Mentally directs vowel placement onto the two front teeth (14:160-168)

#15 - Mentally images biting an apple or snarling to direct the vowel toward the face (15:245-251)

#16 - Mentally directs the vowel to the hard palate by imaging the sound beginning low in the body then moving in a circular motion from the back of the head forward while using all the space in the body and the head (16:141-152)

#17 - Mentally images directing the vowel forward into the mask (17:196-198)

#18 - Mentally images each vowel in relationship to space and images where a vowel should be placed based on its open or closed quality (18:186-192, 195-204)

#19 - Mentally images the vowel sound vertically going to the top of the hard palate and coming out of the resonating chamber (19:256-262)

#20 - Mentally images individualized breaths, shapes, and thoughts according to the dramatic intent of each vowel (20:192-206)
Report of Specific Auditory Images

The majority of singers reported hearing pitch internally. Of the 85% who affirmed hearing pitch internally, 65% reported hearing the sound of their own voice. Within this group, 5% described hearing the sound of their voice humming and 30% stated that, in addition to hearing their own voice, they can also mentally recreate the appropriate instrumentation to a specific piece of music or of a musical performance by another musician. A few individuals described hearing pitch internally as a sound other than their own voice: 5% heard the sound of a piano and 15% heard what they described as a "sustained sound," "an unknown sound," or much like "the hum of a fluorescent light."

Report of How Pitch is Imaged

The singers also were asked to categorize how they image pitch; whether as individual pitches, melodically, or harmonically. Some of the singers, 20%, differentiated between how they image pitch when learning music and how they image pitch when already familiar with the music. This differentiation resulted in two sets of answers and thus, two sets of percentages. When imaging pitch early in the learning process, 15% of the total group of singers image individual pitches; 45% image pitch melodically; 5% image pitch harmonically; and 35% use a combination of melodic and harmonic aural images. After becoming familiar with the music 5% image individual pitches, 45% image pitch melodically 10% image pitch harmonically, and 40%
use a combination of melodic and harmonic aural images. One undergraduate and one graduate singer, both of whom reported imaging pitch melodically, commented that when learning contemporary twentieth century repertoire they would image individual pitches. Another interesting comment was made by a professional singer who related that after imaging pitch melodically and harmonically and after becoming familiar with the music, it was then possible to correct individual pitches.

Among the four groups of singers, it was only among the high school and undergraduate singers that imaging of individual pitches occurred. While learning their music, 40% of the high school singers reported imaging individual pitches; 40% described imaging pitch melodically; and 20% described imaging pitch using a combination of melodic and harmonic aural images. After becoming familiar with the music, 20% of the high school singers described imaging individual pitches; 40% described imaging pitch melodically; 20% described imaging pitch harmonically; and 20% described imaging pitch using a combination of melodic and harmonic aural images. A small percentage of undergraduate singers, 20%, reported imaging pitch individually when learning music, with 60% imaging pitch melodically; and 20% using a combination of melodic and harmonic aural images. These percentages deviated, however, once the undergraduates became familiar with the music. Then, 40% reported that they imaged pitch melodically; 20% reported that they imaged pitch
harmonically; and 40% reported that they used a combination of melodic and harmonic aural images.

In reference to learning music, 40% of graduate singers reported that they imaged pitch melodically; 20% imaged pitch harmonically; and 40% imaged pitch using a combination of melodic and harmonic aural images. After achieving familiarity with the music, 40% of the graduate singers described imaging pitch melodically and 60% imaged pitch using a combination of melodic and harmonic aural images. The professional singers did not report imaging pitch differently contingent upon their level of familiarity with the music.

The majority of the professional singers, 60%, reported using a combination of melodic and harmonic aural images to image pitch while 40% reported imaging pitch melodically.

Review of Individualized Mental Images

The interview process solicited a variety of images from the singers. Some of these images have been detailed previously in this chapter. There were, however, additional images of interest that were disclosed by the singers. Many of the images provided no specific, pertinent information for this study, but did provide an opportunity to examine the mental process of singing from the perspective of the singer. The more unique of these images are described below and are categorized according to group. Again, the images listed are merely informational, although some were found to be significant and have been previously stated as answers to research questions.
High School Singers:
The raising of the eyebrows aids in imaging a raised soft palate, going over pitches, forming vowels, directing the vowel forward, and directing the air (1:155-164, 198-208, 267-279)

Mental images of pushing out the air or rounding the vowels are used to raise the eyebrows (1:284-287)

The mental sensation of an arched, spacious feeling helps to keep the pitches in tune (2:51-55)

Mentally images the pitch and the desired sound of the pitch (2:197-201)

Mentally images the vowel and silently mouths the mouth position for that vowel (2:272-284)

Aurally images a phrase of music in advance, imaging how it was performed in the past and the sensations that were present when it was performed correctly (3:80-89)

Imagines pitch and vowel as being connected and flowing like a chain from the neck to the mouth (3:174-180)
Mentally images reaching over a wall at the cheekbones to direct the vowel (3:189-202)

Mentally images the sensation of "ringing" up and over the soft palate to direct the air over the barrier at the cheekbones and through the nose (3:205-221)

Uses sensory imagery to feel the position for notes by feeling them within the body, high notes feel as if they are floating from within (4:82-91)

Mentally images every sound within a word (4:199-205)

Images high, spacious, and flowing out of the top of the head to correct flat pitches and narrow, small spaces to correct sharp pitches (5:65-71)

Creates good diction by mentally imaging the tongue tapping against the back of the teeth then bouncing off (5:170-173)

Undergraduate Singers:
To achieve quality vowels, images the jaw down and loose like a cornucopia or funnel which is big in the back and comes out in the front (6:23-31)
Uses sensory imagery to feel the notes of a familiar piece of music in an up and down scheme (6:57-62)

Mentally images most notes coming from behind the teeth or out of the mouth, images the lower notes coming straight out of the mouth near the tongue in a vertical relation (6:86-95)

Mentally images a large, open space in the back of the mouth that is like a hole in the back and the front of the head in order to create space for quality vowels (6:132-141)

Mentally images the air being directed from the pelvic floor then up and over the head (6:179-185)

Mentally directs air flow by imaging the body as a long cylinder through which the air flows in both directions (7:203-212)

Influences pitch by mentally sending vibrations through the mouth using the image of a narrow escape as the tone focuses inward then is directed and spans out through the cheekbones which is felt in the sinus cavities (8:33-40)

Visualizes the written music as a mental photograph, images the beginning note of the vocal line as an intervallic relationship to the accompaniment (8:94-103)
Influences pitch by imaging the sensations of the body being low and grounded - weighted around but light - wide but close to the ground with the head extended like a fat marionette (8:124-135)

Mentally images landing above the pitch and migrating to a more open vowel to conceptualize pitch and vowel together on higher notes (8:206-211)

Feels the /i/ vowel vibrating through the top front teeth and mentally images that sensation prior to singing an /i/ (8:219-224)

Forms vowels by imaging the giant letters "AW" jumping around in the mind and focuses the vowel by aurally imaging a nasalized "witch sound" (8:232-239)

Mentally pictures the tone lightening which results from the sensation of the eyes lighting up (8:248-256)

Images the sensation of a lift as if going over the note when singing on pitch (9:38-56)
Forms an /a/ vowel by mentally imaging /i/ while singing /a/ (9:217-221)

Mentally images sending the vowel up to a dot inside the middle of the head and making the dot vibrate (9:222-237)

Directs air flow by imagining a point in the room or hall as if it were someone's face (9:244-247)

Mentally images a potato or something hot being in the back of the mouth in order to raise the soft palate to achieve better vowels (10:133-142)

**Graduate Singers:**
When singing in tune, mentally feels the sensation of a "beat" within the vibrato (11:41-44)

Visualizes a cone with the narrow end going out through the gums and the top front teeth in order to aim for the "beat" (11:65-74)

Mentally thinks and feels round, pure Italian vowels, images "round" as a rectangular shaped space in the soft palate area through which the air moves (11:208-227)
Mentally directs vowels through the rectangular space, if properly imaging a pure vowel then the lines of the rectangle will intersect indicating positive muscle memory (11:251-266)

Mentally images an arch to open the soft palate (12:39-40)

Mentally images the physical height or placement of a note in respect to the range of a particular piece (12:129-133)

Mentally images an arch and open cheekbones to achieve a raised soft palate position, sometimes breathes through the nose to sense and visualize the resonators (12:168-175)

Images two arrows aimed from the cheekbones to a high, forward point to create better vowels (12:198-203)

Aurally images /o/ or umlauted vowels to produce more focused, less spread vowels (12:221-229)

Mentally images arrows or triangles to direct vowel placement (12:230-237)

Mentally images a focal point in front of the mouth (an imaginary point where the sound resonates) while singing which helps to achieve a dropped jaw (13:12-20)
The sensory image of vibrato creates overtones that indicate if the pitch is in tune then the focus, the jaw, and the breath lead to the aural sensation of "spin" which incorporates different colors (13:48-63)

Images different pharyngeal adjustments and shapes to create different vocal colors (13:117-127)

Uses the mental image of the IPA chart to form the /i/ vowel (13:212-222)

Learns the correct sensations for a pitch then mentally recalls those sensations to produce proper pitch placement (14:64-83)

Identifies the best jaw position for a particular pitch by looking in the mirror for the mouth position then relating that to a sensory image (15:10-20)

Aurally images own voice then images the sensation of the buzz of the pitch placement in advance (the singer described this as a visual sensation) (15:60-77)

Uses the sensory image of a snarl to help with pitch placement (15:123-137)
Images the sensation of biting an apple or a snarl to direct the vowel toward the face (15:245-251)

Images putting the words on the teeth, images the direction of the tip of the tongue and a flatter tongue to achieve good diction (15:292-298)

**Professional Singers:**
Can sing the correct starting pitch to many pieces due to the repeated aural image of mentally playing the pieces (16:47-60)

Mentally images the melody as it would be played with the right hand on a piano keyboard (16:71-77)

Mentally directs the vowel to the hard palate by imaging the sound beginning low in the body then moving in a circular motion from the back of the head forward while using all the space in the body and the head (16:141-152)

Images the sensation of a warm mouth that is oval and not tight to create good diction (16:162-169)

Aurally images the voice as others perceive it (17:39-45)
Aurally images own voice and feels the sensation of the center of the pitch (17:48-62)

In order to sing the correct written melody, aurally images the instrumentation while visualizing the written notes and also visualizes playing the piano while mentally imaging matching the pitch (17:76-85)

Images the sensation of notes within a triangle around the mouth: the lower notes are felt at the mouth, the higher pitches are imaged coming from between the eyes and forehead, and the highest pitches come out of the top of the head (17:92-107)

Imagines the mouth as a trumpet bell that shapes the vowels (17:190-195)

Mentally directs air for phonation by imaging the throat as a collapsible pipe that expands at higher pitches due to greater breath flow, also incorporates the image of turning on a water faucet which increases the pressure resulting in the sensation of the sound blowing out the nose (17:204-214)

The sensation of the sinuses being open and the air flowing correctly lead to the sensory image of "ping" in the voice and the voice being in line (18:39-46)
Mentally images placing or releasing the air vertically in the eyes for higher pitches and across before the end of the teeth for lower pitches (18:100-112)

Mentally images a back space with the words on the teeth and the tip of the tongue while releasing the air through the top of the mouth and the nose (18:224-236)

The voice is singing well if there is a sensory image of a free sense of air flow in the nasal membranes that make the eyes glisten (19:41-48)

Mentally plays a piece of music which sets the pitches to memory (19:54-61)

Aurally images the tonality of a specific piece and visualizes how it would be done or how to phrase it or how to start it (19:67-74)

Images the vocal line as it fits into the context of the entire work (19:106-119)
Mentally images the vowel sound vertically going to the top of the hard palate and coming out of the resonating chamber (19:256-262)

Images the air flow coming from the body and an openness in the body and throat (19:283-287)

Mentally images a forward tongue and the diction being on the tip of the tongue; mentally relates all languages to the Italian way of singing (images pure vowel sounds combined with only touching the consonants) (19:303-311)

Images the sensation of the voice spinning when it is in tune (20:36-40)

Images the architecture of the phrase and the resulting breath requirements (20:90-94)

Mentally images the sensation of a big space, such as a big vertical yawn, to raise the soft palate (20:123-134)

Images a different soft palate position, space and tongue position while breathing in and singing each vowel (20:160-171)
Mentally images individualized breaths, shapes, and thoughts according to the dramatic intent of each vowel (20:192-206)

The foregoing illustrates the tremendous variety and unique auditory, kinesthetic, sensory, and viso-spatial images employed by the singers interviewed.

Report on the Utilization of Interactive and Separate Imagery

In another research question, the singers were probed to discover whether they image pitch and vowel interactively, or separately. The overall percentage of singers who imaged pitch and vowel interactively was 85%, while 15% stated they image pitch and vowel separately. Among the four categories of singers, only one group, the high school singers, exclusively utilized interactive imagery. High school singer #2 gave a qualified answer, stating that at times pitch and vowel were imaged separately (2:198-201). The remaining groups of undergraduate singers, graduate singers, and professional singers reported the same percentage differences between the two methods; 80% stated that they imaged pitch and vowel interactively and 20% described imaging pitch and vowel separately. Some of these singers also qualified their answers. Graduate singer #14 reported imaging separately but added that the vowel can influence the pitch. For instance, if a pitch is low, the vowel can be made brighter to influence pitch accuracy (14:120-149). Professional singer #16 answered that pitch and vowel are imaged separately but they relate
and influence each other especially in the early stages of singing (16:121-132). Professional singer #18 reported imaging pitch and vowel interactively then added that although pitch and vowel are not imaged separately, they also are not directly related (18:165-183).

Report on the Utilization of External and Internal Imagery

Mental imagery exists in two distinct psychological perspectives, external and internal. In this study, each singer's imagery descriptions were analyzed and assessed as to perspective. None of the singers exclusively implemented external imagery. The majority of the singers, 85%, described imaging from an internal perspective, whereas, 15% described imaging from both an internal and external perspective. All of the beginning singers and experienced singers, the high school and professional singers, reported using internal imagery. Internal imagery was utilized by 80% of the undergraduate singers while the remaining 20% reported using a combination of internal and external imagery. A larger segment of the graduate singers, 40%, described imaging from both an internal and external perspective, although the majority of the graduate singers, 60%, reported imaging from an internal perspective. Graduate singer #15 and Professional singer #19 both described imaging from an internal perspective but also described "checking" various aspects of their technique by viewing themselves externally in a mirror.
TABLE 5

PERCENTAGES OF IMAGERY PERSPECTIVES USED BY THE SINGERS

<table>
<thead>
<tr>
<th>Name of Group</th>
<th>Internal</th>
<th>External</th>
<th>Internal &amp; External</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>80%</td>
<td>0%</td>
<td>20%</td>
</tr>
<tr>
<td>Graduate</td>
<td>60%</td>
<td>0%</td>
<td>40%</td>
</tr>
<tr>
<td>Professional</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>85%</td>
<td>0%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Review of Alternative or Additional Methods Used in the Conceptualization of Pitch and Vowel

Intrinsic in this study was the supposition that mental imagery is integral in the conceptualization of pitch and vowel. This supposition must be conjoined with the possibility that pitch and vowel are formed and produced using a process other than mental imagery. Therefore, one aspect of this research was to assess whether singers report using any alternative method or additional method other than mental imagery in the conceptualization of pitch and vowel. The answers supplied by the singers were subjectively evaluated as to whether singers reported singing a correct pitch and forming a proper vowel through the use of a thought process, or conversely, whether imagery was not used in any form. As previously stated, all singers disclosed the use of mental imagery in the conceptualization of pitch and/or vowel. Slightly less than half of the singers, 45%, also reported being
able to sing a correct pitch and/or form a proper vowel using an alternative or additional method other than mental imagery. Those singers who used an alternative or additional method in some aspect of pitch and/or vowel production described a variety of production techniques, from physical adjustment to the input of another individual. The techniques they described were as follows: physically making the shape of the vowel (3:181-188); reminded by the teacher to use a more dropped jaw position (6:1-7); the voice teacher indicates a need to watch the jaw or drop the jaw (9:7-15); sings correct pitches and melody without any prior thought process (9:116-119); is aware of tongue position by looking into the mirror (10:121-126); the voice teacher indicates if a pure vowel is sung (10:155-157); does not think about directing the placement of a vowel (10:164-171); assesses diction by the input of others (10:197-202); innately sings correct pitches (11:112-121); forms vowels using the basic IPA rules (13:171-173); sings correctly by visually looking into the mirror (14:28-31); does nothing to insure singing correct pitches and gets the initial pitch from the accompaniment (14:50-57); physical adjustments made during inhalation set the soft palate in a raised position (14:97-103); forms vowels by looking into the mirror to shape the mouth then fixes the vowel in the mouth (14:150-157); forms and shades the vowel by looking into the mirror (15:232-244); listens to voice while singing for articulation of quality vowels (19:184-193); checks tongue and jaw for vowel placement by looking in the mirror (19:250-255). Graduate singer #15 and Professional singer #19
depicted their use of the mirror and, in the case of Professional singer #19, the use of self-listening, as tools to check their technique as opposed to tool to create their technique. In addition, Professional singer #19 explained that due to years of experience, the process of learning music has become automatic (19:89-105). This is not to say that mental imagery was not instrumental in the learning process at one time, or may still be instrumental, albeit unnoticed and therefore unreported.

The comparison of the percentages of imagery implementation between the four groups surveyed was surprising. The group that most frequently reported using an alternative method to sing a correct pitch and form a proper vowel was the graduate singers, 80% of whom answered affirmatively. The undergraduate singers were divided more equally with 60% reporting the use of a technique other than imagery and 40% reporting the use of only imagery. The lowest reported use of a technique other than imagery was made by the high school and professional singers. They disclosed that 20% of each group was able to sing a correct pitch and form a proper vowel through the implementation of an alternative or additional method while 80% used mental imagery exclusively in the conceptualization of pitch and vowel.

Review of Mental Rehearsal

With but one exception, all of the singers revealed using mental rehearsal, a silent practice method which incorporates mental imagery, in their practice routines. In other words, 95% of all singers
reported using mental rehearsal and 5% reported no use of mental rehearsal. The one exception, Graduate singer #14, voiced strong objections to any form of silent or mental practicing due to a belief that the silent movement of the vocal cords without proper breath support is harmful to the vocal cords. The remaining majority of the singers described various thoughts and images that were found to be useful and productive during mental rehearsal. The singers were often enthusiastic in their reporting of mental rehearsal techniques. The following is a listing of their responses according to category:

**High School Singers:**

#1 - Aurally images the song
   Thinks of mistakes and how to correct them
   Images better vowels
   Thinks of where to breathe in the music
   Mentally learns words, rhythms, and melody
   (1:318-344)

#2 - Thinks through the music on a daily basis
   Claps rhythms and thinks rhythms and words
   Images how to sing the words
   (2:290-317)

#3 - Uses Solfedge to aurally image pitch and rhythms
   Memorizes music
   (3:253-263)

#4 - Mentally sings the song
Thinks of breath support
(4:213-220)

#5 - Thinks of rhythms
Images raising the soft palate
Thinks of how to pronounce foreign languages
Thinks of how to express the emotion of the music
Feels the music with the body
(5:174-187)

Undergraduate Singers:

#6 - Aurally images the song and uses hand movements to illustrate the line
Aurally images own voice with the accompaniment
Thinks of singing openly and freely
Thinks of the words
(6:215-228)

#7 - Mentally reads through music while using an accompaniment tape
Aurally images singing
Thinks of technique
Moves to the music
(7:243-257)

#8 - Sings through music mentally
Thinks through the poetry
Thinks the melody while playing the accompaniment
Images vocal technique and the resulting sensations
(8:302-325)

#9 - Hears and sings the entire song mentally and images the sensations
Aurally images own voice
Thinks of placement
Memorizes music
(9:266-290)

#10 - Mentally thinks through music
Images the notes and necessary physical adjustments
Memorizes
(10:203-213)

Graduate Singers:

#11 - Thinks through troublesome syllabic and note patterns
Aurally images own voice
Visualizes sensations and where they are felt
Learns music
(11:302-315)

#12 - Translates languages and researches operatic plots and characters
Analyzes harmony and expression
Images the sensations connected with singing a particular piece of music
Thinks through the meaning of the text then feels
and reacts to the words
(12:296-318)

#13 - Images technique and expression while walking and talking
Walks to find the rhythm and character of the music, as well as, to incorporate the music into the body which creates muscle memory
(13:223-239)

#15 - Sings music mentally
Thinks the words and/or senses muscular adjustments
(15:309-329)

Professional Singers:

#16 - Images the melodic line
Aurally images own voice
Images how to pace the breath
Images sensations
(16:177-186)

#17 - Visualizes placement and physical sensations
Physically senses desired relaxation
Visualizes desired feeling on difficult phrases
(17:241-252)

#18 - Mentally creates pitches
Mentally learns pitches and interval relationships
Senses interval relationships
Thinks of space, breath, and diction placement
Memorizes
(18:237-252)

#19 - Calms down and focuses the mind
Mentally prepares and studies
Mentally prepares for competitiveness and presentation
Reviews dialogue
Images the performances that have been performed and sung well
(19:326-347)

#20 - Reviews words
Images what the music looks like on the page
Memorizes silently
Mentally conceptualizes voice technique and sensations
(20:219-236)

Even though the singers disclosed primarily individualized images, some common imagery themes were also evident. The most prevalent images were: memorizes music, images technique, images sensations, images rhythm, images melody/pitch, images text, and images expression. The percentages of singers who implemented these images during mental rehearsal are given in TABLE 6.
TABLE 6
MENTAL REHEARSAL: PERCENTAGES OF MOST COMMON REPORTED IMAGES

<table>
<thead>
<tr>
<th>Name of Group</th>
<th>Memorize</th>
<th>Images Technique</th>
<th>Sensation</th>
<th>Images Rhythms</th>
<th>Images Mel/Pitch</th>
<th>Images Text</th>
<th>Images Express'n</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. S.</td>
<td>20%</td>
<td>60%</td>
<td>0%</td>
<td>100%</td>
<td>60%</td>
<td>60%</td>
<td>20%</td>
</tr>
<tr>
<td>Ungrd.</td>
<td>40%</td>
<td>100%</td>
<td>60%</td>
<td>80%</td>
<td>100%</td>
<td>40%</td>
<td>0%</td>
</tr>
<tr>
<td>Grad.</td>
<td>0%</td>
<td>60%</td>
<td>60%</td>
<td>60%</td>
<td>40%</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Prof.</td>
<td>40%</td>
<td>100%</td>
<td>100%</td>
<td>40%</td>
<td>80%</td>
<td>60%</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>25%</td>
<td>80%</td>
<td>55%</td>
<td>70%</td>
<td>70%</td>
<td>55%</td>
<td>20%</td>
</tr>
</tbody>
</table>

The percentages in TABLE 6 and any resulting conclusions were based upon the answers given by the singers in their respective interviews. The singers were asked to generally describe, "What do you do during your mental rehearsal?" Due to the interview structure, few specific imagery questions were asked. Therefore, the answers given were unsolicited and may or may not fully reflect all types of imagery utilized by the singers. The most popular images used during mental rehearsal, according to the percentages of the total group, were imaging technique, 80%, and imaging rhythms and melody/pitch, 70%. The least popular images used by the total group were memorization, 25%, and imaging expression, 20%. The groups that most frequently incorporated memorization in their mental practice routines were the undergraduate and professional singers. Among these two groups, 40% reported memorizing music during mental practice. A lesser number of high school singers, 20%,
reported memorizing during mental practice and no graduate singers reported memorizing. The frequently described imaging of technique was reported by 100% of the undergraduate and professional singers and 60% of the high school and graduate singers. The implementation of images of sensation increased according to increased level of singing experience. None of the high school singers imaged sensation while 60% of the undergraduate and graduate singers and 100% of the professional singers described doing so.

The imaging of rhythm decreased uniformly as level of singing experience increased. All of the high school singers imaged rhythm, as did 80% of the undergraduate singers, 60% of the graduate singers, and 40% of the professional singers. Images of melody/pitch were also commonly used by the singers. All of the undergraduate singers described imaging melody/pitch, followed by 80% of the professional singers, 60% of the high school singers, and 40% of the graduate singers. The imaging of the text was used quite consistently throughout all of the groups. The same percentage, 60%, of high school, graduate and professional singers reported imaging the text, whereas, 40% of undergraduate singers reported imaging the text. The imaging of expression occurred most frequently among the graduate singers. This image was not described by any of the undergraduate singers and by only 20% of the high school and professional singers.
To the present date, there has been but a minimal amount of speculation and research devoted to the use of mental imagery by the vocal musician. This study is an initial step toward a more thorough understanding of the thought processes utilized by the solo singer. A more thorough understanding and knowledge of such mental processes would be beneficial to singers and teachers of singing alike. By interviewing individual singers of differing levels of expertise, this study solicited basic information and impressions on mental imagery, particularly focusing upon pitch and vowel production.

Research from 1982 by Bugelski maintains that learning itself is a function of imagery and memory.\(^1\) During the process of learning, the image is influenced by internal interpretations and established relationships, as well as by perceived external relationships. In an earlier 1971 study by Paivio, after observing that high imagers were superior in their ability to learn incidentally, he concluded that imagery need not be conscious to be beneficial and to influence

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\(^1\) B. R. Bugelski, "Learning and imagery," *Journal of Mental Imagery*, vol. 6, no. 2 (Fall 1982): 5-11.
memory and learning.\textsuperscript{2} Pribram also generalized that "...there is ample evidence that when an organism perceives[,] he is forming an image, an internal representation of his environment."\textsuperscript{3} Additional research by Landauer in 1962 as well as Horning in 1982 further broaden understanding of the learning process. Their research studies established that an awareness of a sensory experience causes that image to be transferred from a subconscious to a conscious level known as short-term memory. The image can be retained and focused in short-term memory only through rehearsal, a continual internal repetition of the image. Thus, imagery has been shown to play a role in the learning process.

Mental imagery, being an internalized process is difficult to systematically research, for it is neither capable of being directly measured nor directly manifested in overt behavior. Therefore, this investigative study was conducted through a series of personal interviews and was dependent upon the observational technique of self-report.

\textbf{Conclusions}

The conclusions in this research study are based on a subjective analysis of the singer's responses to the interview questions. In the study, all observations by necessity have been made from the singer's


perspective, through the technique of self-report. The findings from this research were thus limited by each individual singer's ability and willingness to recognize and report on her or his personal thought processes and resulting behaviors. The research was also limited by the research method being used, a survey. While most of the questions were structured, the resulting answers, although qualitative and subjective, were only quantifiable for descriptive purposes. The interview questions were designed to provide specific answers to the research questions and to adjust for investigator bias. Because there was opportunity for investigator bias, measures were taken to discourage it. Due to the limitations of the selection of subjects, the findings are not generalizable beyond the scope of the population interviewed. The following is an evaluation of the findings of this study with respect to the research questions:

1. In what way(s) do the singers in this study report using a conscious thought process which incorporates mental imagery to conceptualize pitch and vowel?

a. The mental processes used by the singers were evaluated according to the Hierarchy of Singers' Mental Processes. The majority of the singers interviewed, 95%, employed the mental process of Abstract Application to produce pitch and vowel. The category of Abstract Application incorporates higher mental processes which include the ability to formulate mental images. The imagery reported by one graduate singer was evaluated as
being rudimentary, and thus did not utilize the higher cognitive processes indicative of Abstract Application.

b. All of the singers in this study acknowledged using mental imagery in the conceptualization of pitch and/or vowel.

c. The singers were evaluated as to their use of auditory, kinesthetic, viso-spatial, and sensory imagery. All of the singers described the implementation of kinesthetic imagery. The majority of the entire group described the implementation of sensory, 95%, and auditory, 90%, imagery. V iso-spatial imagery was implemented by 60% of the singers and showed a consistent pattern of usage corresponding with increased level of singing experience.

1.a. Do the singers report imaging pitch and vowel interactively or separately?

a. The overall percentage of singers who imaged pitch and vowel interactively was 85%, while 15% stated they image pitch and vowel separately. Among the four categories of singers, only one group, the high school singers, exclusively utilized interactive imagery. The remaining groups of undergraduate singers, graduate singers, and professional singers reported the same percentage differences between the two methods; 80% stated that they image pitch and vowel interactively and 20% described imaging pitch and vowel separately.
1.b. Which imagery perspective, external or internal, do the singers report using in the conceptualization of pitch and vowel?

a. The majority of singers, 85%, described imaging from an internal perspective, whereas, 15% described imaging from both an internal and external perspective. All of the high school and professional singers reported using internal imagery. Internal imagery was utilized by 80% of the undergraduate singers while the remaining 20% reported using a combination of internal and external imagery. A larger segment of the graduate singers, 40% described imaging from both an internal and external perspective, although the majority of the graduate singers, 60%, reported imaging from an internal perspective.

2. Do singers report using any alternative method or additional method other than mental imagery in the conceptualization of pitch and vowel?

a. Although all singers disclosed the use of mental imagery in the conceptualization of pitch and/or vowel, slightly less than half of the singers, 45%, also reported being able to sing a correct pitch and/or form a proper vowel using an alternative or additional method other than mental imagery. The groups who most frequently reported using an alternative or additional method were the graduate singers, 80%, and the undergraduate singers, 60%.
b. A small percentage of graduate and professional singers described the use of an alternative or additional method as a check for proper technique, as opposed to a method to produce pitch and vowel.

3. Are the imagery concepts described by singers incorporated in their practice routines as silent mental rehearsal?
   a. All of the singers, with one exception, revealed the use of mental rehearsal in their practice routines. In other words, 95% of all singers reported using mental rehearsal and 5% reported no use of mental rehearsal.
   b. The graduate singer who refrained from mental rehearsal consistently reported a mechanical approach to singing.

Discussion

Mental Processes Described By Singers

All deductions were categorized and defined using the illustrative behavioral terms and general instructional objectives comprising the Hierarchy of Singers' Mental Processes. This system of classification and evaluation was designed specifically for use in this study. As would be expected, the beginning singers, being in the initial stages of learning, most frequently implemented the more basic mental processes indicative of Assimilation. Although, surprisingly, 60% of the undergraduate and 80% of the graduate singers also described using these basic mental processes. The mental process of
Concrete Application was utilized by all the singers in the study, thus denoting that singers at various levels understood the principles of vocal technique that they had learned and were able to apply their knowledge to new and different situations. Abstract Application, a category that emphasizes mental imagery use and the formulation of new patterns or structures, was utilized by a majority, 95%, of the singers. This signified that imagery played a vital role in the thought processes of the singers, regardless of their experience level. The professional singers were the group that most widely utilized the higher cognitive processes of Analysis and Abstract Application. This indicated that singers at more advanced levels of expertise utilized more advanced mental processes.

Types of Mental Imagery Used By The Singers

The mental and physical processes involved in speaking and singing evolve in the same way. The interpretation and coordination of language and sound is synchronized by the central nervous system, the nerve cells and fibers of the brain and the spinal cord. "Messages from peripheral receptors are brought to the central system by sensory nerves."4 Any resulting instructions travel as impulses along the motor nerves to the muscles of the vocal organs, the tongue, the lips, and the vocal cords.5 This muscular movement effects pressure

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5 Ibid., 4.
changes in the surrounding air which are known as sound waves. Interestingly, activity can originate in the central nervous system, as intellectual activity, without the necessity of direct external stimulation. In the present context, such "intellectual activity," is important, because it reinforces the influence of mental imagery.

Through their descriptions, the singers in this study reinforced the existence of cognitive processes that incorporate mental imagery. In fact, all of the singers reported the use of some type of mental imagery in the conceptualization of pitch and/or vowel.

Mental imagery was classified into four categories: auditory, kinesthetic, sensory, and viso-spatial. Often these different types of imagery overlap and influence each other. For instance, Thomas Horning explained in his 1982 dissertation that sound is not heard but is initiated by sensation, then is mentally recreated. Using the process of internal hearing, or auditory imagery, an individual can consciously recall a musical image from long-term memory. The image is then channeled into sensory memory creating a response by the auditory nerve fibers. Also commenting on pitch and imagery in his 1987 publication, Johann Sundberg explained that because auditory feedback is a slow process, the singer must have a mental image and a muscular image of the target pitch prior to the initiation

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6 Ibid., 131.
7 Thomas Martin Horning, "The Development of A Model of the Psychological Processes which Translate Musical Stimuli Into Affective Experience" (Ph.D. diss., Case Western Reserve University, 1982), 170-171.
of that pitch. This also illustrates the significance of "muscle memory" or kinesthetic imagery for the singer.

Among the singers in this study, all reported using kinesthetic imagery. Descriptions of sensory imagery were also very common. All of the high school, graduate and professional singers used sensory imagery, as did the majority (80%) of the undergraduate singers. These findings indicate that the vast majority of the singers depended upon muscular and sensory feedback and images to guide their vocal production. This reinforces the findings of previous research. Surprisingly, a slightly smaller percentage of the singers, 100% of the high school and professional singers and 80% of the undergraduate and graduate singers, reported using auditory imagery. This indicates that auditory imagery was used less often than kinesthetic and sensory imagery. Although the beginning and professional singers implemented all three of the above types of imagery equally, a fourth type, viso-spatial imagery, showed a consistent pattern of increased usage corresponding with an increased level of singing experience. This pattern was not unexpected considering the abstract and advanced attributes inherent in viso-spatial imagery. It was the professional singers who most frequently implemented all four types of imagery despite recurrent statements explaining that many aspects of singing had become automatic. This conflicting information leads to the conclusion that the imagery used by the professional singers was an outgrowth of advanced mental processes. Also, professional singers

used images that had been developed through years of singing experience and had proved effective. Undergraduate singer #8 aptly explained this phenomenon in the statement "that after training for some years or after understanding what the sensation feels like it's no longer a thought process" (8:176-177). Understandably, the professional singers no longer plodded through the elemental steps of a thought process, but instead implemented images based upon positive past experiences.

Specific Images Reported By The Singers

The mental images utilized in the conceptualization of pitch and vowel were often unique to the individual. However, some commonalities appeared in the imagery described by the singers in this study. The most commonly reported images were: the auditory image of hearing pitches internally; the sensory image of feeling the sensation of pitch; the auditory image of hearing internally the specific pitch of a piece to be performed before singing; the sensory image of feeling vibrations or sensations in the nose or "mask" area of the face; the sensory image of feeling the vowel prior to singing; the viso-spatial or sensory image of directing the vowel forward; the kinesthetic image of a relaxed jaw; and, the kinesthetic image of a raised soft palate. While each group of singers implemented the above images at similar percentages, there were, however, two images between which there was significant variance. Those images were: 1) the auditory image of hearing pitch internally and 2) the sensory image of feeling the
sensation of pitch. All of the high school singers reported using both images. This interesting statistic may be due to the fact that these young singers were currently discovering the fundamentals of voice technique. Also, all the high school singers were influenced by their teachers who were either graduate students or young professionals who recently had received graduate degrees. Even though the other groups of singers reported higher percentages of members who imaged the sensation of pitch, over half of the undergraduate singers also described feeling the sensation of pitch. The auditory image of hearing pitch internally was applied by 60% of the graduate singers. This was the lowest reported percentage of singers who imaged pitch internally among the four groups.

The graduate singers reported conflicting information with regard to auditory and sensory imagery. Only 60% reported hearing pitch internally, although 80% revealed hearing pitch internally before singing. This discrepancy may be explained by the possibility that some of the graduate students may not have understood the questions with respect to imaging pitch internally or that the questions were worded in such a way that they did not solicit answers that specifically addressed rather pitch was imaged internally. It is also possible that more of the graduate singers consciously imaged pitch only in performance situations than consciously imaged pitch generally. While the entire group of graduate singers did not report imaging pitch internally, all of the graduate singers described feeling the sensation of pitch. It was interesting that among all of the singers interviewed, the
image of feeling the sensation of pitch was equally as important as the
image of hearing the pitch internally. The most popular images among
the total group of singers were the image of feeling the vowel prior to
singing and the image of a raised soft palate. The techniques of
proper vowel production and adequate soft palate space apparently
held greater significance for these singers than did internal pitch
imagery. It would be interesting to investigate whether this were also
true in a larger population of singers. The two groups whose members
all implemented the images of hearing the pitch internally and
hearing the pitch internally before singing were the high school
singers and the professional singers. The explanations of the
professional singers indicated that the application of such auditory
imagery was based upon positive imagery experiences. It would also
seem that the high school students fully utilized these auditory images
because they were either exceptional young singers or because they
used these auditory images as tools in developing the fundamentals of
their technique. The one image that was universally utilized by all
groups, except the professional singers, was the image of a raised soft
palate. This group of professional singers evidently found this
fundamental image to be too simplistic or to have less practical
applications than did the other singers. Although, the equally
fundamental image of a relaxed jaw was described by all of the
professional singers and by only 60% of the high school,
undergraduate, and graduate singers. It is possible that the
importance of a relaxed jaw was underestimated by the high school.
undergraduate, and graduate singers in this study. It is also possible
that all of the professional singers in this study were prone to jaw

tension.

While the image of directing a vowel forward was specified by
90% of the total group of singers, upon examination of its utilization by
the individual groups, it was the graduate and professional singers who
most frequently reported using this image. This indicates that the
image of directing a vowel forward is a more advanced image, the
importance of which was more apparent to the experienced singers in
this study. Also, the more individualized and atypical images used to
direct vowel placement were described by the graduate and
professional singers, and thus were seemingly developed through
familiarity, experience, and an understanding of the voice.

Another prevalent image was that of vowel formation. All of the
high school singers reported using an image to form and produce
vowels, whereas only 60% of the undergraduates and 80% of graduate
and professional singers described imaging vowel formation. This was
a baffling trend. Perhaps the high school singers were putting a new
concept into effect while the undergraduates were unaware of or found
little benefit from this imagery concept. The images of vowel
formation increased in complexity with increased level of singing
experience. In addition, the vowel formation images used by the
professional singers had very practical applications.

Descriptions of images used to achieve vowel modification were
relatively uncommon. Images of vowel modification were most
frequently reported by the undergraduate and graduate singers, 40%. None of the high school singers, and only a small percentage of the professional singers imaged vowel modification. Vowel modification is a concept that is stressed at the university level. This may explain the heightened awareness of vowel modification among the undergraduate and graduate singers in comparison to the other singers in the study.

Also, with few exceptions, the high school singers spoke as if they had not been introduced to more advanced technique and imagery concepts. The professional singers frequently commented that many concepts and images that were at one time part of a conscious thought process had now become automatic adjustments. Because the professional singers discussed various aspects of vowel production from a knowledgeable perspective, one can surmise that the thought or imagery process involved in vowel modification had become subconscious.

The process of internal hearing is essential to the musician. This process allows the musician to consciously recall a musical image from long-term memory which creates a response by auditory nerve fibers. This internal auditory concept is accompanied by the neurological sensations that are present during the actual singing of a particular pitch or pitches. A large percentage of the total group of singers in this study, 85%, reported hearing pitch internally. Although the majority of singers did affirm the use of this type of imagery, considering the inherent aural quality of music, it was anticipated that nearly all of the singers would disclose the use of
internal pitch imagery. Of those singers who reported hearing pitch internally, the majority described hearing their own voice. One singer explained the image as the sound of their own voice humming. Therefore, imaging the sound of one's own voice was useful and prevalent among the singers who utilized auditory imagery. Slightly less than half of the singers who reported internally imaging their own voice also revealed the ability to mentally recreate instrumentation and the accurate performances of other musicians, thus, reinforcing prior research that concluded that mental imagery is a learned skill which can be developed to accommodate more complex images. The small percentage of singers who did not report hearing their own voice during internal pitch imagery instead described hearing a piano, or more popularly, a sustained or unknown sound. It is interesting to note that not all of the singers interviewed imaged pitch as the sound of their own voice.

Regarding the 15% who did not report hearing pitch internally, many revealed a dependency on an instrument to receive or recall the particular pitch or pitches. Even though this process was not described as a conscious imagery concept, receiving a pitch from an instrument is conceptual in itself. Thomas Horning aptly theorized that "the psychological processing of musical stimuli begins at auditory sensation." According to his findings, Horning suggests that sound is not "heard" by the human ear but, instead, is initiated by sensations

9 Thomas Martin Horning, "The Development of A Model of the Psychological Processes which Translate Musical Stimuli Into Affective Experience" (Ph.D. diss., Case Western Reserve University, 1982), 84.
received in the ear, transmitted to the brain and then mentally
recreated. In a 1982 study of auditory imagery by Shephard, he
concluded that the musical listener hears a particular key within a
context that "induces an internal cognitive framework or hierarchy of
tonal functions." Thus, musicians mentally recreate sensations
received as sound, and are able to employ an internal cognitive
framework based on tonal function without the application of a
conscious imagery concept. It is possible that the 15\% of singers in
this study who did not report hearing pitch internally were employing
such an internal cognitive framework, or image, without being
conscious of the imagery process.

Pitch Imagery: Individual, Melodic or Harmonic

In a 1966 study to determine if a correlation existed between
intonation and scale direction, Madsen concluded that the neuro-
muscular reproduction of pitch is dependent upon physical factors
related to melodic direction. A correlation also exists between the
way in which a singer conceptualizes pitch, (whether as individual
pitches, melodically, or harmonically), and the neuro-muscular
reproduction of pitch. Therefore, the level of vocal technique
influences the singer's ability to image and physically reproduce pitch.

10 Roger N. Shepard, "Structural Representations of Music Pitch," _The
Psychology of Music_, ed. Diana Deutsch (New York: Academic Press,
1982), 381.
11 Clifford K. Madsen, "The Effect of Scale Direction on Pitch Acuity in
XIV, no. 4 (1966): 274.
With the exception of the professional singers, all of the singers in the present study disclosed that the type of pitch imagery they implemented was contingent upon familiarity with the music and the type of music being learned or performed. One undergraduate and one graduate singer, both of whom reported imaging pitch melodically, commented that when learning contemporary twentieth century repertoire they would image individual pitches. The professional singers did not differentiate between imaging pitch during the learning process verses when they were familiar with a piece of music. Instead, they developed a standardized approach to pitch imagery that was universally applicable to the various stages of learning and performing. Furthermore, the professionals developed their learning process to the point that it did not deviate greatly from their concept of proper performance technique. An interesting comment was made by a professional singer who, after becoming familiar with the music using melodic and harmonic pitch imagery, would mentally correct individual pitches. Not surprisingly, members from the groups of high school and undergraduate singers were the only singers who revealed imaging individual pitches. Imagery of individual pitches was most frequently used during the learning process, with the frequency of use decreasing as familiarity with the music increased.

The most prevalent form of pitch imagery was imaging pitch melodically. Almost as common was the use of a combination of melodic and harmonic aural images. These findings substantiate
previous research that consistently correlates auditory imagery with the ability to conceive of tonal patterns and relate them to a tonal structure.

Interactive or Separate Imagery of Pitch and Vowel

In singing, the vowel provides an avenue for continuous vocal sound, or pitch. It is known that pitch is dependent upon vowel production and vowels are dependent upon pitch frequency. One purpose of this study was to investigate if singers image pitch and vowel interactively or separately. Previous research has shown that interactive imagery is advantageous for later recall. Thus, it was not unexpected that the majority of the singers in this study, 85%, reported imaging pitch and vowel interactively. The encoding of pitch and vowel through interactive imagery creates fewer but larger memory traces and a higher level of organization in free recall. Interactive imagery is advantageous in binding items together in the memory. It was unforeseen that this imagery process, a process requiring that one image be studied in direct association with another image, would be implemented most often by the high school singers -- all of whom reported imaging pitch and vowel interactively. The remaining undergraduate, graduate, and professional singers reported the same percentage differences between the two methods; 80% stated that they imaged pitch and vowel interactively and 20% described imaging pitch and vowel separately. Among the small number of the singers who described imaging pitch and vowel
separately, the graduate and professional singers who utilized separate imagery also expressed the opinion that pitch and vowel do influence each other. This at least conveys an awareness among the "separatists" that interactive imagery can and does play some role in the conceptualization of pitch and vowel.

External and Internal Imagery

The singers in this study were also interviewed to determine the psychological perspective, whether external or internal, used to image pitch and vowel. The external perspective incorporates visual imagery placing the imager in the position of an observer. In comparison, the internal perspective utilizes kinesthetic imagery which allows the imager to review a task from the first-person perspective. Various research has provided results that indicate a correlation between external imagery and negative performance, and between internal imagery and positive performance. In a 1977 study by Maloney and Avenor, elite male gymnasts more frequently incorporated internal imagery in their rehearsals. Concurrently, external imagery lead to negative motor performance due to the absence of kinesthetic feedback. In 1980, Epstein, in an examination of the relationship between these two psychological perspectives and dart throwing, concluded that a negative connection exists between spontaneous external imagery and physical performance, while internal imagery

was favored by accomplished dart throwers. Based on such conclusions, it was logical to theorize that internal imagery would be applied by the accomplished, experienced singer. This hypothesis was supported by the results of this study.

All of the professional singers described imaging from an internal perspective. Thus, reinforcing the theory that internal imagery would be favored by the accomplished singers due to the correlation between internal imagery and positive performance. Unexpectedly, all of the high school singers also preferred imaging from an internal perspective. These young singers had been taught or had already discovered the benefits of internal imaging which utilizes kinesthetic feedback. Thus, a majority of the singers in this study, 85%, described imaging from an internal perspective. A small percentage of undergraduate singers and slightly less than half of the graduate singers revealed a combined use of external and internal imagery. These individual singers were also consistent in reporting the use of a mechanical approach to singing and a reliance upon external input from other individuals. These results indicated that an undeveloped sense of kinesthetic imagery on the part of the particular singers who incorporated external imagery techniques may lead to negative performance techniques. Interestingly, one graduate singer and one professional singer described imaging from an internal

perspective but also described "checking" various aspects of their technique by viewing themselves externally in a mirror.

Alternative or Additional Methods Used to Conceptualize Pitch and Vowel

All of the singers in this study disclosed the use of mental imagery in the conceptualization of pitch and/or vowel. Despite the universal utilization of mental imagery by these singers, slightly less than half of the total group of singers also reported using an alternative or additional method to sing a correct pitch and/or form a proper vowel. In his 1978 research on the mental image, Shepard labeled an abstract image that is not perceived by the imager as a "so-called 'imageless thought'." He concluded that the "imageless thought" represented one end of the continuum of perceptions that range from concrete and pictorial to abstract and conceptual. "And the thinking of those who claim to experience little imagery may simply tend to be less concretely imagistic." This well-researched rationale may apply to the singers in this study. The group of singers that most frequently reported using another method in addition to mental imagery was the graduate singers. A surprising majority of the graduate singers, 80%, related alternative methods, such as: the innate ability to sing correct pitches; forming vowels using the basic IPA rules; receiving the

15 Ibid., 130.
correct pitch from the accompaniment; forming vowels by looking into the mirror to shape the mouth; and, by creating physical adjustments during inhalation to set the soft palate in a raised position. These results indicated that either the graduate students were proving Paivio's observations that imagery need not be conscious to be beneficial and to influence memory and learning,16 or perhaps their approach to singing incorporated analytical and mechanical approaches. Considering that the curricula of many graduate singers includes vocal pedagogy courses and frequent critiques of other singers, it is plausible that these factors might influence their approach to singing. The same explanations could apply to the undergraduate singers, 60% of whom also reported using an alternative or additional method other than mental imagery. It must be assumed that the university curricula influenced the undergraduate and graduate singers when, in comparison, only a small percentage, 20%, of the high school and professional singers reported implementing an alternative or additional method. Furthermore, a professional singer and a graduate singer who reported using the mirror as a tool to check the mouth position for vowel placement, qualified that this method was used only as a means of checking technique as opposed to creating technique.

Mental Rehearsal

Studies have shown that mental imagery plays an integral role in mental rehearsal. Ryan and Simons, in 1982, investigated the mental imagery aspect of mental rehearsal through the execution of a simple balancing task. They concluded that vivid mental imagery facilitates enhanced performance. A similar conclusion was drawn by Williams who, in a 1969 study of the effectiveness of motor skill acquisition, determined that mental practice facilitates learning. Other studies have chosen a comparative approach to researching mental rehearsal. Also in 1969, Joseph Oxendine determined that a treatment that implemented mental and physical practice was as effective in learning a motor skill as was a treatment devoted entirely to physical practice. Upon conclusion of the study, the participants expressed the belief that mental rehearsal directly benefited their acquisition of the skill. More recently, Dennis Siebenaler compared the effectiveness of mental practice, physical practice, and a combination of mental and physical practice upon novice and graduate level pianists. While the graduate level pianists did not indicate any

significant difference between the effectiveness of the three procedures, the novice pianists ranked mental practice as being less effective than the other two procedures.

Although this study did not focus on effectiveness, the singers were surveyed as to whether they incorporated mental rehearsal into their practice routines. The vast majority of the singers reported using mental rehearsal. The singers frequently described their mental rehearsal as being very productive. Therefore, it may be assumed that the reason mental rehearsal was embraced by the majority of singers in this study, and with such enthusiasm, was due to the perceived benefits they received from this rehearsal technique. One singer did voice strong exception to mental rehearsal. This graduate singer objected to any form of mental rehearsal on the basis that the silent movement of the vocal cords without proper breath support is harmful to the vocal cords. The graduate singer also consistently described the use of rudimentary imagery techniques that did not incorporate advanced mental processes.

The types of imagery utilized during mental rehearsal varied with the individual and no significant patterns emerged. The most prevalent images reported were as follows: memorizes music, images technique, images sensations, images rhythm, images melody/pitch, images text, and images expression. All of these prevalent images can be analyzed as facilitators of learning and performance. Although a

20 Dennis Siebenaler, "The Effect Of Mental And Physical Practice On Musical Performance" (Ph.D. diss. abstract, University of Texas at Austin, 1989).
commonly reported image, less than half of the undergraduate and professional singers, 40%, incorporated memorization into their mental rehearsal. Only a small percentage of high school singers, 20%, and none of the graduate singers reported similar use of memorization. The majority of the total group of singers in this study did describe imaging technique during mental rehearsal. Thus signifying that the learning and performance of proper technique, an obviously important concept to these singers, was enhanced through mental rehearsal. The implementation of images of sensation increased according to increased level of singing experience, ranging from none of the high school singers, to 60% of the undergraduate and graduate singers, to 100% of the professional singers. These percentages were unexpected and did not corroborate the previous finding that 85% of the singers in this study imaged the sensation of the pitch when conceptualizing pitch. Obviously, even though a majority of singers imaged the sensation of the pitch while singing, only a little more than half of the total group, the majority of whom were professional singers, were able to transpose that technique into mental rehearsal. Conversely, the imaging of rhythm during mental rehearsal decreased uniformly as level of singing experience increased. Thus, indicating that rhythmic skills may require greater contemplation for younger, less experienced singers. Furthermore, based on the large percentage of young singers that reported imaging rhythm, these singers must have found mental rehearsal to be beneficial in reinforcing rhythmic skills.
An unexplainable pattern emerged with regard to imaging melody/pitch. All undergraduate singers reported imaging melody/pitch during mental rehearsal followed by decreasing percentages of the professional singers, the high school singers, and the graduate singers. The only conclusion that could be deduced was that the undergraduate singers were the only group that unanimously perceived mental rehearsal as an effective means of learning melody/pitch.

Nearly the same percentage of singers from each group indicated that they imaged text. Their imagery descriptions included "thinking through the meaning of the text then reacting to the text" and "reviewing the words." These results indicated that the singers in this study determined that mental imagery facilitates the learning and performance of the text, as well as the music. Only 20% of the entire group described imaging expression. Its use was most prevalent among the graduate singers. Most graduate singers in the study had presumably attained a level of technical proficiency that would allow them to concentrate on musical expression. Although the importance of musical and textual expression was generally stressed by the professional singers, only 20% reported imaging expression during mental rehearsal. Not surprisingly, the same percentage of high school singers reported imaging expression. The undergraduate singers did not describe imaging expression during mental rehearsal.

As previously stated, the types of mental imagery utilized during mental rehearsal varied with the individual. The following are
examples of additional images used by singers of differing levels during mental rehearsal: imaging breath support, imaging how to pronounce foreign languages, focusing the mind, imaging the sound of one's own voice, imaging difficult passages, imaging how to correct mistakes, imaging the pacing of the breath, and imaging physical relaxation. A pattern emerged during the analysis of these descriptions: the images used by the singers greatly increased in complexity, and reflected a broader perspective, as the level of singing experience increased.

Benjamin B. M. Yu, a distinguished pianist and teacher, advocates mental practice as a means of acquiring a deeper understanding of the music and proficiency on the instrument. His philosophy, based on years of personal performance and pedagogic observations, incorporates the belief that, "Mental study should always precede physical tackling. The time spent in the former paves the way for the latter."\textsuperscript{21} He professes that, "The ability to do mental study can be cultivated."\textsuperscript{22} Thus, he proposed an "order of study" for the pianist that highlights the importance of mental rehearsal:

\begin{itemize}
  \item (1) Mental study, analyzing the music off the piano; (2) practice on the piano with preconceived ideas and understanding of the music, and tackle the piece bit by bit, one mouthful at a time, overcoming technical difficulties, until it is completely memorized in the head as well as in the fingers; (3) play on the piano without music scores but concentrate on the musical effects; and (4) visualize and
\end{itemize}

\textsuperscript{22} Ibid., 13.
hear the music in the head off the piano and without music scores, and discover new ideas trying ever to improve upon the set interpretations.\textsuperscript{23}

The enthusiasm of the singers in this study for silent mental rehearsal merely reinforces the conclusions of other studies which determined that the use of mental imagery during rehearsal improves learning, as well as physical and mental performance.

**Recommendations**

This research study was a successful initial investigation into the utilization of mental imagery by the solo vocal musician as it pertains to the conceptualization of pitch and vowel. Despite the fact that a random sampling of singers was not possible, greater validity was nevertheless attempted by concealing the purpose of this research and by interviewing singers from diverse backgrounds who represented many different voice studios. It would have been beneficial to have had an even broader, more diverse base of singers to survey. Under those circumstances, it might have been possible to discover more specific trends in imagery use. The research design, a survey, administered as a personal interview, was beneficial, for it invited in depth responses from the interviewees. In addition, this format allowed for probing follow-up questions which often elicited additional imagery responses. There were limitations to the research design. All observations were

\textsuperscript{23} Ibid., 13.
made from the perspective of the individual solo singer. Similar in structure to previous studies on mental imagery, the results of this study were based upon the subjects' introspective evaluations of their mental imagery. Commenting on imagery studies that use introspective evaluations, Shepard concluded that "The results [of such studies] do not, however, tell us much about the nature of a mental image itself or about its relation to a perceptual image." The findings from this research are thus limited by each individual singer's ability and willingness to recognize and report on her or his personal thought processes and resulting behaviors.

In order to solicit objective responses from the singers, the topic of mental imagery was not overtly approached. Frequently, in casual discussions with the singers after completion of the interview, the actual purpose of the study would be disclosed. The mention of mental imagery very often would evoke a positive response from the singers. Many singers then gave detailed descriptions of additional images and gave their opinions as to the benefits of mental imagery. It is impossible to determine if the singers were genuine in their enthusiasm or if they were merely being agreeable. A future study that overtly addresses mental imagery might further clarify imagery use among singers and extract more explicit imagery responses.

Because the conclusions of this study resulted from a subjective synthesis of narrative responses, the conclusions may have been improved had they been reviewed by additional experts. Additional

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analyses, although equally subjective, might have offered different perspectives and discerned other imagery patterns. Another limitation to this study was the absence of uniformity in the vernacular of singers. Similar situations or images might be described in very different terms by different singers. This created problems when evaluating the interview material for the purpose of reporting any similarities or dissimilarities. In addition, the lack of uniformity in vernacular especially affected the younger singers who, at times, were confused by the vocabulary terms in the questions.

An understanding of the types and ways singers utilize mental imagery into their learning and performance would prove invaluable to voice teachers and choral directors. Such insights would enhance the teacher's ability to devise effective curricula and to establish an appropriate form of communication with the singer or singers. Music instruction that incorporated imagery vocabulary and techniques would result in more effective learning, memory retention, and positive performance techniques, as was concluded in previous research. For example, the use of fundamental techniques, such as Victor Fields' "Seven steps of mental discipline,"25 which include: 1) Create a tonal image or tonal pattern; 2) Visualize it in detail; 3) Discuss it and understand it; 4) Study a living model; 5) See yourself in the finished role; 6) Prepare a plan of study and action; and 7) Remove all obstacles by systematic practice, would benefit from a more thorough understanding of mental imagery. Descriptions of mental

imagery and explanations of mental imagery use, provided by research, would more vividly clarify instructions, such as "Create a tonal image" or "Visualize it."

Applications of the Study and Implications for Further Research

The results of the present study did concur with previous studies that determined mental imagery to be influential in both cognitive and physical operations. As reported by the singers in this study, mental imagery affects and reinforces the thought processes, physical performance, and mental rehearsal techniques that are essential to the production of pitch and vowel. The findings of the present research establish that mental imagery plays a role in the conceptualization of pitch and vowel by singers with differing levels of training.

Considering the current void of research in the area of mental imagery and the solo singer, additional research should be undertaken to better clarify how singers image pitch and mentally form vowel concepts. A future study similar to this research study would be instrumental in achieving that goal. It would be advantageous, in a future study, to randomly sample a larger population of singers in order to insure results that are quantitative and have statistical significance. A further refinement of the interview questions would also be beneficial. Based on the answers given in response to each question in this study, it would be possible to assess the most effective approach to use in questioning future interviewees. It would also be of
value to concentrate on only one type of imagery and its use in future research, i.e.: kinesthetic imagery, internal imagery, or auditory imagery. Furthermore, greater understanding of the specific imagery concepts used by singers would be invaluable in the communication and teaching of vocal techniques. Once mental imagery methods have been established, an experimental study investigating the implementation of specific imagery techniques is suggested. For instance, the proposed study could compare a group that receives vocal instruction in how to mentally image pitch in combination with vowel prior to singing, with a group which receives no such instruction. A test of vowel and pitch performance could then be administered to evaluate whether any significant differences exist between the two groups. A study of the effectiveness of mental rehearsal on the performance of vocal musicians, analogous in design to the studies undertaken for instrumentalists by Ross\textsuperscript{26}, Rosenthal, Wilson, Evans, and Greenwalt\textsuperscript{27}, and Siebenaler\textsuperscript{28}, would also significantly advance knowledge in this area.

\textsuperscript{28} Dennis Siebenaler, "The Effect Of Mental And Physical Practice On Musical Performance" (Ph.D. diss. abstract, University of Texas at Austin, 1989).
APPENDIX A

INTERVIEW SURVEY
I am currently interviewing different singers to learn more about the vocal concepts they use, and if the concepts are beneficial. These concepts may take many forms, such as, specific thoughts and images or physical adjustments.

Before you begin to sing, are you aware of your jaw position? What do you notice about your jaw position? Are you aware of your jaw during phonation (while singing)?

Does your jaw position influence your pitch? If yes, how does it influence your pitch? If no, is your jaw position of any importance to you?

Does your jaw position influence the quality of your vowels? If yes, describe how your jaw position relates to vowel quality.
Are you aware of any sensations connected with singing in tune? What, if any, sensory vibrations are beneficial? (What sensations are clues of proper intonation?) Are you aware of these sensations when practicing or when performing?

Do you hear internally (in your imagination) the pitches you intend to sing? Describe how you hear the pitches in your mind.

Do you depend on an instrument for your pitches? Describe how the instrument is beneficial to you.

Before singing, what do you do or think to insure that you will sing the correct pitch(es)? While singing, what do you do or think to insure that you will sing the correct pitch(es)?

Do you relate pitch to a physical sensation of high or low? If no, how do you recognize the relationship of one pitch to another as it relates to your voice? If yes, describe the images or sensations that help you determine pitch placement.

Do you image each pitch of a song individually or as it relates to a melodic or harmonic passage? Does your way of imaging or hearing a pitch change as you become more familiar with the song?
Do you think about the position of your soft palate while singing? If no, are you aware of any type of pharyngeal adjustments? If yes, what position are you trying to achieve and what thoughts or sensations help you to achieve that soft palate position?

Does your soft palate position influence your pitch? If yes, how do you insure the use of a soft palate position that will create a well-tuned pitch? If no, do you use any pharyngeal adjustment to create a well-tuned pitch?

Does your soft palate position influence the quality of your vowels? If no, how do you determine that you are singing a particular vowel sound? If yes, how does your soft palate position influence the quality of your vowels?

In your singing, do pitch and vowel influence each other? What concepts do you use to think of pitch in combination with vowel? What concepts do you use to think of pitch and vowel separately?

Do you have a method for forming vowels? What is your method? What, if any, concepts or images do you use with your method?

Do you think about directing the placement of a vowel? If no, then how do you insure proper vowel placement? If yes, what thoughts do you use to direct the placement of a vowel?
Before singing, do you consider how to direct your flow of air for phonation? During singing, are you aware of your air flow? What thoughts or physical adjustments help you to obtain a beneficial air flow?

Are your lip movements and positions important for good diction? Is your mouth position important for good diction? If not, what do you do or think to create good diction? What lip and mouth positions illicit good diction? What images or physical adjustments aid in achieving good diction?

During your private practice, do you ever practice silently? What do you do during your private practice? How do you practice silently? How have you found silent practice to be beneficial?
Interview #1: High School Singer
Age: 16
Years of Private Voice Study: 2 years
Current Level of Education: Sophomore
Name of Current Educational Institution: Poteet High School

1 Q: Before you begin to sing, are you aware at all of your jaw position?
2 A: No. I had a real problem with my jaw because every time I start to sing it just
tenses up on me and I try to keep it loose but --
3 Q: So you're aware of it while you're singing?
4 A: Yes. I'm aware of it while I'm singing.
5 Q: What do you notice about while you're singing?
6 A: It's not as loose as it should be. It's been getting better though.
7 Q: How can you tell it's not as loose as it should be?
8 A: It's hard to tell for me but it just, it doesn't sound as open when my jaw is not
loose.
9 Q: So you notice it by the sound of your voice?
10 A: Yes.
11 Q: Does your jaw position influence your pitch?
12 A: No, I don't think so.
13 Q: You said it influenced the sound of your voice, so you didn't mean pitch by that?
14 A: No, I didn't mean, it doesn't release it as well with my jaw.
15 Q: Okay. What role do you think your jaw plays? What importance is it to you?
16 A: It's very important to me. I mean, it's just, the way I'm sounding right now it
could sound a lot better if I could get my jaw to be loose, you know. I've been
working on it but it's just hard.
17 Q: Does your jaw position influence the quality of your vowels?
18 A: Yes. Most definitely.
19 Q: Can you describe how your jaw position relates to your vowels?
20 A: Well, like on the [o]'s and [a]'s, you know, you've got to open your, drop your jaw
real low, you know, and if you don't it doesn't sound good.
21 Q: Can you tell when it's released and when it's not? By either the way it feels or
some other way?
22 A: I can tell by the way it sounds. I can't tell by the way it feels because I really
don't notice it. I can tell by the way it sounds.
23 Q: Are you aware of any sensations connected with singing in tune?
24 A: No.
25 Q: So you don't. There's nothing that feels like a vibration or a way that your
muscles feel --
26 A: You mean like up here, like in your nose?
27 Q: It could be anything, --
28 A: Yes.
29 Q: So you can tell if you are singing in tune by some kind of sensory feeling in your
nose?
30 A: Okay, I see what you're saying. No, I don't have any sensory.
Sensory just means sensations. Do you notice any vibrations that are beneficial to you?

It seems like every time when I'm practicing, or when I'm with my voice teacher, when I get the vibration up here it always seems to make the sound better. And I don't know how I do that but --

So you're not sure if that's really connected in with the pitch but --

Yes. It's like getting over the high pitches is when, you know, it vibrates up here in the nose and it sounds good.

Do you notice it more in high pitches than low pitches?

Yes. I do.

Do you hear internally, that means in your imagination, the pitches that you intend to sing? It could be a song, it could be an exercise.

Yes. That's a hard question because sometimes I do and sometimes I don't. I mean, most of the time, yes, I can hear the pitch in my head before I sing it. But other times I can't.

Can you describe to me how you hear these pitches in your mind?

It's kind of like I'm humming in my head. No sound's coming out but I'm humming the pitches.

So you hear kind of your own voice as it hums?

Yes.

Do you ever depend on an instrument, such as the piano or something, for your pitch?

Yes, every now and then.

How is that beneficial for you?

It just gets me on the right pitch. Sometimes, especially if I'm singing a new song and I haven't been able to hear it as much, the piano gives me the pitch.

Before singing, what do you think to insure that you will sing the correct pitches or correct pitch?

Could you explain the question?

Sure I can. Before you sing, is there anything that you think to make sure that you are going to be singing the correct pitch or correct pitches in the next phrase?

You mean like thinking ahead?

Yes. Do you think a whole phrase ahead? Do you think the pitch ahead?

No, see, I have a real problem with that. I know I should but I don't, you know, because I'm -- Mainly when I sing I'm just worried about what's happening now, you know, because I try to think --

Well, do you think of one note then?

Yes. I think of one note at a time really.

Do you think that note before you sing it?

Yes. Directly before I sing it.

So it's kind of that little hum that you were talking about.

Yes.

After you've learned a piece and you know it real well, do you just automatically know the first pitch or the first couple of pitches without even having to go to the piano?

Yes.
Okay, how do you recall those?
I have no idea. I mean, it's just every time I start thinking of the song it'll start running through my head and then the right pitch just comes out, you know. It means, it's like "Joshua Fit de Battle." I could probably give you the right pitch right now.
So after practicing something it becomes --
Yes. It just gets in your head.
Very good. Do you relate pitch -- This is an odd question, I might have to repeat this. Do you relate pitch to a physical sensation of being high or low? When you think of a pitch do you give it a physical feeling like this is a high pitch, this is a low pitch?
Yes.
Describe any images or sensations that you have that help you determine where to place the pitch? High, low, middle?
Well, the high pitch I always have, sometimes I'll end up having to strain with my voice and that's not good.
So you get this physical feeling --
Yes. It's like I'm pushing it out and it's not really sounding that great. Low pitches are -- I don't know how I could describe low pitches.
Do they have a different feel to them?
Not, it's not much of a different feel. It's just the way, I think it's the way my jaw reacts to the low pitch because it tends to, like on the high pitches, it tends to tense up, my jaw does. On the low pitches it doesn't tense up as much.
How can you tell it's tension?
It sounds better. It sounds a lot better. Just the middle pitch, whatever, it's just real easy for me to sing.
Do you imagine each pitch of a song individually or do you think of it as it relates to the melody or as it relates to the harmony in the accompaniment? You want that again?
Yes, please.
When you think of the pitches that you are going to sing, do you think of each one individually or do you think of how your pitch or pitches fit into the melody that you're going to be singing or do you think of how they fit with the harmony that you're hearing with the piano or whatever accompaniment. Does that make more sense?
Yes. That makes sense. Most of the time, you see, being a bass it's hard because usually you don't get that many melody parts. That's always the soprano. I always try to --
Well, you can think of it as your part. Whatever your part is.
Yes. I always try to put it with the melody, you know like my pitch, is that what you're talking about, right?
You think of your pitch as how it relates to the other pitches in the line that you're singing?
Yes.
Q: You don’t think of it in terms of the harmony at all? Maybe how your part fits in
with other parts of the choir or how your voice part fits with the piano, if you’re a
soloist?
A: I don’t think I understand the question.
Q: When you think of your melody line, even if it’s the harmony line, such as the bass
line in choir, do you just think of your line like you were talking about, or do you
also think about how the bass line fits in with the other three parts in the choir
and you hear it all together as one?
A: Okay, I see.
Q: So you don’t ever think of the notes as just individual pitches?
A: No. Well, I do sometimes but, it depends. I really don’t know what it depends on
but it’s like sometimes I’ll just go note, note, note and other times I’ll do it with
the harmony and try to think of what the other choir is singing.
Q: Does it change with how well you know the song?
A: Yes. That’s what it is. I couldn’t think of it. When I’m just learning a song I go
pitch by pitch. But after I’ve learned it I try to get to know it with the other parts
or with the piano part.
Q: Very good. Do you think about the position of your soft palate while singing?
A: Soft palate?
Q: Where you yawn.
A: Not really.
Q: Do you think of that as being up and yawny or down, or do you just not think of it
at all?
A: I try to keep it up. I really don’t think of it at all but, you know, if it ever crosses
my mind it’s gotta be up because it helps me get over the tall notes.
Q: What are you trying to achieve with the position being up, what do you do or
think of to make it be up?
A: I raise my eyebrows.
Q: You raise your eyebrows?
A: I don’t know what that does. It makes it a lot easier. It makes me look like a
clown but, you know, it makes it a lot easier to hit the pitch.
Q: Does your soft palate position influence your pitch? You just mentioned that.
A: Yes. I mean, because, again, that has to do with the jaw. If it’s open, you know,
like your yawning, when you yawn your jaw is down as far as it can go and so the
further down it is the better it’s going to sound.
Q: Does your soft palate position influence the quality of your vowels that you sing?
A: Yes.
Q: Can you tell me how it does?
A: Yes. It’s just like I was saying before. If you’re — I’ve always been taught that
you can feel your jaw, like when you yawn, and there’s a click in it like when it
opens. When it’s open all the way, you feel this click and right up here where the
jaw bones connect, right. I’ve always been taught that it’s best to try to, when
you're doing your [a]'s and your [o]'s and stuff like that to get all the way to that

Q: Now, how does that have something to do with soft palate?
A: Isn't that what this is right here?
Q: Your soft palate is -- Do you know where your hard palate is? The roof of your
mouth --
A: I have no idea.
Q: Where your teeth are attached, right here?
A: Okay.
Q: If you put your tongue straight back you can feel that that bone stops, the roof of
your mouth stops. And you have just skin and muscle behind there, feel that?
That's your soft palate and when you yawn, that goes up.
A: Okay, I know what you're talking about.
Q: Can you do a fake yawn? Like that.
A: Okay. I see what you're talking about. I thought you were talking about
something else.
Q: Okay. Well, then I'll ask you again. Those two didn't count. Do you ever think
about that?
A: No never.
Q: Back there? Okay, that is your soft palate. Some people call it yawning. But you
do think of a yawn feeling by raising your eyebrows?
A: Yes.
Q: Okay, so you have thought of it you just didn't have a name for it. When you are
trying to sing a correct vowel, does that same idea help?
A: Yes.
Q: Of raising your eyebrows?
A: Yes.
Q: Can you tell me how that helps you to sing a correct vowel?
A: How it physically works, you mean?
Q: Well, what do you notice that is better about your vowel when you do raise your
eyebrows?
A: It's forward. Because if I don't raise my eyebrows it sounds like it's being trapped
back in the back of my throat. Every time I raise my eyebrows it just comes out.
Q: Okay. So raising your eyebrows to get that yawning feeling and then things seem
more forward. That's like three steps, one, two -- When you're singing, do you
notice that the pitch that you sing influences how you have to sing the vowels or
the way that you're singing the vowel influences the quality of your pitch?
A: The way that I'm singing my vowel influences the quality of my pitch because if
you sing your vowel and if you sing it poorly it always tends to -- It does something
with your brain, I mean, it makes you think like "yuck" and when you do that it
messes your whole pitch up and it doesn't sound good at all.
Q: You notice that the pitch influences the vowel, too? If you sing in a high pitch
you'd sing it differently than low or --
A: Yes. It's like if you sing A¹, like I know the soprano's do this. They get up in the
real high pitches they can sing [a] and it will sound like any vowel. That stunned
me the first time I heard that.
Q: What about you personally?
A: Personally, I've never done that. No.
Q: You've never been a soprano?
A: Yes -- I really don't notice it that much. In fact, I don't.
Q: That's fine. Is there anything that you think of to make sure that when you think
pitch and vowel together that it comes out with a good vowel and on pitch?
A: Raising my eyebrows. That always, any time you talk about vowels, I'll just have
to tell you, "raising my eyebrows" because that really helps me a lot.
Q: So it's a physical adjustment, it's not really a mental thought?
A: No, it's not really a mental thought.
Q: Do you have any method for forming your vowels?
A: What do you mean by forming your vowels?
Q: If you are going to sing an [e], do you do something special to create that [e]? Do
you think or do something special? When you're going to sing an [a], do you do
something differently or think something different to sing that [a]?
A: I don't really think about forming vowels.
Q: Do you think the sound of the vowels?
A: Yes. I always think the sound of the vowels, singing the vowels.
Q: When you think that do you think of how you say it? Speaking it?
A: I can't. I try not to think of how I speak it when I sing, how I speak anything
when I sing, because speaking and singing are very different. Speaking, you know,
it's just you're talking, but singing's got to be more dramatic, I guess. It's kind of
dull when you're just talking and then when you sing you're got to get the right
pitches and the right vowels and you've got to make it sound good. When you
talk nobody's worried about making anything sound good.
Q: You may have already answered this actually, but do you think about directing the
placement of your vowels? You mentioned forward before, that's a placement of
a vowel. Do you think about directing it in any way?
A: No. I really don't. I probably should, but it just -- The only thing I really think
about is, again, I raise my eyebrows. Every time I get ready to sing the eyebrows
push up.
Q: So that's what you do to insure that you're going to sing the right vowel?
A: Yes.
Q: Before you sing, do you consider how you're going to direct your flow of air to
make it easiest to sing?
A: What do you mean, just like, where's --
Q: Do you think of directing your air in any way? Before your singing, do you take a
breath and go, "Okay, I'm going to give my air a lot of energy and it's going to go
this way?" Or, do you think of your air going down your throat? Or, do you give
it any direction?
A: Well, I always try to get it to go forward, you know, to push it out. But somehow,
I don't know, maybe it's because I don't raise my eyebrows when I need to, it
always seems to back up on me and get stuck in my throat.
Q: Your air does?
A: Yes, my air does.
Q: While you're singing, are you aware at all of how your air is moving?
Yes, because if the air is going forward it sounds really good but if it's clogged up it gives a poor quality to the sound of what I'm singing. So yes, I am aware of where my air is.

A: Yes, because if the air is going forward it sounds really good but if it's clogged up it gives a poor quality to the sound of what I'm singing. So yes, I am aware of where my air is.

Q: Good. Now what thoughts or physical adjustments help you obtain the forward air flow that you were talking about?

A: I raise my eyebrows.

Q: Raising your eyebrows helps bring it forward?

A: I think it's just like a mental thing. Every time I raise my eyebrows something happens, you know, it's not more -- Maybe it's just when I start thinking about it, it just comes out. I always raise my eyebrows, I try to always raise my eyebrows while I'm singing just the whole time because it makes the vowel sound better and it helps me get the air going forward and --

Q: What sensation do you have when you raise your eyebrows?

A: I don't know.

Q: Obviously all these things are happening. When you raise your eyebrows, what thoughts cross you mind?

A: The thought that crosses my mind it depends on like, what I'm doing wrong, what I'm trying to fix. Like if the air wasn't coming out and it if was backed up I'd be thinking "push the air out," you know, "push the air out." Or if my vowel wasn't round enough I'd be thinking, "round off the [o]." So maybe it is mental.

Q: Okay, so it depends on what you're hearing?

A: Yes.

Q: Does it depend on what you're feeling? The sensations you have?

A: Not really.

Q: Are your lip movements and mouth positions important for good diction?

A: Yes.

Q: Think about lip movements first. Is that important for good diction?

A: Yes. I mean, really anything that has to do with the mouth is good -- is important for diction.

Q: What lip and mouth positions do you find to be most helpful for good diction?

A: I'm trying to understand what you're saying here.

Q: Just think when you know that you're singing well and diction is going along very well, you're easy to understand. What lip positions are you using at that time?

A: Depends on what word I'm singing. Like if I was saying "Lord," it's more of the tongue that's doing that, but if I have to say "before," you got the "B" --

Q: I guess what I'm saying when you would sing "before" would there be some certain way that you would use your lips on the "B" to make it sound better? There are about twenty different ways to saying a "B", you know what I mean?

A: Yes. I don't really think about my diction that much. You know, it always just seems to come out right. My diction does. I think --
Q: Do you think about your tongue? What your tongue should be doing?
A: No.
Q: Now when you're practicing privately all on your own, do you every practice silently?
A: Yes, I practice silently a lot.
Q: What do you do during your private silent practicing?
A: Sometimes I'll just get a song that I'll sing and, you know, like -- It'll just get in my head and I'll run over it in my head and I'll just think of all the mistakes I made when I was with my voice teacher. And I'll think, "Well, how can I correct those mistakes?" And I really won't correct them then, I'll just think of how to make those mistakes --
Q: What are some of the solutions you come up with?
A: Well, most of my problems are with the vowels, rounding the vowels off and, because on [o]'s I like to think [u]. You know, I don't sing [o]. I don't sing it rounded as much. What I do then is I round my lips.
Q: A lip position.
A: A lip position, yes. I don't think about it though. And on my breath control, I have poor breath control and I try to think of places to put my breath where I can --
Q: Do you also think about how you want to breathe in terms of what your body is going to do or just where you want to breathe in the music?
A: Most of the time when I'm going over it I just think of where I need to breathe in the music. In fact, I hardly ever think of how I breathe.
Q: Are there any other things that you think of silently in terms of voice technique?
A: No, not really.
Q: Anything else with the music?
A: Try to remember the words. That's about it.
Q: So you can do that silently too?
A: Yes.
Q: Good. Do you ever think of the rhythms and the melody silently?
A: Oh yes, all the time.
Q: So that's a way of doing silent practice for you?
A: Yes.
Interview #2: High School Singer

Age: 15 1/2
Years of Private Voice Study: 3 years
Current Level of Education: Sophomore
Name of Current Educational Institution: North Mesquite High School

Q: Before you begin to sing, are you aware of your jaw position?
A: No. I've never thought of it like that.
Q: Are you aware of your jaw at all while you're singing?
A: Yes, because when I start singing I have to loosen it up or my vowels and everything will be tight.
Q: But you don't notice that before you sing?
A: No.
Q: Can you tell me what you notice about your jaw? How can you tell if it's tight or not while you're singing?
A: When the vowel sounds come out like real shiny, real childish kind of sounds, then I can kind of loosen it up to make it sound better.
Q: So you do it by the sound? You know what your jaw is doing by the sound that you're hearing?
A: Yes.
Q: Does your jaw position influence your pitch?
A: It might, I don't know.
Q: Have you ever noticed a connection between what your jaw is doing and the pitch that you're singing if it makes it sharp or flat?
A: No.
Q: Well, then is your jaw position of any importance in your singing?
A: I would think so, because it's better to have a loose jaw than a tight jaw.
Q: Do you notice that in yourself, though?
A: Well, sometimes. Sometimes I do, then sometimes I don't. Depends on what I'm singing actually.
Q: When do you notice that your jaw is loose?
A: Well, when after my teacher says it's tight, then I try to loosen it up and then it sort of feels better.
Q: How can you tell if it's -- Oh, it feels better?
A: Yes.
Q: What do you feel differently?
A: Well, it just feels like it's clinging, like my jaw is just clinging and it doesn't want to loosen up so I just sort of just relax.
Q: What do you do to make it relax or what do you think to make it relax?
A: Just think relax, release, relax, release.
Q: So you just release your muscles?
A: Yes.
Q: Does your jaw position influence the quality of the vowels that you sing?
A: Yes.
Q: Can you describe to me how?
A: Well, okay, when you're singing and you have a tight jaw, it sort of spreads and it doesn't have the same kind of quality as when your jaw is loose and you loosen up -- your vowels sound better. They're not so spread. See what I'm trying to say?

Q: Do you notice the vowels by what you're hearing or what you're feeling or what you're thinking? How do you notice what the vowels are doing?

A: Half the time I can't really hear myself but I can sort of feel where my jaw is getting tight. Then I sort of think, you know, loosen up and have better vowels but try not to have spread vowels.

Q: Are you aware of any sensations that have to do with singing in tune? Any sensations that help you to sing in tune?

A: Basically I just go by ear half of the time but -- I don't know.

Q: You don't feel anything when you're singing in tune? Are there any sensations that you notice?

A: Yes. I could feel like in the back of my throat I can feel how when I'm in tune it's arched. And when I'm doing everything right then it seems to be in tune better when I'm arching the back of my throat and thinking spacious.

Q: So you think about space and that helps?

A: Yes.

Q: Are you aware of it before you sing, do you think about it before you sing or are you aware of it while you're singing?

A: While, because usually when I start singing I just start and then after a while I realize what I'm doing and then I start thinking about all the mental things, usually.

Q: Do you hear in your imagination, the pitches you intend to sing?

A: Yes, because the way I was taught is that you're supposed to hear the pitch then think about it before you actually sing it. That way you're more likely to hit it right on the nose.

Q: Describe how you hear those pitches in your mind.

A: Well, the pitch is played and then I sort of think of it and think how high it might be and think of space and everything and then I sing it.

Q: So you're saying after you hear the pitch on an instrument? You said the pitch is played, do you ever just hear it in your own mind?

A: No, because when I hear it in my mind it might be wrong and half of the time I can't trust my judgment because I'm either going sharp or flat or something. So, I try not to hear the pitch and then sing it.

Q: So after you have that first pitch then you hear it in your mind and you think about what adjustments you need?

A: How high it is and how spacious it should be for me to sing it and to make it sound good.

Q: Do you depend on an instrument for all your pitches?

A: Yes, I think so because half of the time I'm going sharp or something because sometimes when I sing I overpower my singing and so it'll either go sharp or flat. So, I try not to listen to myself half of the time.

Q: Before singing, what do you think or do to insure that you are going to sing the correct pitch or the correct pitches?

A: Think that I listen to the pitch and I don't know how to answer this one.
Q: So you listen to it from some instrument and then do you hear something in your
own mind?
A: Yes.
Q: What do you hear?
A: Like how I would sing it, if it was the right pitch, how I would sing it and that's
basically it. I'll hum it and think of how high it might be and hum it to make sure
I have the right pitch.
Q: When you hear it in your mind, do you hear your own voice?
A: Sometimes. Well, yes I do because I hum it and then I feel my pitch in my head
when I'm humming it.
Q: Do you relate pitch to a physical sensation of high or low?
A: Well, I don't know. I never thought of it like that.
Q: When you think of a high pitch, do you think of your body being in kind of a high
position? When you think of a low pitch does your body feel --
A: I never thought of it like that.
Q: Then how do you recognize the relationship of one pitch to another as it relates
to your voice? How do you recognize that there is a high pitch that you're singing
or a medium or a low in terms of your own voice?
A: If it's high then if I can sing it then it's -- I don't know. If it's high and I sing it
and if it sounds high then I think of it as a high pitch --
Q: So you do it by sound?
A: Yes. And then if it's too high and I know I can't sing it then I really know it's
high. I just usually go by sound -- how it sounds.
Q: Do you imagine each pitch of a song individually or do you think of it as how it
relates to the melody or how it relates to the harmonies in the accompaniment?
A: Usually I relate it to the harmony or as phrases because of the way I was taught
to phrase the songs, not think of the notes as individual notes. That way it sounds
caressed, I guess.
Q: Caressed?
A: Yes. Just smoother than choppy.
Q: When you think of your melody, then do you think of the whole thing or you think
of each little pitch?
A: I think of it as the whole thing like each phrase.
Q: Does the way that you image or hear the pitches of your melody change as you
become more familiar with the song?
A: No, but sometimes when we're singing it, it sort of changes and you get off but --
Q: How about when you're singing a solo?
A: Well, when I'm singing a solo it doesn't change but sometimes I do get off. When
I'm really into it thick and I'm doing it right and then I can tell when I get off.
Because I know the piece so well that I can tell when I'm going sharp or flat or
something.
Q: After you've worked on a song for a while, are you able to just hear or sing the
first pitch without having to go to an instrument?
A: Yes, but usually when I just start singing a song it usually has accompaniment or
something. I'll like relate that to the way the song starts or whatever and sort of
relate it to how, what my first pitch is and that's usually right. Sometimes it's not
but that's usually how I get my first pitch. I sort of relate it to the song somehow, the accompaniment. It's sort of weird.

Q: Do you have any sensations that you notice that help you know if you're singing a pitch in the higher, the middle or the lower part of your voice? Are there different feelings for that?

A: Yes, because it seems like when I'm singing a higher note it takes more air. And after I sing that higher note I feel dizzy because all the air, you know. The higher up it is then the more air I put out and the lower notes seem like it's just regular -- Just regular. It doesn't feel any different from the way I talk or something. But then when I sing a higher note it feels higher and then when I stop singing it, I can still feel it where I've had to put that extra area.

Q: Do you think about the position of your soft palate while you're singing?

A: Yes, because the way I see it is that when I sing it should be always arched the way it feels when I yawn. That's how I relate that.

Q: What position, I think you just answered this -- you're trying to achieve an arched position. What thoughts or sensations help you to achieve that arched soft palate position?

A: By yawning and by thinking of yawning or something.

Q: Do you think of yawning before you sing or throughout your songs?

A: Throughout my song.

Q: Do you notice that you're thinking it on the first beat of each phrase, the first note of each phrase or do you think it throughout the phrase?

A: I try to think it throughout the phrase but sometimes my mind wanders.

Q: Does your soft palate position influence your pitch?

A: I think it does because sometimes when I'm singing it sounds sort of heavy. And sometimes if you make it too heavy then it'll go flat, but if it's sort of light and your soft palate is arched then it'll, the pitch, won't be as heavy.

Q: What do you do to insure that your soft palate's in this position or what do you think so your soft palate is in this position so that you'll have a proper pitch?

A: Sometimes I feel like I'm getting ready to yawn and then I start singing more. I'll think sort of high and so I guess it's like a high note or something. It just depends on probably what the note is of how I relate it to the way my soft palate is.

Q: So you think of your soft palate differently depending on what range you're singing?

A: Yes. It should be high at all times but I don't know if I actually think of it as a high at all times -- depending on the note. But I know it should be up and arched at all times. I think I probably relate it to if it's low, medium or a high range probably.

Q: How does it change then?

A: The problem is it changes like, for a low range or something it, to me I guess, it will be arched but not arched all the way to where it is like a high range. The same thing for a medium but then for a high range it will be arched to the most maximum that it could possibly be arched.

Q: That makes good sense. Does your soft palate position influence the quality of your vowels?

A: I think so. That in the way you actually sound because sometimes the way people
talk and the way people sing are the same thing and the vowels just sound "blah."

But if, I guess for me the way I talk is totally different from the way I sing and I
try to emphasize vowels and consonants and stuff like that.

Q: Is your soft palate a part of that?
A: I don't know.
Q: So you don't really think about soft palate with vowels, just more pitch?
A: Yes.
Q: In your singing, do you think that pitches and vowels influence each other? This
is just you personally.
A: Probably. I don't know. I think it probably does because you have to, to get the
pitch right, you have to think high. And also to help the pitch you have to think
of open mouth space and everything to get it right. And then for saying the
vowels and stuff you have to do the same. Think of not stretched that way [wide]
but up and down and I think --
Q: Do you think of the pitch and the vowel together or do you think of them
separately?
A: Well, actually when I'm singing I don't think of the pitch and the vowel together.
Q: You think of them separately?
A: Yes.
Q: What concepts do you use to think them separately?
A: For the pitch I'm thinking of how high the pitch is or how low the pitch is and
how I want it to sound. And for the vowel, I don't want them to sound spread
and sort of childish. When I sing them I make them sound good and it just sort of
blends in with the pitch I guess. I don't know.
Q: Do you have any method for forming your vowels?
A: Yes. I guess just the way I shape my mouth.
Q: The way you shape your mouth influences your vowel you're saying?
A: Yes.
Q: Can you tell me what you think of with your mouth?
A: Well, I guess it depends on the vowel. But if I want it to be real, real noticed I'll
do something different from if it's -- I don't know how to explain it. It's sort of
weird because I probably do. I don't know how to explain it.
Q: That's okay. Singing is hard to explain so just try.
A: I guess just, I don't know how to explain it.
Q: When you're thinking an [a] do you do something or do you think something and
what do you do or think?
A: I try to think of it as not just a regular [a]. I think of it as being sort of rich in a
way but not being rich to the point where I blow everybody else away. I try to
think of it as --
Q: Think of yourself as soloist.
A: Yes, but not to the point where I'm just the only person there because, I think of
it as trying to get the point across but not to the point where I overdo it
completely. I think of it as how I shape my mouth and actually what the word is
and how, if it's just "can" or something and it's the main word in that phrase then
I try to make it seem like, "I 'can' do it." But if it's like one little word that builds
up to another word then I try to ease up and then --
Q: So you're talking about how you emphasize different meanings and different words?
A: Sort of.
Q: Do you think of the vowels in each word, is that what you're saying?
A: I try to. It's just sort of hard to explain.
Q: When you think of the vowels you're thinking of the sound of the vowels or what they should sound like or what they feel like or what they --
A: Yes. What they sound like and how I should position my mouth or whatever to make them sound right.
Q: Do you think about directing the placement of your vowels to a certain place in your face, or away from you, or down your throat, or whatever? Do you feel like you direct your vowels in any way?
A: I don't know. I haven't thought of it like that.
Q: Before singing, do you consider how to direct your air flow so that you can sing?
A: I try to think of taking good breaths and breathing low. And take good, full breaths so that the sound comes out better. It just seems like when I take little itsy bitsy breaths I run out of air on a longer note and then it just sounds pitiful.
Q: During singing are you aware of a feeling or sensation of your air moving in any way?
A: Yes, because when I sing and I'm breathing correctly it just seems so much easier from when I'm singing and I'm out of breath or having a slight asthma attack or something. And it doesn't feel right and it seems like I'm breathing so much harder. Then it doesn't sound right and then the quality of the sound doesn't sound right at all.
Q: I guess what I'm asking though is not necessarily taking in breath, but when you let the breath out for singing in order to get a sound, do you notice anything? Do you ever think about that?
A: Yes, because I think that when I'm singing and I'm breathing correctly and it comes out, the sound comes out good just because I'm breathing full. And I'm letting out full enough where it feels comfortable and you can feel it --
Q: So you feel a fullness in terms of the air?
A: Yes. When I'm breathing correctly.
Q: So you can tell by a sensation whether your air is moving correctly or not?
A: Yes.
Q: Are your lip movements and positions important for good diction?
A: Yes.
Q: What lip movements do you use?
A: That's an interesting question. I think -- I don't know. It's just, for me it's just sort of, I try to make it work. I don't know how to answer this one.
Q: Do you notice that your lips, for instance, may be different in singing the way you would say a certain word than speaking?
A: Yes.
Q: What would the difference be for singing?
A: Like for now, I'm just talking normal like I would talk to a friend. But then when I'm singing a piece out I emphasize different words like consonants and stuff. My mouth seems to be more up and down instead of wide. And the way I and most
teenagers talk, it's like wide and it's not good diction the way teenagers today talk.

Q: Do you notice a mouth position difference?
A: Yes.
Q: You feel an up and down?
A: I try to.
Q: Do you think about the position that you want before you sing?
A: I try to. It depends on the words and, like, if this starts with a vowel or starts with a consonant or something. I try to mouth the words the way I would sing it.
Q: You try to mouth it?
A: Yes.
Q: You mean in practice or you think about how you would mouth it? Do you physically do it or do you think it?
A: Sometimes I physically do it if I like the piece and I'm really in to it, but then sometimes I just think open vowels and tall consonants.
Q: Does your tongue position have anything to do with good diction? Or do you ever think or do something with your tongue?
A: I try not to think of my tongue being real heavy and that tends to make the consonants and the vowels come out better.
Q: During your private practice, do you ever practice silently?
A: Yes. When I'm at home sometimes I practice silently. I guess if I don't have any music or accompaniment on a tape or anything, then I practice silently. But then if I have a tape or something then I'll practice with the tape and practice with the accompaniment on the tape. And it's like I sing the song to see if I'm getting it down.
Q: Now when you're practicing silently, what do you do during that time and does it help you?
A: Usually when I'm practicing silently, I practice how the rhythm goes or the words or--
Q: So you just think the rhythms and think the--
A: I sort of clap them out sometimes and then sometimes I think of it. I think of how many beats or anything before I come in, things like that.
Q: Do you think about the pitches or how you want to shape your mouth or anything like that?
A: I think of how I'm going to sing the words but as far as pitches, I don't really try to do those unless I have something to go by. Because I think of it as, if I practice the pitches or anything and then I sing and got the pitch that I had that I'm pat and everything. And then go and have a totally different pitch, the right pitch, and it would be totally different then I'm just wasting my time. So, I try not to find a pitch of my own.
Q: How often do you practice silently?
A: Usually every day unless I have something else that's more important.
Q: You always, in your practicing sit down and make no noise and go through something in your mind?
A: Well, let me think. Okay, sometimes I'll be doing something else and I'll go over my music silently but like something else will be going on inside, I might be saying
something. But sometimes I'll do it silently and then I'll stop and talk some out and stuff like that. It depends on my mood or whatever, or what I'm doing.
Interview #3: High School Singer

Age: 14
Years of Private Voice Study: 8 months
Current Level of Education: Freshman
Name of Current Educational Institution: North Mesquite High School

Q: Before you begin to sing, are you aware of your jaw position?
A: Truthfully, no. Not really.

Q: Are you aware of your jaw position while you are singing?
A: While I’m singing, yes, I’d say. I think about that more when I get into it.

Q: What do you notice about it while you are singing?
A: Mainly it kind of, whichever vowel sound I’d like to make. It moves the best up and down, I suppose.

Q: So you notice that it changes with the vowels?
A: Yes, and vibrations.

Q: How does your jaw position influence the quality of your vowels?
A: I’d say they make it sound – It comes out as a richer sound, the tone quality increases more. It’s more of how you shape your vowels, I suppose. I’m not really sure.

Q: So the tone quality varies with your jaw?
A: I’m not sure really.

Q: I only asked that because you said that you thought that your jaw position influenced your vowels.
A: To me it seems like it does. Because whenever I’m singing, if I’m going to go [o] my jaw comes downwards and that allows my mouth to become wider to get more air flowing through, in that way.

Q: What do you do or think to achieve that jaw position for your better vowels?
A: I really try to open my mouth as wide as I can and have it expand.

Q: You think about that while you’re singing or before or both?
A: I’d say both because I think about that more than anything else, is getting the richer sounds and rounding vowels. And you’ve got to use your jaw to do that.

Q: Does your jaw position influence pitch?
A: I never really thought about that. I suppose it does. It kind of goes with the tone quality.

Q: How does it influence your pitch?
A: I would say probably for the same reason – the tone. More of a strong sound depending on whether I like vibrato or not.

Q: So you feel like your jaw position influences that part of the pitch, the strength of the pitch?
A: Yes.

Q: How? What do you do with your jaw to get the best pitch you can? Or, what do you think about?
A: Getting the most room in my mouth really.

Q: Are you aware of any sensations connected with singing in tune?
A: Yes. Sometimes I get a little, I can feel my vocal cords going back and forth. It’s a little tingling sensation sometimes.
Q: And you feel it where?
A: Sometimes I'll feel it in my vocal cords but sometimes I feel it up here, in through here.
Q: Up through the top of your nose?
A: Yes.
Q: Interesting.
A: Trying to sing over the pitch.
Q: Are you aware of these sensations when you are practicing or when you're performing?
A: Probably more when I'm practicing than anything. Because when I'm practicing I try harder to get that, to get a stronger tone. I notice those things whenever I'm practicing more than I am when I'm performing because my mind does not perform sometimes, so nervous or whatever.
Q: Do you hear in your imagination the pitches you intend to sing?
A: Yes, I do. Very often.
Q: Can you describe how you hear these pitches in your mind?
A: Kind of like a melody that you know all the time and it's just there. You know what it is and so you're going to work to sing that pitch. Like something you've always known.
Q: So it just seems to be a part of you?
A: Yes. To me it kind of seems natural.
Q: Do you hear your voice in your mind or do you hear an instrument?
A: No, sometimes I'll hear like piano tunes and other times it's a song that I know or something that someone else has done that comes in my mind first before my own voice. Then whenever I sing and I'm trying to, more or less, like imitate the thing that I hear.
Q: I see. What if it's just a song that you're working on as a soloist? That you haven't heard anybody else perform?
A: Probably piano pitches more than anything else.
Q: Before you're singing, what do you do or what do you think to insure that you are going to be singing the correct pitches?
A: Really I think about what I've already done before and what I already know. I always think to round my vowels and think over the pitches to get, so I can get the most mature sounding thing I can. That's mainly what I think about. Sometimes I forget it, but my posture when I can remember.
Q: While you are singing, instead of before you are singing, while you are singing, in the middle of the song, what do you do or think to make sure that you are still on pitch with all the pitches?
A: Mainly the same thing. I try to keep just thinking about what comes ahead.
Q: So you think of it in advance?
A: Yes. I think I do. I think of the pitches before I'm singing it, like it may be a phrase after or something like that before I get to it. But I think of that before I go to it and how I've done it correctly in the past.
Q: Do you kind of try to feel the same things that you felt when you sang it correctly in the past?
A: Yes. In practices, I try to be relaxed and do it just exactly the same as I know how and how I've done it.

Q: So you pick up on the sensations?

A: Yes.

Q: Do you relate pitch to a physical sensation of high or low? Does that make sense? No? Sure, I can rephrase that. Do you think of pitches in terms of physically feeling something high or physically feeling something low, or thinking how it relates to you physically? You don't just hear it and go, "Oh, it's a high pitch," but somehow you relate it to a physical feeling too.

A: I'm not sure if I do that or not. I don't think I do. But if I did sometimes, I guess I'd think of it in more of the high sensation for me. It depends on whether the note was high or low.

Q: What do you mean by a high sensation?

A: Well, when I, myself, when I try to sing high, I try to think over the pitch like it's coming up and out of me. I guess if I'll hear a high note and somebody else singing it, that's what, to me, that's what I feel like. Or I remember when I've sung before how it felt.

Q: Do you imagine each pitch of the song individually or do you think of it as it relates to the melody or as it relates to the harmonies in the accompaniment?

A: I'd say the melody. I think of the melody more than anything, instead of just it being separate pitches. I have problems with that. Sometimes, I can't remember the separate pitch without the whole phrase.

Q: Does your way of thinking about this pitch, the pitches of the melody, change the more familiar you are with a song?

A: I don't think it would change with the familiarity of the song. I don't think so.

Q: No? Do you depend on an instrument for your pitches?

A: Yes, I do. The piano, really. I have to have that.

Q: Do you play it through for every pitch of the melody?

A: Yes, usually.

Q: Does that change once you know the song better?

A: The pitches on the piano?

Q: No, depending on it as much.

A: No. Once I know the pitch in my mind I don't need the piano. Just in the process of learning it so I can get it back there in my memory.

Q: After you've practiced a song quite a few times, can you just automatically sing that first pitch without having to go to a piano?

A: Yes.

Q: How do you hear that pitch so that you know that that's it -- That's the first note?

A: It's mainly memory I'd say, more than anything because --

Q: Do you hear it in your imagination?

A: Yes. I hear the piano pitch in my imagination. I guess, I'm imitating that sound where I already know it though.

Q: Do you think about the position of your soft palate while you're singing?

A: I don't think I really think about that. Meaning the upward palate in my mouth?

Q: Yes. Behind the roof of your mouth, the soft area of skin and muscle where you yawn.
A: Yes. That's when I'm more on higher notes I try to get the air flowing up to that palate. That makes, to me, makes a richer, quality sound.

Q: How do you get the air flowing up to there? What do you do to get that?

A: Get a big breath and just think the pitch higher. I just keep thinking upward and somehow it just happens naturally.

Q: So can you tell me what position are you trying to achieve on your middle and your lower notes with your soft palate?

A: I think it's all mental, no matter what note that you sing you've got to think above it so that way it comes out.

Q: Above it do you mean you think a higher pitch?

A: I'm thinking that, not a higher pitch but more or less a higher tone quality. You always want to get better than what you do in practice and that's how, that's just me, the way I like to get myself, the best of myself. I always think above what I can do and it helps --

Q: Is that a physical feeling of being above?

A: I guess it's more mental than anything. I think singing has a lot to do with how you think about it mentally.

Q: Does your soft palate position influence your pitch?

A: Yes. Definitely.

Q: Then how do you use your soft palate to insure that you're going to sing the correct pitch?

A: It's always -- I try to get it in a yawning position, but it's the same as getting the breath to reach that high. It's got to be up there.

Q: Does your soft palate position influence the quality of your vowels?

A: Yes. I'd say the soft palate just about influences -- probably the biggest influence on how a person's tone comes out. Because as long as you have it up there no matter what shape of a vowel sound you have it's going to come out sounding full and rich.

Q: Now what do you do or think to use your soft palate to get better vowels?

A: Just trying to get it open wide and higher.

Q: Just yawning?

A: Yes.

Q: Do you think of the individual vowel with that space or do you try to --

A: I think about it as two separate things because I always try to have the yawning feeling of the soft palate. The way I shape my vowels has to do with my lip area and more my tongue, that and everything else.

Q: In your singing, do you notice that the pitch influences the vowel and the vowel influences the pitch? Or do you think of them separately?

A: I think the vowel influences the pitch more than the pitch would the vowel. If you're going to sing a flat out Texan [i] you can do that regular the way you talk, but if you're going to sing an [i] like you would in choir or opera or whatever, you've got the way you shape your mouth.

Q: What concepts do you use to think of the pitch with the vowel instead of separate?

A: Mainly all one connection. Every part that I use is all connected together and it flows like a chain.
Q: From your neck through your mouth. Interesting. So you just think of it as one reaction?

A: Yes. Kind of a factory or something, it goes on and on.

Q: Do you have a method for forming vowels?

A: Well, actually I tend to over pronounce vowels all the time and that’s something that I’ve always, that’s come easily to me, that I always think about and whether it’s an [e] or [i] or whatever and make that shape.

Q: So you make the shape. How do you make the shape? By just physically making it or do you think about it?

A: I’d say I’d just about physically make it because they come -- to me that comes naturally. That’s not hard for me to do.

Q: Do you think about directing the placement of your vowel? Such as placing it in the back of your throat or in the front of your mouth or in your cheekbones? Do you direct it somewhere?

A: Yes. I try to get it to my cheekbones as before I’d always try to get as high as I can.

Q: What thoughts do you use to direct it to that placement?

A: Well, as I’ve learned just to think of it as if it’s going, like I’ve got to reach in to something or over. Like, I’m going to reach over a wall or something like that.

Q: There’s just a barrier there I’ve got to go over.

A: The highest place that I can get I’d say probably my cheeks, at my cheekbones.

Q: Do you feel like that vowel is going up over a wall that’s like at your cheekbones?

A: Yes. I always think I’ve got to go above something. Sometimes I catch myself like I’m floating upwards in choir.

Q: That’s interesting. That explains more what you mean by over --

A: Going higher.

Q: Good. Before you sing, do you consider how you want to direct your air?

A: I try to. Honestly that’s one of the things I need to work on more personally. I guess as a young singer I haven’t learned that much yet but I try to get my air going up to my soft palate where I can get that ringing.

Q: Oh, you have a ringing?

A: Kind of like vibrato. I like that sound whenever you can get it up there with a little bit of vibrato.

Q: So that’s what you do, you try to direct it up over your soft palate?

A: Yes. Sometimes it feels like it’s coming through my nose, because it goes up that high.

Q: Well, that was what I was going to ask you next. What thoughts you use or what physical adjustments do you use to get that up over air flow that you’re talking about?

A: The same thing that I’ve got to get up over a certain barrier and that’s the highest point that I can get. I’d say I use that for just about everything.

Q: Do you think about this kind of air flow up and over while you’re singing?

A: Yes. When I’m concentrating, yes I do.

Q: Now you already started to mention this but are your lip movements and is your mouth position important for good diction? Good diction includes vowels, too.
A: Yes, definitely. I'd say the same thing for my vowel sounds applies to that, that you've got to have fast moving lips. They've got to be free and do whatever.

Q: Well, can you describe for me what lip positions and what mouth position elicit good diction for you?

A: It's depending on whatever that's needing to be sung really. If it's something quickly and I need to punch every note I've got to, like if the note -- Something in my mind that sticks out right now is if the note is staccato, or something like that, I always think like I'm punching something and I've got to go really quickly and let off. I use my lips and mouth for that. It's got to be flexible like anything else you've got to work it.

Q: What physical adjustments or images do you use to assist you in getting a lip position that you want or a mouth position that you want? You mentioned punching for staccato.

A: Mainly just thinking of the vowel sounds. I've been taught before to kind of over exaggerate and that that increases the tone again, and whether it's an [e], it can be [e] or [a] or [u] or [o]. That's mainly the only thing.

Q: So you think of actually exaggerating what you do with your mouth?

A: Exaggerating what is normally like your speaking voice. How you pronounce your vowels that way.

Q: What about your tongue positions? Is your tongue important for good diction?

A: Well, yes, I suppose everything in the mouth is important. It needs to stay in the right place. I never really thought about where my tongue goes actually. It's usually down.

Q: So it just comes naturally to you.

A: Yes.

Q: During your private practice, do you ever practice silently? When you're practicing at home, all alone privately. No lessons now. I'm not talking about lessons or choir, do you ever just silently go over your music or silently go through what vocal techniques you want to use?

A: Not really. I really don't. The only thing that I would say that I do silently would be I'd go through the rhythm of the song silently or in my mind if I'm not going to sing it out loud I'd do on "So Fa" and just think what the pitch could be and then go with it from there.

Q: So you think pitches and rhythms?

A: Yes. More than how to sing.

Q: Anything else that you do silently?

A: No. I usually -- I love to sing. I let it out whenever I feel like it.

Q: Okay, good. What else do you do during your private practice?

A: I just go over and over my material and so I think in my mind that I have it right to get that memory bank, to get it back there so I remember it in the future.
Interview #4: High School Singer
Age: 16
Years of Private Voice Study: 2 1/2 years
Current Level of Education: Junior
Name of Current Educational Institution: Arts Magnet High School

Q: Before you begin to sing, are you aware of your jaw position?
A: Some of the time when I’m not too nervous.
Q: What about in practice?
A: Yes, then I’m aware of it because [my teacher] will remind me.
Q: What do you notice about your jaw position?
A: Well, what do I notice as far as it should be or --
Q: What do you notice about yourself? What you do with your jaw?
A: Well, sometimes it’s too tight, you know it’s not loose and like that. You know,
how it should be four and three lengths like that, I kind of tighten up.
Q: How can you tell that it’s tight?
A: Because I can feel it right here. It’s not like I’m talking right now, you know, it
kind of gets kind of hard and rigid around here.
Q: Do you think that your jaw position influences your pitch?
A: Some. Not really. I don’t think your jaw position determines or affects your
pitch. I think it makes it harder for you to sing if you are not using your jaw
correctly.
Q: What do you do or think in order to use your jaw correctly?
A: I think about yawning and how open it is and how relaxed it is and that kind of
helps me.
Q: Does your jaw position influence the quality of your vowels?
A: Yes.
Q: Can you describe to me how it influences your vowels?
A: Well, like if I’m singing [e] and my jaw is not relaxed I think it will come out like
[s] and not [e] -- See what I’m saying. I guess it determines how your jaw is
positioned.
Q: Are you aware of any sensations that are connected with singing in tune?
A: Sort of, kind of, sort of, kind of.
Q: What do you notice just about yourself?
A: Singing in tune, sensations that I feel?
Q: That make you say, “Hum, if I feel that then I’m singing in tune.”
A: Then I can’t say that I don’t experience anything. I don’t feel it, I hear it. It’s like
I hear it, you know, in that and it’s sounding really and truly real good. It’s more
of me hearing it than me feeling it.
Q: Do you notice any sensory vibrations that are beneficial for you when you’re
singing?
A: I haven’t experienced any of those, any vibrations.
Q: It’s kind of a strange word to use. Let me see if I can think of one that would
make it simpler for you. Sometimes singers can feel their voice resonating in
different parts of their face or their chest, do you ever notice anything like that?
A: Yes. Sometimes I feel it resonating in this area and my nasal area.
Q: Through the top of your nose and top of your cheeks?
A: Yes.
Q: Are you aware of these sensations when you're practicing or when you're
performing.
A: Practicing. When I'm not performing.
Q: Do you hear internally, in your imagination, the pitch that you intend you sing?
A: Yes.
Q: Can you describe what you hear?
A: It's like, if I practice that song, sometimes I can hear where the note is. I know all
the time when I sing it. It doesn't all the time match but I can hear it in my mind.
Q: So you're saying when you're more familiar with a song you can hear the
beginning of it?
A: I can hear the song itself.
Q: What do you hear -- your own voice, the piano, or just the beat, what do you
hear?
A: My voice. I hear my voice.
Q: Do you depend on an instrument for your pitch at all?
A: Some of the time, but not all of the time. If I've been singing this song, I know
what tonic is and you stop singing, I can use tonic, that tonic, to get me to the
other song. I can relate the two.
Q: So you might just use it for an initial pitch when you don't know the song?
A: Yes.
Q: Before singing, what do you think or do to insure that you are going to be singing
the correct pitches?
A: Well, it's like I sing it audibly and I sing internally to like be sure. Because this --
I don't know for some reason when I sing it internally it's always right on pitch. It
doesn't always come out on pitch audibly, but when I sing it internally it's always
on the pitch.
Q: So you sing through it internally before you sing. What about while you're
singing? What do you do to check to make sure you're on the right pitch?
A: I'd be sure I'm doing all my technique as far as using my diaphragm and being
sure I'm on top of the note, you know, not under, you know, just at that point
where the note is.
Q: So, are you saying that you notice your body then?
A: Well, sort of, kind of. I need more descriptive words to describe it. I think while
I'm singing, all the rehearsing that I put into it, that helps me to know that I'm on
pitch because I've been learning so long. There's not anything I do while --
besides internally that I do.
Q: Good. Do you relate pitch to a physical sensation of high or low? Does that
make sense?
A: Break it down a little bit more.
Q: Okay, I will. Do you think of pitches in terms of you physically and a high
physical feeling for high notes and a low physical feeling for lower notes?
A: Yes. It's kind of like when I'm singing high notes I know this shouldn't change but I like, I try to get a different body position without physically moving. That's the way I do it like that. If it's real high I float around and do all that. I do that within.

Q: How do you do that within? You mean you think it through?

A: Yes. You know how you can think it inside and feel your body, I feel myself in that position but I don't actually automatically make that position. I feel it within.

Q: Well, that's interesting. Do you image each pitch of a song individually or as it relates to the melody or as it relates to the harmony of your song?

A: I image the notes in my song. I think I image it as it relates to the harmony because I think, I mean I've never really thought about that, how I image the pitches. I kind of image it with how my notes relate to the piano because I used to play. I played piano and I use it to relate to that.

Q: That's interesting. Does your way of imaging or hearing the pitch change as you become more familiar with the song?

A: Yes, because I think when I first get the song I'm worried about am I going to get this note or is that note right or is that note, you know. But once I do the song, you know, it just kind of comes. It just flows out.

Q: Like you talked about before? You could just hear it.

A: Yes.

Q: Do you want to add something?

A: I want to say it's kind of like when you first learn like a poem or something like that. You kind of stumble through it at first and then once you practice it just flows out.

Q: That's a good analogy. Do you think about the position of your soft palate while you're singing?

A: Well, not really. I don't think about, well, since I've been studying with [my teacher] she'll be stressing the, that I know that my diaphragm and my ribs expanded while I sing. And that's the only really thing that I worry about now is that, because she's been stressing it so much I don't necessarily worry about anything else. I just worry about making sure that all this down here is being used correct.

Q: So that's what you think of more than soft palate. Are you aware of any pharyngeal adjustments? That means any adjustments that are happening in your soft palate, in your mouth, behind your nose, the top of your throat. It's all called the pharynx.

A: Not really. [My teacher], she kind of goes into the what is the biological aspect of it. She kind of goes into that but it's not too much.

Q: That's fine. Most people don't learn that word for years. Does your soft palate position influence your pitch?

A: I don't think so. I don't think it influences my pitch. Well, my soft palate, where is my soft palate?
Q: First of all, what people call the roof of their mouth, that's their hard palate, where your teeth are attached. You move your tongue straight back you'll feel that it stops and you just have skin and muscle there and when you yawn that's what arches up when you yawn. That's called your soft palate.

A: Oh, okay.

Q: And the good thing, you can have a real yawning sensation when you yawn that's what that dome feeling is that you have when you yawn. Do you think it influences your pitch?

A: I don't think so. Because [my teacher] has told me that, so far she's told me that this up here is just like the tube in which that the voice comes through. So I'm just mainly worried about all that's down here instead of up here.

Q: Okay, so you're thinking about breathing instead of mouth and such. Does your soft palate influence the quality of your volume?

A: Yes, I think it does. I mean, I'm trying to imagine when I'm singing that the position -- I think it does. I wouldn't know how to explain how it does but I think it does.

Q: Well, that was my next question. What do you do so that your soft palate influences your vowels, do or think?

A: Well, I think of like an openness, you know, on the vowels, I don't think of like the close, I try to, I take -- She told me to take a breath through a small portion of it and that kind of gives me this open feeling in my mouth and I think that helps. I don't think I'm really answering the question.

Q: That was a very good answer. In your singing, do pitch and vowel influence each other?

A: Yes.

Q: What concepts do you use to think of your pitch in combination with your vowel and your vowel in combination with your pitch?

A: I try to, like, a real high note on some vowels, it's easier to sing that note on that vowel than it is to sing on that vowel. So I try to place the vowel that's harder to sing on that note, the same as the one where it's easiest to sing on that note. And that's what kind of helps me do that.

Q: How do you place it? Is it a physical adjustment or is it a thought?

A: I think it's physical. I think you have to position your mouth in different ways that produce different -- to get the true vowel. I don't think you can just sing it but I think you have to, you know -- It's all here, that's something that's in your mouth. I just position like I would any -- I can't explain that.

Q: Want to move on? Do you have a method for forming vowels?

A: Not really. For forming vowels?

Q: You talked about an openness before.

A: Yes.

Q: In other words, are there any thoughts or physical adjustments that you use as part of your technique to form your vowel?

A: Yes. I would do them like an [i], I would position my mouth kind of narrow because I think of an [i] vowel as being real narrow and I don't think of that as being open. I position my mouth in that way. And like on an [o] I think of like I said the real openness within my mouth.
Q: That's exactly what I was thinking of. Do you think about directing your vowels, directing the placement of your vowels?
A: Yes. I've been, well [my teacher] has always told me that I should direct it up and over like that. I think that's how she said it.
Q: So do you use that thought or is there anything else you do?
A: Yes. That's about the only one that I used so far that's stuck with me. But I know I've been taught a lot more.
Q: Before singing, do you consider how to direct your air flow for singing?
A: Yes. I try to, when I'm analyzing music I try to determine approximately how much air is going to get me through this phrase and I would determine it from that.
Q: During singing, are you also aware of your air flow?
A: Some in practice but not in performance. I'm trying to think about -- I try to tell myself that I'm extremely relaxed but, you know, inside I'm really nervous. And so, you know, once I get up to sing it's kind of, it's almost hard for me to remember the words sometimes. So, I try to practice it in my voice lessons so when I do it, it just comes natural. But, it doesn't always do that.
Q: Are your lip movements and positions important for good diction?
A: I think so. I think that the lip position is going to influence how this word sounds different from that word. I don't even know how to demonstrate it but I can understand the question and I think it does.
Q: What about your mouth position, is it important for good diction too? What's going on inside your mouth?
A: Yes. I think the way everything, that the both of those two together, the mouth and the lips, and how you have those two working together are going to determine how the vowel sounds and how you want it.
Q: Is there anything that you do or think with your lips and mouth to make sure that you have good diction?
A: I don't think I do. I just think of pronunciating and making sure that -- Say, for instance, I'm holding the word like "makes." I try to, I hold the note out and I try to pronounce all the vowels even the S.
Q: Do you think of every sound within the word, is that what you're saying?
A: Yes, that's what it is.
Q: What about your tongue? Do you think about your tongue at all or do anything with your tongue for the diction?
A: I think on some words I put my tongue at the roof of my mouth and pronounce like that. Sometimes, I think.
Q: During your private practice, do you ever practice silently?
A: Practice what silently?
Q: Do you know what that means?
A: Yes. Well, sometimes, you know, I like go play that pitch on the piano, the starting pitch, and sing the song in my head from there. And sometimes I do that right before I'm going to perform the song. I'll sing it in my head silently.
Q: Do you ever think about any other vocal technique when you're practicing silently?
A: I try to think of my breathing. When I'm doing it silently, I don't think too much on how the words or the diction of the word when I'm practicing silent inside. I think of more the note and the support that I have in my breath control.
Interview #5: High School Singer

Age: 17
Years of Private Voice Study: 3 years
Current Level of Education: Junior
Name of Current Educational Institution: Plano East Senior High

1 Q: Before you begin to sing, are you aware of your jaw position?
2 A: No, not usually. I don't think about it. I do try and stretch it and relax it before I
3 sing but other than that, no.
4 Q: What about during singing? Are you at all aware of your jaw?
5 A: I have to -- It takes an effort on my part to make sure it's relaxed. Sometimes I
6 want to constrict and that hurts me. I do have to be aware of that, but position
7 wise, not really.
8 Q: How do you tell if it's relaxed?
9 A: It's the muscles. If my cheeks are tense or if these, the muscles, or my jaw are
10 tense then, or if my throat is constricted, then that feels not relaxed.
11 Q: So you do it by the feeling of the muscle being tight?
12 A: Right.
13 Q: Does your jaw position influence your pitch?
14 A: I never thought about it, but I'm sure it does.
15 Q: Think about it a second and tell me how you think your jaw position influences
16 your pitch. You personally, not just intellectually.
17 A: Pitch wise, I would imagine the wider, the more open, the more spacious it is, the
18 more in tune I am. If I have it closed then I tend to go sharp because I want to
19 constrict it.
20 Q: Does your jaw position influence the quality of your vowel?
21 A: Yes, very much so.
22 Q: Again, can you describe what jaw positions you are trying to achieve to get a
23 better quality vowel and what you do or what you think to achieve that?
24 A: Very open, very spacious to achieve a pure sound. So it doesn't sound nasally or
25 it doesn't sound really constricted.
26 Q: And so, you just think space?
27 A: Yes.
28 Q: Are you aware of any sensations connected with singing in tune?
29 A: It sounds more free, more flowing. It doesn't sound -- I don't know how to
30 explain it. It's just something that I know. It's not something I can explain.
31 Q: Everything is really individual in terms of the way people feel things so whatever
32 explanation you can give is fine. Are you actually listening or is it a sensation that
33 you have?
34 A: No, I'm listening.
35 Q: Do you ever have any sensation that says, "Oh, when I feel this I know I'm in
36 tune?"
37 A: No.
38 Q: Do you hear in your imagination the pitches you intend to sing?
39 A: Yes, very much so.
40 Q: Can you tell me what you're hearing? Describe what you're hearing?
I hear the note in my head. I actually hear the tone and I try to reproduce it as well as possible in my head.

Are you talking about in the middle of a piece or when I'm thinking?

At any time when you're practicing or when you're performing.

When I'm in the middle of vocalizing, or whatever, no, I don't think about the pitch before I sing it. However, just before the piece begins, like the first note, I will think about it, conceptualize it and then sing it.

Now what are you hearing, your own voice or a piano or just some sound?

I think I hear the piano or something similar to that.

Do you depend on an instrument for your pitches?

For the most part, yes.

Can you tell me how you depend on it? What you do with an instrument to help you with pitch?

First I listen to the pitch and then I try to reproduce it in my head, and then I reproduce it with my voice.

So you memorize the pitch?

Yes.

Before you sing, what do you do or think to insure that you will sing the correct pitches that are in your song?

If there's an instrument that I've played those notes on before or there's an accompaniment that's going along, I have to listen very carefully to get in the key. And sometimes I will establish the key like if I'm sight-reading or something like that, I will establish the key first before I try to sing.

While you're singing, say you're in a performance situation or you're practicing a piece that you know, while you're singing, what do you do or think to insure that you are going to sing the correct pitches that the composer wrote for you to sing?

If it's a piece that I tend to go flat on, I have to think very, very high, very spacious, that I open and try and let it flow out of the top of my head. And if it's something, if it's a piece that I'm usually sharp on, then I have to think really narrow, very small spaces in between.

Do you relate pitch to a physical sensation of high or low?

Yes, I think I do. The higher the pitch the more I feel it up in the top of my head, up in my nose and those places.

In the top of your nose?

Right. And the lower the pitch, I tend to feel it vibrate down in my throat and in the back of my throat.

That's exactly what I was going to ask you, if you could describe any images or sensations that you have, but you've done that. Do you image each pitch of a song individually or as it relates to a melody or as it relates to the harmony?

As it relates to the melody.

Does your way of imaging or hearing the pitch or pitches change the more familiar you are with the song?

Yes. The more intuitive it becomes the more I memorize it, so to speak. The more it seems to be able to flow out and I don't have as much problems with phonation.
Q: Can you describe for me exactly what you do or think when you're learning a piece and how that changes, as you said, you're more familiar with it and it's more ready for performance?

A: I don't, definitely don't tend to be as musical when I first learn the piece. I think I have to focus very hard on the intervals between each note and the rhythm. That's something I have trouble with so I have to focus on that.

Q: And then as you get more familiar how does that change?

A: It just seems to come naturally. I'm familiar with the intervals between each note and so I have more self-confidence and I don't have to focus as much on the different pitches as I can with musicality.

Q: Do you ever get a sense that the pitches just fit some place?

A: Yes. It's not something -- Once I know it so well, it just falls into place. It kind of goes into automatic pilot, so to speak.

Q: Do you think about the position of your soft palate while you're singing?

A: Yes. It needs to be up and high so I can get that spaciousness.

Q: So, I know what position you are trying to achieve, what thoughts or what sensations or adjustments help you to achieve that up position?

A: Very relaxed. That's something I have a problem with. I tend to want to tense all my muscles and then I want to take over when I need to let it do it naturally and it takes care of itself. So I have to think relax, open, spacious.

Q: Does your soft palate position influence your pitch?

A: The higher it is the more on pitch it is.

Q: What do you do or think to insure the use of the soft palate position that will give you the pitch you want?

A: I think open and then when I breathe in I try and lift it as I breathe in. So I then try and sustain that all the way through.

Q: Does your soft palate position influence the quality of your vowels?

A: Yes, very much so. It's the same thing we were talking about earlier. The higher it is the more pure, the more round it is.

Q: Are you trying again to achieve that open feeling?

A: Yes.

Q: Can you describe for me what you mean by open?

A: Not necessarily dark vowels but not bright either. Kind of a happy medium between the two because I don't want to get it so far back that it sounds real hooty, but a full, a rich sound.

Q: Can you also describe that open position that you were talking about? How do you know it's open? What are the clues for you?

A: I can feel my soft palate raised and my tongue is down. It's not curled up in the back.

Q: In your singing, do pitch and vowel influence each other?

A: Yes. When my vowel is not, I don't want to say correct, but when it's in the correct position it tends to be more in tune.

Q: Can you tell me, you said position in terms of vowel, can you tell me what concept you use in order to coordinate the pitch with the vowel? In other words I guess I'm asking you to describe when you said "position."
A: Similar to that open, spacious sound. The [a], the [e], [i], [o], [u], kind of like in Spanish or Italian. Those kind of vowels. The very pure, simple vowels.

Q: Do you have a method for forming vowels?

A: A method? Nothing other than dropping my jaw and also on the [i]'s and the [s]'s and those kinds of things, I want to make my jaw bobble up and down. And so I need to focus on keeping my jaw in the same position and changing the formation of my tongue as opposed to moving my jaw.

Q: Do you think about directing the placement of your vowel?

A: Yes. Right out, up in between my eyes, through the mask or whatever you want to call it.

Q: Any other thoughts that you use to direct the placement of the vowel?

A: Nothing other than relax my entire throat. That's the key word for me, is relax.

Q: Before singing, do you consider how to direct your flow of air for singing?

A: Direct? I have to, when I breathe in I have to be very aware of my diaphragm and how I use my diaphragm. It hasn't become quite second nature to me and so I have to be aware of that, my use of it and sustaining.

Q: When you're singing and you're releasing your air, do you think about the direction of your air flow?

A: I have to control it when it comes out because I tend to push it out. Push my air out too much and I don't want it to all come out and then not be able to sustain the lines, so to speak. So, I'm not sure what you mean by direction.

Q: Like you mentioned before, your method for forming vowels was to think of them kind of coming out between your eyes. That kind of thing. Is there some place where you're trying to direct your air? Some place in your face, or outside of yourself, or in your neck? It could be a variety of places. Do you think, "That's where I'm aiming my air."

A: Not really. No, I don't.

Q: Are your lip movements and positions important for good diction?

A: I think so. I tend sometimes to drop off the ending consonants and so in that respect, yes. And also, my tongue for the consonants and those kinds of things.

Q: Are you aware of your lips and tongue when you're singing?

A: My lips, no. My tongue, yes.

Q: Can you tell me what adjustments or what thoughts you are using in connection with your tongue for good diction?

A: With explosive consonants. Sometimes I tend to over explode them and so I have to back off with the use of my tongue, like "T's" and those kind of things where you use your tongue on the back of your teeth. So I have to kind of tone that down and not push as hard.

Q: What do you think of to make sure that you don't push as hard?

A: Don't? I don't know. I think instead of hitting it against my teeth, especially the "T's", instead of slapping my tongue against the back of my teeth, just tapping it and bouncing back off.

Q: During your private practice, do you ever practice silently?

A: On rhythms. I don't usually on notes.

Q: Do you ever practice silently thinking through the melody?
177 A: Not very often. When I do it's usually in conjunction with the rhythm because I'm not good at reproducing pitches on my own.

178 Q: Or do you ever think of vocal technique silently? Just sit and think about how you want to form a vowel or how you want your air to move?

180 A: In relation to my soft palate, yes. I work on raising it and trying to get it so that it will come naturally as opposed to me having to think about it all the time.

183 Q: Any characterizations or emotions you think about or how to pronounce the language? Do you ever do anything like that silently?

185 A: Oh, yes, pronunciation of a language, yes. And also expressiveness and just feeling the piece with my body, too. And thinking about it as if I'm familiar with the piece, thinking the melody and then expressing it emotion wise.

188 Q: There was one question I actually forgot. When you're more familiar with a piece, remember we talked about either hearing the pitch internally or using an instrument, when you're more familiar with the piece, are you able to just sing that first note without referring to an instrument?

192 A: I can. Whether it's correct or not, most likely, no.

193 Q: So you don't always have a sense of exactly where that first pitch is?

194 A: Right.
Interview #6: Undergraduate Singer
Age: 22
Years of Private Voice Study: 7 years
Current Level of Education: Senior
Name of Current Educational Institution: University of North Texas

1 Q: Before you begin to sing, are you aware of your jaw position?
2 A: Sometimes. It’s important. Usually I have to be reminded of it.
3 Q: Are you reminded by something that you sense or --
4 A: By my teacher usually. I usually, it usually needs to be dropped more and I feel
5 that it is lower than it really is. I usually feel my mouth is more open than it truly
6 is. And when it is fully open it’s still not opened that wide just because I have a
7 small face.
8 Q: Are you aware of your jaw position also during singing?
9 A: Sometimes. Usually I just try to keep everything loose and I try to make sure that
10 it’s down and dropped. And that I don’t have any tension in the jaw area.
11 Q: Does your jaw position influence you pitch?
12 A: No.
13 Q: Not at all?
14 A: No.
15 Q: Then is your jaw position of any importance to you?
16 A: It’s important in the production of the vowel, usually, because it makes for a
17 different -- It’s a bigger -- It just makes a bigger sound as opposed to a sound
18 which is bigger to me because I’m keeping it more inside my mouth and inside my
19 head.
20 Q: So you think it does influence your vowels?
21 A: Yes. It influences the placement of the sound and, therefore, the size of the
22 sound and sometimes the color of the sound, but not the pitch.
23 Q: What do you do or think in order to create these quality vowels in terms of jaw
24 position?
25 A: Just to keep it down. Just to keep the jaw loose and down.
26 Q: So you think relaxation where you push it down --
27 A: Yes. Relaxation. Well, I think it low and then I also think very large in the back
28 as well. I have to have the whole picture. The whole scheme, very large in the
29 back. Almost like a -- I tend to think jaw down and I tend to think of almost like
30 a cornucopia or funnel, with the big in the back and then it all comes out in the
31 front.
32 Q: Interesting. Are you aware of any sensations connected with singing in tune?
33 A: No. The only time that I think that I don’t sing in tune is when I start to push.
34 When I get over confident and I start to overuse the voice, but I don’t -- I’m
35 always in tune so I don’t really have, I’m usually in tune, so I don’t really have any
36 sensations of when it’s out of tune or when it’s in tune. It just is there.
37 Q: So you never have any -- There are no sensations for being out of tune either?
38 A: No. I usually, I’m either in tune or I don’t know that I’m out of tune. You know
39 what I mean? It’s just I’m either on or I’m just a little bit flat.
40 Q: Do you hear internally the pitches that you intend to sing?
A: Yes. Sometimes. I don't know. I just know them and I usually -- I just sing them and they're just there.

Q: I was going to say, "Describe how you hear them."

A: I just sing them and they're just there. It's not like if I'm going through a song, it's not like -- Well, I guess I do hear them a little bit. Sometimes I'll kind of sing the beginning of my line through his accompaniment into the part that I come into.

Q: So you connect it with the accompaniment line?

A: I guess I do kind of just think it beforehand. I just think it beforehand.

Q: When you think it, what do you think of? Do you hear your own voice? Do you hear a neutral pitch?

A: Yes. No, I hear my voice.

Q: Do you depend on instruments for your pitches at all? Or an instrument?

A: What do you mean, just like the piano?

Q: Yes.

A: Well, yes, if I need it definitely. If you're singing along then you kind of have to be in the same key.

Q: Does that change with, over time, the more familiar you are with a piece?

A: Yes. The more familiar I am with a piece the more I can usually -- Number one, I won't have to go to a piano to find my opening pitch. I can usually hear it in my head. I get kind of relative pitch, because I don't have perfect pitch, I have kind of relative pitch and I can sometimes feel where notes are in the up and down scheme of things.

Q: So you would see the C₅, third space C, and just know where it was?

A: Yes. I never see notes on the staff, I just, I think notes. I seldom see notes on a staff in my head in my mind's eye. The only time I see notes on staff is when a page is in front of me. I seldom ever, anything is associated with an actual piece of music. I usually associate it just with the words and just the way it's shaped than anything else.

Q: Interesting. Before singing, what do you do or think to ensure that you will sing the correct pitches?

A: I just try to make sure that I have plenty of space and breath and that it's all supported, so that it will all be there.

Q: So your thoughts really don't have anything to do with the pitch?

A: No. Not really.

Q: Although you did mention sometimes thinking before you came in while the piano --

A: Yes. But then I'm just, I'm just kind of thinking my entrance and, you know, just hope that it will be there.

Q: That's all we can do is hope. While you're singing, do you do anything to ensure that you're singing the correct pitches?

A: No. I mean I just sing them. I know what I'm singing. I know my music backwards and forwards and of course, you know, you listen to the piano but --

Q: So no adjustment is made in any way?

A: No. I just don't really have any tuning problems usually. It's not a problem that I've ever had.

Q: Do you relate pitch to a physical sensation of high and low?
A: Yes. Most things, as my technique gets a little more secure, most things tend to be much more in line and much more even. The only notes that are really out tend to be like things above high-C. You know, E's and F's, D's, those kinds of things are in kind of a different realm when I think of pitch. But most everything below there gets related either right behind the teeth. You know, it's like right behind the teeth or coming right out of the mouth. And then lower notes tend to be just straight out of the mouth, you know, near the tongue area.

Q: So it's a directional --
A: Yes. It's like a vertical type relation.

Q: Interesting. Do you image each pitch of a song individually or as it relates to the melody or to the harmony?

A: As it relates either to the melody or the harmony. Never individually.

Q: Really?
A: Well, let me think about that. I've never been asked that before. That's weird. I just don't ever, I really don't image pitches unless they are very high pitches usually, or the starting pitches. The pitches, you know, the starting pitches of a line, where you come in. But the rest of them just kind of go along in the line.

Q: Does your way of imagining or hearing these pitches in the melody, relating to the melody in harmony, does it change at all as you become more familiar with the song?

A: Sometimes, well if I really, really get intense into the harmony, whatever the piano is playing or if there's a part that I'm frustrated and that I'm really having trouble with an entrance or something, it usually becomes more crystal to me when I hear the harmony and I see where things are leading to, as opposed to just trying to learn the pitch individually. So, that's when it would become more related to the harmony.

Q: Do you think about the position of your soft palate while you're singing?
A: No. I never think of the soft palate. I don't even like to hear the term soft palate used because I tend to just think of space. Soft palate to me is a very, it's such a narrow term, and it just means lifting as one thing when you really need all the space, you know, all around. And you need to be thinking about all that at the same time. So I just, I don't --

Q: So you're aware of other pharyngeal adjustments?
A: Yes. It's not that it's so much -- I guess it is an awareness but it's just more of a thinking type process and I'm not so much aware of what everything is doing. I really don't ever, hardly ever think, "Oh, I've got to get my soft palate up."

Q: Do you think that the soft palate position influences your pitch?
A: No.

Q: Do you use any type of pharyngeal adjustment to create a well-tuned pitch?
A: No. Not usually. It only influences the color of the voice, of the vowel.

Q: Does it influence the quality of your vowels?
A: Yes. Exactly. It influences the quality and the tone color of the voice and how it is produced. And also, how large it is. That's, you know, it affects, the amount of space that you have inside your mouth affects the bigness. The bigness, the largeness, the quality of the note.

Q: How do you use that space. What do you adjust or think of to use that space in
order to influence the quality of your vowel?

A: I just simply think -- I just try to keep everything very open in the back -- just very open. You know, just a very large space. And I've lately been trying to think of, like, having a hole in the back of my head, you know, as well as the hole in the front. You've got it all going all the way out and back.

Q: Does it go out both directions then? Out the back and the front?

A: Well, yes, because the sound comes out the front but you need all the space in the back. As long as you keep increasing this space then this sound is going to get larger and larger.

Q: In your singing, do pitch and vowel influence each other?

A: No. Very seldom. I just really don't, I don't know. It's strange, I've just never, I seldom ever have anyone, the only thing anybody ever says is, "You're flat." And the only time I'm ever flat is when I'm pushing my lower voice to be bigger. I'm pushing it to be bigger. And usually, when I think it's bigger it may not be quite as large because I may be making it bigger to myself. You know, by making this space smaller which is probably why it's going a little bit flat. But usually, I don't hear, I'm not told, "You're out of tune, you're flat," under normal circumstances. I usually go flat when I'm out on the stage.

Q: What concepts do you use then to think of pitch and vowel separately?

A: Well, the pitches -- I just think of -- Pitch and vowel separately?

Q: You said that they didn't influence each other.

A: Well, it's just like when I'm learning a song. I learn the melody, you know, I learn the song. And then, then I work on vowel color and vowel placement and singing it all in line, straight up and down. And so the pitches are just there. You know, I don't have to usually worry about them. And the color, whether it's dark or heavy or small doesn't usually influence the -- Unless I'm pushing, you know, if I'm pushing it's going to drive it flat. It will make the sound flat and it does in most singers that I've heard when they start to over, really over emphasize or push on the sound. But the pitch is just there and usually what I go for is just the technique and, you know, sound production.

Q: Do you have a method for forming vowels?

A: I try to think them more than anything else. If I just think the vowel more than manipulate it physically.

Q: What concepts or images do you use?

A: Well, if I'm doing things like staccato, I tend to think more [o]. I just think a vowel. I just think an [e]. I think an [a], I think an [i], I think an [e]. I don't use concepts, I don't have any little special tools for each little vowel at all. I just think an [a], you know, I just think of -- And if I want to think brighter I just think brighter.

Q: Do you think about directing the placement of a vowel?

A: I try more to just go for a single placement for almost everything. Just behind the teeth and straight out. You know, regardless of what the vowel is that I'm singing. I try to keep it from going as far back in my throat. Placement to me is just such a, it's just keeping everything very vertical, you know, and very much in line, almost in the same place. Except for my high notes and they've got to go out a little bit more. You know, more up into the higher nose and cheek cavities.
Q: Before singing, do you consider how to direct your air flow for phonation?
A: Yes, and lately I've been using a concept that I got from somebody else that you kind of think of the sound, you're going to know who I'm talking about, the sound coming up and over your head. And usually, if I try to sing about, I try to sing about a continuous air flow all the time. But I try to keep the air coming straight from the, I guess it's called the pelvic floor, you know, and just straight up, and over and out.
Q: And you think this before you sing?
A: I try to. I usually, I have to keep rethinking all these things. The openness, the broadness --
Q: While singing?
A: Right. Yes. I have to keep, you know, I have to keep thinking open, big -- You know, I have to keep rethinking. I mean, they're just not in automatic at this point to me. I have to keep re -- I don't know what word I'm trying to use but, rethinking them.
Q: Well, my next question was what thoughts or physical adjustments help you in this? The use of the up and over?
A: The up and over and the bottom muscles. I'm always trying to be very conscious of my ribs being out and using them, the pelvic muscles.
Q: Are your lip movements and positions important for good diction?
A: The lips to me are most important for consonants. For vowels to an extent, but if it's more, you've got to think the vowel but you've got, that's -- Well, I mean the tongue does most of the work for the consonants. Really and truly. Your lips really aren't that, they aren't that important really.
Q: So any other part of the mouth besides the tongue?
A: I think the tongue is probably the most important.
Q: So what images or physical adjustments assist you then with the tongue in achieving good diction?
A: I just try to keep it forward. I just try to keep it forward and try to let it do a lot more of the work then my jaw perhaps. A lot of people tend to chew their words and I try to let it do more of the work then my jaw.
Q: During your private practice, do you ever practice silently?
A: Sometimes I do. I don't do as much as I should. I should do much more mental work then vocal work. Which is probably why I'm in the condition I'm in. But, yes, you should always, I mean -- I think that I don't do enough mental work on my songs.
Q: Well, how do you practice silently when you do?
A: I just think the song and I think -- I tend to use my hands a lot when I sing, you know, and to form lines and stuff like that, that kind of thing. But it's basically the same kind of practicing that I do when I'm actually singing.
Q: Do you hear something in your mind? Do you feel something?
A: Yes. Sure. I hear the song a lot of times when I often hear the accompaniment.
Q: Do you hear yourself?
A: Yes. Always.
Q: Is there any type of sensation that's associated with silent practicing?
A: Usually, I tend to feel real free. I feel a real freedom because I can just think
about everything being very open and very free and not have to worry about actual doing it physically. That's what --
Q: Do you use any images?
A: Usually I think the words.
Q: Do you think that cone you were talking about during silent practice?
A: No.
Interview #7: Undergraduate Singer
Age: 21
Years of Private Voice Study: 9 years
Current Level of Education: Junior
Name of Current Educational Institution: Texas Womans University

Q: Before you begin to sing, are you aware of your jaw position?
A: No. Well, not always, that is. Sometimes if I'm concentrating on that, recently I've been focusing on that. But if I get up to perform that's not the first thing that runs through my head.

Q: Even before you begin to sing? Is it something that you think about or try to adjust before you sing?
A: Probably not. It doesn't really register until I am singing.

Q: That was my next question. Are you aware of it while you're singing?
A: Sometimes yes and sometimes no. Like I said, it depends if I'm, you know, if that is my focus for this performance, or session, or whatever.

Q: So it depends on if it's a practice session or an actual performance?
A: It depends on what my focus is at that point. Lately I have been working on keeping the jaw down or doing something specific with the jaw that I'm probably going to be more aware of it. But if it's not my focus then I probably don't even think about it.

Q: When you do think about it, what are you doing, what are you thinking?
A: Well, first I have to figure out where it is and what it feels like, you know. I have to figure out especially what it feels like because my aim is to make it loose and low except in certain cases where you don't want it low of course. Right now I've been working on it.

Q: Does your jaw position influence your pitch?
A: Yes.

Q: How?
A: Whenever it's in the right place, that is dropped fully or at least enough then my intonation is better.

Q: Does your jaw position influence the quality of your vowels?
A: Yes.

Q: Can you describe how your jaw position relates to vowel quality?
A: Well, I think the jaw position is in a way an articulator which of course is going to affect what your vowels sound like. It will give it more or less resonance depending on where it is and more or less roundness or brightness. It just depends on what it's doing at the time.

Q: What do you do or think to achieve this position?
A: I'm not sure what you mean.

Q: To achieve a position for proper vowels, what do you do or think in terms of your jaw?
A: Drop it.

Q: Just drop it?
A: Yes. But it's a lot more dropped than what my tendency is. I need to do a lot more than what my tendency is.
Q: Are you aware of any sensations connected with singing in tune?
A: What sort of sensations?
Q: Any vibrations that you notice consistently when you're singing in tune, any resonances that you feel in your body or face?
A: I'm not sure I can accurately answer that because intonation is something I've had trouble with. It's not been an enormous problem but yet being exactly on pitch, sometimes I'm not aware of whether I am or not. And when I think I am, I'm not. So I'm not sure I can really answer that one.
Q: Do you have any clues at all to tell you that you aren't singing in tune?
A: Sometimes I can hear it, most of the time, but not always.
Q: Are you aware of any of these sensations before practice or do you think about that before you practice? Or is it just something you notice while you're practicing?
A: Of course, I always try to sing in tune.
Q: In terms of singing in tune, is there something that you think or do before you sing or when you notice that it might not be what you want it to be while you're singing? Is there something you think or do?
A: Little more of a lengthened feel in the, not in the throat but in the mouth in general, the raising of the soft palate and dropping of the larynx at the same time. But not necessarily to an extreme, but both of those. It just depends on the situation.
Q: Interesting. Do you hear internally the pitches you intend to sing, in your imagination?
A: I don't, I mean not before I'm going to sing. I mean, especially with a piano accompaniment, you know, it just kind of comes out. I'm not sitting there thinking, "Okay, I start on this pitch," if that's what you mean.
Q: It could mean that. I'm asking, I guess -- People can interpret this different ways, which is part of the intrigue of doing these interviews. Do you get any type of image of the pitches before you sing them, the entire melody, an individual pitch, a first pitch, a last pitch?
A: No.
Q: Are you dependent on instruments for your pitches?
A: I don't think very much a cappella, generally the piano accompaniment -- I just feel which pitch I start on. I don't, I'm not concentrating on whether the piano is playing a G chord or a B or anything like that.
Q: What do you mean by you feel the first pitch?
A: Well if it was -- Let me figure out how to put this into words. I think I just hear it in the piano. Well, maybe I do hear it before. It's not really something I concentrate on so I'm not really conscious of it.
Q: This is a similar question. Before you sing, what do you do or what do you think to insure that you will sing the correct pitches or pitch?
A: I don't know. It's not a problem. Well, intonation a little bit but, are you talking about intonation or are you talking about just pitches?
Q: Just general pitches.
A: That's never been a problem for me, so I've never been conscious of it.
Q: Do you relate pitch to a physical sensation of high or low?
Sometimes, yes, I think so.

Can you describe the images or sensations that help you determine pitch placement?

In terms of being high, you said you relate them to a physical sensation of high or low and I'm asking for a description.

You mean like in a song or just in general?

In a song or in your exercises.

I don't know that I can pinpoint it. So many of these things are things that I've never had to think about because they come very naturally to me and so I don't really embody them in an image or anything like that. Repeat the question.

Do you relate pitch to a physical sensation of high or low? And if you do, describe the images or sensations that help you determine pitch placement.

You mean like pitch placement in the mouth?

Yes.

For a high pitch puts up a very high placement or try to have a high placement. It feels like it is in the mouth area, but it helps in singing it well to think of the pitch, as being low or just think low or down. Low pitches? I guess there's a chesty sensation image because the pitch may be coming out from a lower part of my body, but then that's if you want to really chesty sound. Now if you want to keep the high placement in your chest, then you have to concentrate on keeping high placement.

Well, that's been very descriptive. Do you think about the position of your soft palate while singing?

No.

Not at all?

Very occasionally.

Are you aware of any pharyngeal adjustments?

Aware of them, yes, but I don't think about it. I don't concentrate on it.

What do you mean by an awareness? You said you're aware of it.

Repeat the question again.

Are you aware of any type of pharyngeal adjustments?

Pharyngeal adjustments. I guess, sometimes I can tell if I'm straining and the larynx is especially high or if things are going well and it's very relaxed and low, but it's not something I concentrate on when I'm performing. If I'm vocalizing and working on making the larynx high or low then, yes.

I missed one pitch question. Do you image each pitch of a song individually or as it relates melodically or as it relates harmonically?

Probably individually. Which I don't think is a good thing, but I think that's what I do.

Does your way of imaging or hearing a pitch change the more familiar you are with the song?

Yes.

How does it change?

Actually, let me change the former answer. I think it's more melodically. Maybe in the beginning it's just individual pitches then it becomes a melody. And maybe
if I'm really listening and trying to hear how it all fits with the chords, then I'm
going to hear it a little harmonically. But I don't say, "Oh, this is the seventh of
this pitch or chord." That's something that never crosses my mind. I don't think
chordally.

Q: After you're more familiar with a piece, is it possible for you to just sing the first
pitch without a keyboard?

A: Sometimes. Not all the time. Especially if I've been singing it with the piano and
then a little later I'm just singing around the house and I've discovered that I'm on
the right pitch. I may develop a certain feeling about where that song fits in my
voice and that tends to stay with me.

Q: Back to soft palate. Does your soft palate influence your pitch?

A: Yes.

Q: How do you insure the use of the soft palate position that will create a well-tuned
pitch?

A: Well, I can feel how I do it but I'm not sure I can describe it.

Q: Just try to describe the feelings, I guess.

A: Well, it's just a feeling of raisedness with the soft palate. I guess it feels as if
there's an egg perhaps in the throat and I'm sure you've heard that image before,
not what I think about to get it there but that's what it feels like and I just can do
it. I just think to raise the soft palate and it does. It's a very open feeling in the
mouth.

Q: Does your soft palate position influence the quality of your vowels?

A: I don't know. Probably.

Q: Do you think of it in connection with your vowels?

A: I guess. It's not something I've thought about a lot. It probably does.

Q: Is there anything that you do in preparation for a certain vowel in relationship to
the soft palate?

A: No, I don't think so.

Q: In your singing, do pitch and --

A: Well, maybe I do. Yes, we'll go back. The [u] vowel, to get a nice round [u] I
have to raise the soft palate. The others, maybe an [a] too, I guess all the back
vowels.

Q: And what do you --

A: Raise the soft palate.

Q: But what do you do to raise the soft palate?

A: I just think, "raise the soft palate." I just do it.

Q: In your singing, do pitch and vowel influence each other?

A: Do pitch and vowel influence each other? Yes, very much so.

Q: What concepts do you use to think of pitch in combination with vowel?

A: I use the Overtones of Bel Canto by Kaufman a lot. He relates pitch and vowel
constantly and so if I'm having trouble singing a particular pitch then I get out his
chart and put it on a keyboard and look and see which pitches I have to choose
from according to him on that chart. Excuse me, what vowels I have to choose
from according to him or which pitch and then play with them and find out which
one would work best for this particular piece or whatever.

Q: Interesting.
A: And I'm beginning to be aware of certain vowels that are on certain pitches
without looking at the chart and an [a] vowel is generally good on most pitches.

Q: Do you have a method for forming vowels?

A: A method for forming vowels? Not that I'm aware of.

Q: Then are there any concepts or images that you use at all when forming vowels,
like you obviously mentioned your chart. That's I guess recognizing vowel
possibilities. Now beyond that is there a way that you would form a proper
vowel?

A: Having a good dropped jaw is -- and relaxed. Whenever I say dropped I mean
also in conjunction with that relaxed. That's most of it really because the rest kind
of takes care of itself when you have that. An open feeling so that it's possible to
resonate but yet not cover the sound. The vowel should be clear, not always
bright but sometimes depending on what your goal is. And all those things are
manipulated in different ways.

Q: Do you hear the vowel as being clear or bright or do you sense it?

A: Both. Mostly hearing I think.

Q: Do you think about directing the placement of a vowel?

A: Sometimes.

Q: What thoughts do you use to direct the placement of your vowel?

A: Most times if I want a high placement then I'll imagine it coming through my
nose, not really through my nose, but the general upper lip and nose area. And if
I want it rounder, around my lips and you get even more space in the mouth.

Q: That's very helpful. Before singing, do you consider how to direct your air
phonation?

A: Sometimes, yes. I know I should.

Q: What are your thoughts or physical adjustments?

A: Good posture, Alexander technique, posture and -- Well, one of the images that I
have found that helps me a lot is getting proper breath support, which, of course,
in turn helps the phonation, is to think of my body as a big, or at least the breath
movement, as being a large cylinder -- Not a large but a long cylinder, from the
top of your head to make it through the abdomen. And the air goes, no actually
the cylinder goes all the way through the body because the air goes in both
directions so that you get -- It gives you a grounding effect but also the breath
connection to the singing and it works very well for me. It's not what I use all the
time because it seems like I forget about it, but it works well.

Q: Well, you said the air is going in both directions, you mean it comes out both
ends?

A: In your imagination, yes. It flows into the ground. It's just, I can't use gestures
for the tape, but it just goes in both directions.

Q: All right. So this is before singing or also during singing?

A: I might imagine it beforehand to remember to do it while I'm singing, but it is a
technique to be used while I'm singing.

Q: During singing, is there anything else that you may think or do to make you aware
of your air flow?

A: Are you talking about performance or just practicing.

Q: Either.
When I'm performing I don't think about technique. I try very much not to think about technique. I'm much more worried about communication. In practice, I try to get the, you know, connection between the breath and the singing.

You mentioned some of this before but -- Are your lip movements and positions important for good diction?

Yes.

Also, mouth position, is that important?

Yes.

And tongue?

Yes.

What do you think to create good diction. What lip and mouth and tongue positions do you think of?

All of the articulators have to be loose and working well, of course. I don't think before I sing, "Is that okay? What am I going to do to create good diction?"

You described a few questions earlier, sensations you have with your lips and your tongue and you were talking in terms of vowels at the time, is there anything in terms of consonants as well as vowels? Any images or physical adjustments you use?

I can't think of any.

In your private practice, do you ever practice silently?

Yes.

How do you utilize your silent practice time?

I think I'm playing an accompaniment tape and reading through my music and going over it all in my head.

When you go over it in your head, what are you thinking or hearing?

I'm hearing myself singing it, ideally.

Are you aware of any technique at the time?

Sometimes, yes. Sometimes, not. I will just automatically without really being aware of it or thinking about it. Take on all the various mouth positions with my lips closed probably -- Or sometimes I guess I'm moving my lips. But most of the time just thinking.

Any other silent practice activities?

Sometimes just moving to the music. Dancing around the room and things like that.

Anything else you wanted to add?

No.
Interview #8: Undergraduate Singer
Age: 22
Years of Private Voice Study: 9 years
Current Level of Education: Senior
Name of Current Educational Institution: Southern Methodist University

Q: Before you begin to sing, are you aware of your jaw position?
A: Very much so because I am also a TMJ victim. It's a temporal mandibular joint syndrome which is really quite common these days and I'm not presently being treated for it but I have been before. So it's very important to me because it often pops out of position if I'm not careful.

Q: Well, what do you notice about your jaw position when you're thinking about it?
A: When I think about it, mine slides from side to side on the disc which is difficult. And it has, at times it will give me problems where it won't allow you a complete opening or feeling of freedom. Where you can't feel that you can just drop your jaw, which to me is a sensation that you want to feel. As if your mouth is almost as opened in the inside as it is on the out.

Q: So you're striving for a sensation, is that it?
A: But it's an actual position as well. I think the jaw is probably one of the most over maneuvered parts of the body that a singer could ever use.

Q: Are you aware of your jaw while singing?
A: Maybe initially if I know a vowel that I personally have problems with is approaching. When I'm still in the really learning stages of it, yes, I would think of it. Once you get to the performance stage, it should be happening as a muscular reaction. It should be a trained sensation that you shouldn't have to think about it.

Q: Does your jaw position influence your pitch?
A: Yes, indirectly, not directly.

Q: Can you describe how it influences your pitch?
A: Depending on whether, some people have a tendency to pull their jaw backwards into their throats which will cover the pitch and maybe eventually cause it to flat and cause it to not have the fullness that it can have. And by the same token it can often jut out too far which, I can't think of anything would ever really sharp the pitch. It can really cover the tone and really prohibit the tone from getting out to its maximum.

Q: Do you notice that with yourself at all?
A: Sometimes, yes.

Q: What do you do or what do you think to change that?
A: I try to send the vibrations either mentally and literally through my mouth. So I'm feeling it more in my sinus cavities. That's the kind of thing that works best for me. I think a lot about it. It's strictly mental. You can feel the vibes there. And [my teacher] does teach a really focused to the top. To think of a more narrow escape for it as the tone focuses inward, but yet it spans out. It's a narrow focus or channel that is directed out through the sinuses or cheekbones. If that narrow channel is in place then the voice will freely widen as it travels through the
Q: Can you tell me if your jaw position influences your vowels?
A: Yes. It's directly the way that I think. Probably more so than the pitch. And so
that if you have a retracted jaw your pitch is going to tend to be covered, it's
going to tend to lose its focus, to lose its point. And by the same token when it
juts outward, as a lot of young male singers I know do, I do too sometimes, it will,
the same way, restrict the tone. It will have the same affect. It doesn't have the
same sensation of sound to me, but they're both bad.
Q: What do you think of or what do you do to achieve the position for a quality
vowel with your jaw?
A: I think touching with the hinge joints on the side of my face. Not every time
because it becomes a crutch if you do that. But to achieve just that sensation of
the dropped jaw feeling and an openness within your mouth, it's emanated by the
freedom of your jaw hanging from its joint rather than manipulating it.
Q: Now do you also notice that sensation or think of that sensation of touching it
when you're not touching it?
A: Yes.
Q: Are you aware of any sensations connected with singing in tune?
A: Yes. Especially when you sing the lower pitches, I think of more of the
sensations, the buzzing of the mouth as I talked about. The resonance that you
feel there in your teeth, in your lips, especially on your closed vowels, especially in
the mid to lower range. Whereas for me, it moves upward, the focus of the mask
and the vibrations, I feel more in my sinus cavities for higher pitches and vowels
that need to be migrated. I migrate upward through my mouth as well.
Q: There are different sensations for different places in your voice?
A: Right.
Q: Do you ever think of these sensations before you begin to sing while practicing or
when you're performing?
A: It's much more heavy on the practicing side. Hopefully it will be taken care of for
the most part before you perform it. But if you've got a difficult spot or in a
difficult register of your voice, yes, I would still be thinking of it even on the stage.
For a certain vowel placement or a certain --
Q: When you say thinking of it, you mean thinking of the sensation that you want for
that place in your voice?
A: Yes. It's more of a mental thing than me thinking, "I'm going to move my jaw
three-quarters of a centimeter to the right." I would never do anything like that.
Q: Do you hear internally the pitches you intend to sing?
A: Yes. Internal as in through the instrument that I'm using or in my own head. I
often hear my own voice or the instrument that happens to be accompanying me
since I am a keyboardist and choral singer.
Q: So that's what you hear.
A: If the piano is accompanying me, from that harmonic progression the piano gives
me I will find the interval relationship with my pitch and I will hear it through
what is being played on the piano.
Q: Do you ever hear that mentally while you're singing?
A: Once you've completely learned a song, then I can hear it, the piano, whether it's
playing or not. And I can hear the melody whether it's playing or not. I can sing
the melody without the piano once it's really sung.

Q: Do you depend on an instrument for your pitches at all?
A: I am heavily dependent on the piano, as I think that would be the biggest kicker
for all singers, but I tend to play it more often than I should, perhaps. But I am
very dependent on it initially to even learn the basic melody. Although, I sight-
read and so I try to do that before using the piano and use it as a reference point
rather than a crutch.

Q: Before you sing, what do you do or think to insure that you will sing the correct
pitches?
A: Again, if it's an accompanied piece, I listen to that and I may have even picked
out the specific interval and have that going back and forth in my head. I'm going
to be outlining a chord in my head and knowing what position of the chord that
I'm going to sing and how it fits in with my pitches. A lot of times when I'm
trying to remember exactly what pitch I have, I can picture it on the page because
I do have a photographic memory. I can picture which side of the page it
happened on and I'll picture the harmonic groupings as units. I may just see one
staff at a time or it might be the whole page. It just kind of varies.

Q: Do you also hear these melodic groupings?
A: Yes, I have an aural image of those melodic units.

Q: Do you hear them as your own voice or as a block of sound before --
A: Once I've already learned the song. I hear my own voice because I associate
myself having sung it. If I've listened to recordings 20 million times, a lot of times
while I'm still in the learning process I hear that person's voice and not necessarily
mimic them but try to emanate some of the good things that they've done.

Q: So while you're singing, do you also do or think something to insure that you sing
the correct pitch as written on the page?
A: Not especially. I think after it's learned and after your ear is in tune with
whatever piece it may be no matter what the tonality is, that it will be there.

Q: Do you relate pitch to a physical sensation of high or low?
A: Yes. As I said before, to me it moves from low to high and that doesn't affect
like my posture or anything because that should always be the same. For the
lower pitches, I relate to sensations to more of the lips and the teeth buzzing and
actually feeling the vibrations of the sound. Whereas as the pitches become
higher, I send them higher through my mask. I feel the vibrations in a more
upward place on my face or through my face, more through the nose into the
sinus cavities for higher pitches and migrated vowels.

Q: Anything else you'd like to add?
A: Yes. I'm feeling about, on the pitch sensation, if it's related to high or low, no
matter how high the pitch is or how low, I want to feel that my body is low and
high at the same time. Just simultaneous sensation and to feel low and to feel
grounded is really above where you feel that you're stable on your feet. My
teacher often taught me to feel about five times bigger than I am with an inner
tube around me or weights hanging from me that ground my ribs to make them
feel that they are almost weighted but light at the same time. Because for as wide
as you need to feel, you need to feel as close to the ground. That you also need
to feel that your head is extended as high as it possibly could get. That you’re
almost — It’s kind of a marionette sensation but a fat marionette. So you’re
dangling with your freedom to move but you also know that you have a good
operator.

Q: Do you image each pitch of a song individually or as it relates melodically or
harmonically?

A: I must say predominantly I relate it melodically especially towards the beginning of
the learning process. Depending on how tonal a piece is, the melodic and
harmonic will become one and they will be interrelated to a point that you don’t
really separate them. For a very contemporary piece, I think it’s individual pitch
relations. It’s, you know, for people with some notes that are just so disjunct, but
there’s really no secret that makes any logical sense. You can finally memorize it
and I think that it is important for it to become a harmonic sensation the more
progress you make into the piece. Because without that I don’t think they have
the whole picture of the composition you’re presenting. Although I, being a
keyboardist, often go directly to the piano to explore the harmonies before being
well-grounded with the melody. And some singers simply hear the melody and
you don’t hear anything else and those people often sing soprano in choir all their
lives.

Q: Does your way of imaging or hearing a pitch change as you become more familiar
with the song?

A: Right. I was just saying I think it becomes more of a harmonic dependency than
strictly melodic or strictly pitch-to-pitch basis.

Q: Do you think about the position of your soft palate while singing?

A: Yes.

Q: What position are you trying to achieve and what thoughts or sensations help you
to achieve that position?

A: I’m thinking I’m trying to achieve a high and floaty position that allows more
freedom of air flow and the really common associations are the element of
surprise, the ”[a],” smelling the rose, to yawn, to sigh. And I was also mentioning
kind of a humming, warming the mouth sensations that kind of frees up all the
passageways to the soft palate. It’s kind of indirect but also helps.

Q: Can you describe that humming or chewing? What it feels like?

A: To me, it can help you just to warm the pitch around your entire face. You can
move it from side-to-side, up and down, you can feel the vibrations in your mouth.
Well, of course in your mouth but on your lips directly behind your teeth. You
can really feel it, it’s a very good initial warm-up for me.

Q: What about pitch. Does your soft palate position also influence your pitch?

A: Yes. If you have a lowered soft palate, it will flatten the pitch I think it almost
goes exactly with the position of the pitch. The more focused, the higher and
more relaxed the soft palate should lie.

Q: How do you insure the use of the soft palate position that will create a well-tuned
pitch?

A: The same sensation I guess as I described before but it’s not really a mnemonic
device. It’s just a muscular sensation. I think that after training for some years or
after understanding what the sensation feels like it’s no longer a thought process.
It's no longer having to depend upon some outside device or thought pattern to achieve that effect or to achieve that raising of the soft palate. It should just happen naturally as a muscular reaction.

Q: So it's muscle memory?
A: Yes, muscle memory.

Q: Was there any time in your past when you used some type of thought process to achieve that?
A: Definitely. And still when I have a problem on a certain vowel or achieving an openness inside my mouth as well as out.

Q: Does your soft palate position influence the quality of your vowels?
A: Yes.

Q: Could you tell me how the palate position influences vowel quality?
A: Absolutely. And still when I have a problem on a certain vowel or achieving an openness inside my mouth as well as out.

Q: Do you use some of the same surprise elements to think of vowels?
A: Yes.

Q: How do you connect your vowel with soft palate? Does it change according to vowel? Does your thought process or do your physical adjustments change?
A: They probably shouldn't change as much as I think that they're changing a lot of times, at least about the vowels. For the most part, they're not that different. It's just a minor adjustment that can cause the sound to be the sound that we need to project.

Q: In your singing do pitch and vowel influence each other?
A: Yes, definitely.

Q: What concepts do you use to think of pitch in combination with vowel or vice versa?
A: When I sing a closed vowel at the top of my range, I migrate it to a more open vowel and think of a pitch that's maybe a step higher and hope that I will land on it. I think of landing right above it. I never think of getting to a pitch but always comfortably resting on a pitch. Actually, you should never really rest --

Q: All of the pitches throughout the range, you think of that along with the vowel?
A: The lower the pitch I wouldn't be thinking it. It's the same as my placement, the high and low of the pitch placement. Because the pitch and the vowel for a lower register note for me require even more focus and more point to the sound or it will never carry. Especially on the [i] vowel which is comfortable for me to project at a low range, but requires that focus. It doesn't just happen. It doesn't happen with a lazy mouth.

Q: Do you have a method for forming vowels?
A: I haven't written a book on it yet, but I do. The [i] vowel is natural for me which I can feel vibrating through my top front teeth. And I think of that sensation prior to singing an [i]. I think that, and this is a direct influence of my teacher, but for me personally I have to think of an AW sound to produce an [a], to
produce a pure [a]. And I think I’m not the only one in the world who does that
because there are a lot of [A]’s out there for [a]. There are a lot of covered notes
for [i]’s. No one ever focuses their vowels to the sublime forward position that
they can be. And you don’t always want that. And in singing, depending on the
language, it certainly is variable. A lot of people tend to put it so forward that it
will go completely into their nose, which I do sometimes too singing [i] vowels
down low. I’ll focus it so far that it will jump into the wrong cavity. You have to
get it back and find that when --

Q: What concepts or images do you use in your method for forming vowels?
A: I think of -- Well, you’d be surprised by the giant AW that I picture jumping
around inside my head. I mean literally the letters AW jump around at me. I’ve
heard that there’s a good exercise that would be credited to, I guess, Jeffery Foote
and his vocal pedagogy book with very good vocalizes in it. And it uses, it’s called
"the witch sound." But it’s more like a [njA], it’s a really ugly sound but it forces
you to focus and it forces you to mix registers. And I think of that a lot and I do
that a lot, especially down lower. And it’s a range expander as well.

Q: Do you also think about directing the placement of a vowel?
A: Oh, yes. And the effective thing is to always direct it forward. There are some
teachers I know who probably promote an inhalation technique, which as long as
you inhale it and send it back out is an okay sensation. For me, I have to think
forward because my voice is heavier and it is darker in timbre. So the darker and
the richer the timbre of the voice the more you have to direct it forward or it will
be lost in your head. And you will think it sounds great but no one else will
notice it.

Q: What thoughts or adjustments do you use to direct the placement forward?
A: Eyebrows are a big vehicle and hopefully shouldn’t be overused or cause your face
to furrow. Which sounds silly, but is quite true actually. But they are big pitch
directors for me. The eyes are directly related, it can brighten the tone.

Q: What do you think of with your eyes?
A: What do I think of?

Q: How do they influence the direction?
A: The more open they are the more open that I can feel my eyes light up, literally
or figuratively. The more I can picture my tone lighting up in singing.

Q: Before you sing, do you consider how to direct your flow of air for phonation?
A: Yes. Especially in performance settings. I think that would be more important
because you’re combating nerves and your other muscle reactions like twitching,
like, you know, not being able to ground your breath as well as you would like. So
that you have to even think more clearly of how you’re going to use the air that
you can possibly muster up and direct it correctly.

Q: So, you mentioned in performance, what about actually during the performance,
while you’re singing not before, do you also keep that thought process going?
A: Oh, I definitely keep my thoughts even more prevalent then.

Q: What thoughts or adjustments do you use for that beneficial air flow?
A: I think of keeping my knees flexible, which is nothing original. Always one foot
forward to be grounded to feel as if I were going to -- I think of giving to my
audience. I think instead of retracting from them and pulling away that I should
lead with my body, not in a physical, necessarily, gesture or motion or pulsing or
down right now and not fall over. No one could knock me over right now because
I'm here and planted.

Q: So that helps with air flow?
A: Yes.

Q: Is there anything else in connection with air flow that you actually feel like you're
directing it more than the grounding of your body?
A: I think of taking really deep mouth breaths through the mouth instead of the nose
sometimes. I think you can get a more open sensation especially if you're feeling
anxiety. It's a much stronger sensation to me than [nasal breathing] which you
really shouldn't do while you're singing anyway. You can use the combination of
the two. It's that open mouth feeling.

Q: Are your lip movements and positions important for good diction?
A: Yes, but not overly so. It's important that enunciation is, over diction, is
inoffensive and doesn't take away from the beauty of the line. I think of your lips,
and teeth, all your articulators as a consonant vehicle. But to me the
consonants are just the icing or the fringe, they are kind of the invitation to the
real sound. Because they're interruptions along the periodic vowel sounds,
because that's the purest, it's the most beautiful thing you can get across.

Q: Do you ever consider the tongue important, you said articulators were you
including the tongue?
A: Oh, yes. The position of the tongue is highly important in your placement. Your
tongue should rest right behind your teeth almost all the time except when you're
articulating an [i] or your labials, dentals or whatever, sibilants and all those
different words that we know that are also diction tools. The tongue contracts too
much in people that don't focus their tongue correctly. When I'm singing a high
note especially, I arch the back of the tongue and position the tip of the tongue
behind the bottom teeth and leave it there. A lot of times I'll stick it completely
outside of my mouth and do exercises to get that sensation of freedom then
position it back in. But it helps.

Q: One other question, during your private practice do you ever practice silently?
A: Yes.

Q: What do you do during your private silent practice periods?
A: Probably the most beneficial silent practice periods I have -- Well, a lot of them
would be after I've conquered the melody of the song. After I've got the music in
my head, where I can sing it in my head hearing my own voice singing it.

Q: Melodically or harmonically?
A: Well, you can't really do harmonically just by itself but melodically, I guess, would
be preferred or strictly without music at all. It would be on word stress. It would
be on things like that.
Q: Do you do any practicing silently by reviewing the melody as you talked about earlier, hearing your own voice or hearing the harmonies?
A: Yes. I know it wouldn't be a silent practice to play the accompaniment and think of it as being me but that's silent practicing the other way, silence of the melody. That's what I often do, I often play it and just hear my line in my head as I play the other.
Q: Do you also review any sensations that you are striving for in a performance while you are practicing silently?
A: The sensation of the raised palate and thinking of every element, a combination of all the things we just talked about, yes. I would think about those things.
Interview #9: Undergraduate Singer

Age: 22
Years of Private Voice Study: 7 years
Current Level of Education: Senior
Name of Current Educational Institution: Southern Methodist University

Q: Before you begin to sing, are you aware of your jaw position?
A: Yes, I am.

Q: What do you notice about your jaw position before you sing?
A: I try to, I don’t put it anywhere. I just try to make sure it’s relaxed and down and under instead of, you know, jetting out or on the side or anything. Just kind of a relaxed position.

Q: Are you aware of it at all while you’re singing?
A: Only on certain -- If I get told watch your jaw or, you know, if I’m getting tense or something then I’ll watch it at that situation. But I’m not always thinking of my jaw.

Q: What makes you notice it? What are your clues?
A: Well, usually my voice teacher is saying, "drop your jaw," or something like that. And when I get higher I like to -- For some reason I don’t want to open my mouth. I just want to sing without opening much and so I have to think about it, opening it up as I go up.

Q: I see. Does your jaw position influence your pitch?
A: I don’t think so. It might, but not that I know of.

Q: Different people have different answers. Then is your jaw position of any importance to you at all in terms of quality of your sound?
A: Oh, yes. Definitely. I think when my jaw’s open, I open more inside. I know you can open inside and still be closed on the outside but it really helps me with that real open sound, instead of all crunched up.

Q: Does your jaw position influence the quality of your vowels?

Q: Can you describe how your jaw position relates to good vowel quality?
A: Instead of being pinched and closed vowels they can be open. You can still have a closed vowel but when it’s open it’s not as strident or whatever.

Q: Is there anything that you notice or that you sense about yourself so that you know that your jaw is helping with vowel quality?
A: What, when I hear? Things that I hear, or --

Q: It could be something you hear, it could just be something you sense.
A: I don’t know.

Q: Are you aware of any sensations connected with singing in tune?
A: No, because I mean -- What if you know you’re not singing in tune or if you know you are singing in tune? What’s the difference between the sensations?

Q: I guess so. Some people have certain sensations that are clues to them that they are singing correctly and, therefore, in tune.
A: Okay, like if you feel like you’re under the pitch you feel kind of -- You don’t feel that lift like you’re going on top of everything.
Q: So you notice that, you notice a lift if you’re on top of everything?
A: Oh, yes. You know when you’ve got the right pitch.
Q: Tell me how you know that.
A: It doesn’t feel like you are reaching for anything. It doesn’t feel like you’re sitting on anything but it just feels like, I don’t know. It doesn’t feel like that and doesn’t feel like that, it just feels kind of like that.
Q: It’s not up or under but it’s sliding over.
A: Right, right.
Q: I’m trying to interpret your hand movements --
A: Yes. It’s not right on it though, it’s over it.
Q: Is there something you think about before you sing or while you’re singing?
A: Yes.
Q: Both?
A: I guess, yes, both. At different times while I’m singing, not all the time.
Q: So it’s not really a sensation but it’s more --
A: It’s more of a thought.
Q: A thought.
A: Yes. I don’t feel it.
Q: Do you hear internally, in your imagination, the pitches you intend to sing?
A: I try to. I’d been working on that last summer. I was told, I was working with a different teacher, my teacher now doesn’t tell me to do that at all, but she said every pitch you’re going to sing hear it in your head. And it’s coming but I still don’t. I catch myself not doing it, but I think it helps. Definitely.
Q: When you hear that, what are you hearing? A generic sound, your own voice, the piano? What do you hear?
A: I don’t hear my own voice. I hear just a sound, it’s not a piano or a voice.
Q: What kind of sound?
A: I don’t know. Maybe it’s kind of like a horn sound or something. I don’t know. Maybe I was just listening to that and that’s why I hear that. I have no idea. It’s more of a sustained sound. It’s not like bonk, like that, it’s [a sustained forward hum]. I just hear -- But it’s not a voice.
Q: I understand. Do you depend on the instrument, an instrument at all for your pitches?
A: What do you mean?
Q: Any instrument. Do you depend on an instrument for pitches at all in your singing?
A: Like if I’m going to go practice?
Q: A piano or --
A: Oh, yes. If I’m going to go practice I do.
Q: Or even sometimes in performance?
A: Usually I don’t just come out and sing without an accompanist or anything.
Q: But do you depend on that instrument or are you hearing it in your own head again?
A: Before the song even starts, you mean? I mean like perfect pitch, would I have to, you know, exactly know what pitch I was going to sing or is it relative?
Q: Relative.
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A: Relatively, no.

Q: That's another question. After working on a piece for a period of time are you able to just sing the first pitch without having to refer to a piano or another instrument?

A: Yes. It's weird. I don't do it all the time thinking, "Oh, I know this." But a lot of times I'll be humming something before I get into the practice room and then end up playing the chord and it's right -- It's just kind of weird. I go, "Oh, I guess I was lucky," but it happens a lot.

Q: Before you sing, what do you do or what do you think to insure that you will sing the correct pitches?

A: Think the pitch.

Q: I was going to say it might refer back to what you were saying before. So --

A: So I guess if I didn't do that, that would be kind of strange. I guess I do do that a lot.

Q: When you think, as your former teacher suggested, are you thinking through the whole phrase?

A: I know that's what you're supposed to do.

Q: This is before you sing that.

A: Yes. I would do that.

Q: Now, while you're singing, what do you do or what do you think to insure that you're singing correct pitches?

A: I don't know.

Q: Do you have any kind of continued thought process that's similar to what you did before you sang?

A: It's not as, not as much. Because before I sing I can think of the first phrase and then sing but then if I'm thinking of the next phrase while I'm singing half way, it's kind of -- I don't know, that would be strange. I know you're supposed to do that. And that's what the teacher was trying to teach me how, you know, hear it before you sing it and then always be ahead and always be ahead. But I don't know if I understand it too well.

Q: So what will you say that you -- Do you notice anything that you are doing or thinking then so that you are singing the correct melody and the correct pitches or not?

A: Not really. It just kind of comes.

Q: Do you relate pitch to a physical sensation of high or low?

A: Yes. Definitely.

Q: Can you describe the images or sensations you use to help you with the pitch distinctions? I guess I should say pitch placements -- To help you with pitch placement?

A: What do you mean, like a higher note is more in the head and then do you think of it more in the head and then lower note you think of it more in mouth or chest?

Q: Could be, yes. Some people do, some people don't. So I just want to know what your interpretation is.

A: Yes. I think so, I think that's what I do.

Q: So you think the higher placement more in the head and the lower more in the
132 mouth?

133 A: Yes. I still try to think of like the middle pitch in the head. And I don’t think of
134 them like, ”Break,” now I’m in the mouth, ”break,” now I’m in the chest.
135
136 Q: Now are these sensations or thoughts? Do you notice the vibrations?
137 A: Both. I think so. Yes, I feel vibrations in my head when I think of, when I’m
138 singing a high note or even just any notes that’s in my head voice.
139 Q: Do you ever think about that vibration before you sing and then aim for it?
140 A: Yes. Definitely.
141 Q: Do you image each pitch of a song individually or as it relates melodically or as it
142 relates harmonically?
143 A: As it relates melodically.
144 Q: Does your way of imaging or hearing a pitch change the more familiar you are
145 with a song?
146 A: Yes. I guess if I couldn’t get a pitch I’d, you know, be like, ”Okay, now wait. It’s
147 the third from the bass note.” But if I know it I just can hear it. I don’t have to
148 think like [humming a triad], ”Okay, there it is,” I just hear it.
149 Q: So when you first learn it you relate it to the harmony? Is that what you were
150 saying?
151 A: Well, I guess if I can’t get it, if I’m having trouble with the pitch, then I think,
152 ”Okay, where am I going to find this.” Either from the last note that I sang or if
153 there’s just accompaniment going on and it’s difficult or something, I’ll try to
154 relate it. But if I hear the pitch somewhere near in the accompaniment,
155 depending on which one’s easier. If I can, I do it from the melody then the next
156 step would be the harmony.
157 Q: Do you think about the position of your soft palate while you’re singing?
158 A: Probably more before I sing then while I’m singing. I know I should think about it
159 all the time.
160 Q: What are you trying to achieve or what thoughts or sensations help you to achieve
161 this soft palate position?
162 A: A feeling of drinking in the air, you know, the apple [sigh], like that. [My teacher]
163 does a little panting thing like that and it kind of makes you lift the soft palate.
164 But during a song -- Just a lift, a feeling of lift inside.
165 Q: Does your soft palate position influence your pitch?
166 A: Yes. Definitely.
167 Q: How do you insure the use of the soft palate position that will give you a well-
168 tuned pitch?
169 A: How do I insure that I use it?
170 Q: Yes.
171 A: Sometimes I don’t. Just feeling the lift and trying not to forget to feel the lift.
172 Because when I forget it goes down and then I’m sometimes flat.
173 Q: Does your soft palate position influence the quality of your vowels?
174 A: Yes, I think so. I wonder in which way. I think it makes them with more of a
175 point to them. I think. Instead of just back in the throat.
176 Q: What do you notice about your vowels when you have a taller soft palate position?
177 A: I feel lots of vibration.
178 Q: In your singing, do pitch and vowel influence each other?
A: Yes.
Q: What concepts do you use to think of pitch in connection with vowel?
A: Like, are you saying what pitches, I'm kind of not clear about the question.
Q: You want me to go back to the first question?
A: I guess.
Q: First of all, do you think of pitch in combination with vowel?
A: Like, what I was meaning when I said yes was that certain pitches are easier on certain vowels, is that what you mean, or no?
Q: When you're singing, do you conceptualize pitch and vowel together or are they separate? This is the pitch and this is the vowel I'm going to sing.
A: If I do, I think about them separately.
Q: You do? Then what concepts do you use to think of them separately instead of together? Instead of, "I'm singing an A in my upper range on an [o] vowel," instead of singing them together, how do you think, "Well, this is the A-flat and this is the [o] vowel?"
A: Maybe I do think of them together.
Q: Either way is okay.
A: Yes. I know, I'm just trying to figure out. I'm not quite sure. I guess on a certain song, a given song, if I'm thinking the A's and it happens to be on an [o] vowel obviously I think of them together. I don't think of, you know [hums pitch then sings [o] on that pitch] I don't think of that. I don't think I could think of them separately then.
Q: What about in other parts of your range? The middle range? Do you think a pitch in combination with vowel or separately?
A: I think I think of them in combination. I guess, I'm sorry to keep going back and forth but I wasn't sure what you meant.
Q: It may be something you haven't thought about.
A: Yes. I haven't. I'm like, how could you think of it? I mean if it's just a pitch, I'm just doing a scale or something, I don't think of a vowel with it but if it's in a song and I happen to be singing a certain vowel on that then obviously I think of them together.
Q: Would vowels, I mean with exercises then, so you have a long run on an [u] vowel, do you think about doing the exercise with that [u]?
A: Yes.
Q: What method do you have for forming vowels? Or do you have a method for forming vowels?
A: Well, I don't know. I guess the [i] and the [e] are more closed and the [a] and the [u] is closed. If I think I'm going to sing an [u] then I'm not going to go, "Hey, I'm not going to sing it like that," I'm going to start it. Is that what you're asking?
Q: What concepts or images do you use with your method?
A: Well, especially when I'm singing back vowels, I have problems with [a] vowels because I tend to make it go real far back. So when I think, sometimes I try to think of - I try to think [i] in my head and then sing [a] because I try to keep it real forward.
Q: Do you think about directing the placement of a vowel?
A: Definitely.
Q: All right. Then what thoughts or adjustments do you use to direct that placement?
A: I use the thought of going right in between my eyes, up and out, and I also think of something up here --
Q: Up on top of your head?
A: Yes, in the middle of the head, right here. Also, I think sometimes about, different times I think different things and sometimes I think that little dot that's right in the middle of your head right between here and there. I don't know.
Q: So, you have a dot inside your head that meets exactly in the middle if you were to draw two lines --
A: Yes, not like there but up here on top.
Q: Okay, up just above your eye.
A: And then in between there [subject indicates -- the intersection coming down from the top of the head and inward from the middle of the forehead] is a little dot. I think, "I want to feel that vibrate." Maybe that's the right place, maybe it should be right here.
Q: Before singing, do you consider how to direct your flow of air for singing?
A: Yes.
Q: All right, how about during singing? Do you also consider how to direct your flow of air?
A: I think I do think of it when I'm singing. It's not like I'm thinking, "Where's my air going?" but, yes, I think I do.
Q: What thoughts do you use to direct that?
A: Just picking a point that you want to sing to, I guess, in the room or the hall or wherever, and just singing. Not looking right blank at it the whole time but acting like someone's face is right there -- you want them to hear you.
Q: Are your lip movements important for good diction?
A: Oh, definitely.
Q: All right. What about mouth position?
A: Yes.
Q: Tongue?
A: Yes.
Q: Then, can you tell me what lip, mouth, or tongue positions you think elicit good diction and what images or physical adjustments you personally use to get that result?
A: I think it needs to be open. You can't ever close off your mouth and have good diction. And the lips need to be real free instead of tight or constricted or, you know -- Open, I guess, just open and try to be precise tongue movements, not clinched or anything but --
Q: There are no special thoughts that you use, or standard adjustment you use physically, to get that?
A: Not that I know of.
Q: Well, you would know.
A: I guess so.
Q: During your private practice, do you ever practice silently?
A: Yes, I think so.
Q: What do you do during your silent practice time?
A: I see if I can hear the whole song. Like if I’m memorizing something I try to hear if I can go through the whole song and then at the end be on the right pitch to make sure that I really know the song, or stuff like that. Or, I guess if I were, I hardly ever do this, but if I was trying to save my voice I just sing the song in my head.
Q: Have you ever done that?
A: Yes.
Q: When you sing the song in your head, do you notice any of the sensations that you do when you’re really singing?
A: Yes, I do. I’ve gotten tired by just singing. You know, singing in the mind before like, “Oh God, I have to stop thinking of this song because my throat is just tired,” you know. Have you ever thought about that? Or hear someone sing and you’ve been kind of dragged out with them.
Q: What do you think of then when you are practicing silently and you’re thinking of your technique?
A: I think of the placement, the head placement, and keeping it on top of the pitch and things like that.
Q: As well as pitches?
A: Yes.
Q: And again, when you’re hearing them is it that kind of generic tone that you’re hearing?
A: No. If I’m thinking of myself singing the song I hear myself, I guess.
Interview #10: Undergraduate Singer
Age: 18
Years of Private Voice Study: 5 years
Current Level of Education: Freshman
Name of Current Educational Institution: University of North Texas

Q: Before you begin to sing, are you aware of your jaw position?
A: Yes.
Q: What do you notice about your jaw position?
A: I just try to have my neck aligned and chest up and just get the jaw in the right place.
Q: How do you know if it's in the right place?
A: I just -- Everything kind of falls into -- I feel like if the neck is aligned everything just kind of falls into the right place.
Q: Are you aware of your jaw while you're singing?
A: Yes. As a young singer I had a tendency to chew words and stuff like that and especially use the jaw to change notes rather than the breathing apparatus itself. So, I've had to -- I'm really aware of the jaw.
Q: Does your jaw position influence your pitch?
A: It has, but more recently I've been able to break the habit. When I was younger, you know the tenors that stick the neck out and all that. I went through all that but I think I pretty much broke those bad habits.
Q: Can you tell me how you are able to know if your jaw is influencing your pitch or not? What are the signals for you?
A: Just a lot of tension throughout the neck and the back. And sometimes, especially if I practice in the mirror or I'm, you can just see right off the bat that nothing is aligned.
Q: Does your jaw position also influence the quality of your vowels?
A: Yes. Because then you don't correctly produce the vowels and get the tone that you want because the jaw is in the way. It doesn't let the voice come out like it's supposed to be there.
Q: Can you describe for me what you do or what you think to achieve a position so you have better vowels?
A: I don't know. I just try to get all this up front out of the way.
Q: What do you mean, all this up front?
A: Like the jaw especially. Just try to, just let the voice work like it's supposed to instead of manipulating everything up here and just trashing the vocal line.
Q: Are you aware of any sensations connected with singing in tune?
A: No, not really. I know when I'm out of tune but in tune, I guess I kind of just take it for granted. I just go. When I'm singing, up on stage especially, your nerves kind of take over and at this point I just kind of ride with it and see where it goes. Whatever happens, happens.
Q: How can you tell if you're out of tune?
A: Usually, recently I can start on the right pitch and then all of a sudden I'll go sharp. Especially the high notes. Whether it be that I'm not using my breath
Q: How can you tell you're going sharp?
A: I can hear it.
Q: You hear it?
A: Yes.
Q: Do you hear in your imagination the pitches you intend to sing?
A: Yes.
Q: Can you describe for me what you hear when you hear those pitches? Your own voice, a piano, something else?
A: My own voice. It's like, I don't know, the mind's ear kind of.
Q: Is there any way to describe what you're hearing?
A: I don't know. I figure if you hear the pitch before you sing it, in your mind, that your chances of you being on pitch are a whole lot better.
Q: Do you depend on an instrument at all for your pitches?
A: Piano. Just singing with the piano.
Q: Can you tell me how you utilize the piano?
A: Like in a piece of music or something like that?
Q: Could be music, it could be an exercise. However you use the piano.
A: Well, in practice I just use it for -- You hit a note and start a note and just do scales up or something like that. In a piece, I just find places where the piano could help me with the right pitch and then just use it that way.
Q: After you've been working on a piece for a while, are you able just to begin on the correct pitch without going to a piano?
A: Like perfect -- Like just knowing where the pitch is?
Q: After you've practiced the piece --
A: I could probably get pretty close but you may have a relative feel of where it starts, but exactly no.
Q: Before singing, what do you do or what do you think to insure that you will sing the correct pitches?
A: Just listen and get a good breath and try to -- I don't know.
Q: I guess I'm also asking, what are you doing or what are you thinking to make sure that you are going to sing what was written by the composer? The pitches that are on the page.
A: I just rely on my practice and whether or not -- If I learned it correctly, I just sing it and then it will be there when I perform it.
Q: So there's nothing you think of before singing?
A: I'd go over the piece in my mind and make sure I -- But as far as pitch, no.
Q: What about while you are singing? Anything that you do or think to insure that you're going to sing the correct pitches?
A: Well, just make sure that the placement's right and stuff like that, like high notes.
Q: Also, not just correct pitches meaning not sharp or not flat but what was written on the page. While you're singing, anything you do or you think to insure that you are going to sing what the composer wrote?
A: I don't know.
Q: Do you relate pitch to a physical sensation of high or low?
A: Like high and low pitch?
Q: Is there a physical sensation you have with a high pitch that may be different from that of a lower pitch? Do you relate it --
A: Yes.
Q: Can you describe the images or sensations that help you to determine pitch placement?
A: For the high notes I just envision like forward. When I was younger everything was dropped back and real throaty. Now I just think of it as being forward, more brighter, but with a deeper, lower quality in it. That tends to help.
Q: Do you have a concept of the tone?
A: Yes.
Q: What about lower pitches?
A: I don't know. I don't have many low pitches.
Q: Well, you have to sing lower ones than high ones. Is it a different sensation?
A: It's really not one that I think about because my high notes to me are more important than my low notes. So, I've never really thought about it.
Q: Do you image each pitch of a song individually or as it relates melodically or as it relates harmonically?
A: As it relates melodically.
Q: Does your way of imaging or hearing a pitch change the more familiar you are with a song?
A: Yes. Your body remembers how it goes after you've practiced it and practiced it and I just, I let that happen.
Q: So it just becomes a part of you?
A: Yes.
Q: Do you think about the position of your soft palate while you're singing?
A: I did when I was younger. I haven't really thought about it lately. I guess it's always been up and so I never --
Q: Are you aware of any pharyngeal adjustments?
A: As far as anything in the mouth or --
Q: Yes. Back of the nose, mouth, throat.
A: Tongue more than anything because I've had a tendency to let the tongue get back into the throat instead of lying next to the bottom of the teeth. And I have to be really aware of my tongue, especially when I start chewing words and stuff like that.
Q: How are you aware of your tongue? How do you know?
A: I just practice a lot in front of a mirror.
Q: So it's by seeing. It's not by sensation?
A: No. Because I've tried to rely on sensation and it didn't work. So I, by conscious effort, look in the mirror and make sure it's down and I figure after a while it will learn where it's supposed to be.
Q: Does your soft palate influence your pitch?
A: I'm sure it does but I don't know if it affects mine.
Q: Is there any kind of adjustment that you use to make sure that you're creating a well-tuned pitch, any type of mouth or pharyngeal adjustments?
A: Just try to get the most pure vowel that you can to come out. And make sure
132 everything is out of the way and just let the voice work.
133 Q: Do you think your soft palate, for you, does your soft palate position influence the
134 quality of your vowels?
135 A: Yes. I think it does.
136 Q: Then can you tell me how it influences vowel quality?
137 A: I don’t know. I really don’t.
138 Q: Just whatever you’ve noticed within yourself. It’s not an intellectual thing.
139 A: Okay. I don’t know. Ever since I’ve been singing I just, you know, drop your jaw,
raise the soft palate. If you get the sense of a potato being in your mouth or
something hot being in your mouth, in the soft palate, but I don’t know how it
would affect my vowels.
140 Q: Your vowels?
141 A: The vowels.
142 Q: In your singing, do pitch and vowel influence each other?
143 A: Yes.
144 Q: Can you tell me what concepts you use to think of pitch in combination with
vowel or vice versa?
145 A: I just get the purest vowel and I think the pitch will be there.
146 Q: How do you come up with that purest vowel that you talk about?
147 A: Because just in lesson and as I chew words and stuff, I tend to, especially
diphthongs, I’ll distort the vowel sound and stuff will happen. The pitch will go
sharp or flat and so I just try to get the purest vowel sound to the end of the
phrase.
148 Q: I guess what I’m asking is how did you get the concept of that pure vowel. How
do you know what a pure [a] sounds like or a pure [u]?
150 Q: So from hearing them?
151 A: Yes.
152 Q: Do you have a method for forming vowels?
153 A: No. I don’t think so.
154 Q: Any concepts or images that you use to form vowels at all?
155 A: No.
156 Q: Do you think about directing the placement of a vowel?
157 A: I guess I do it, but I don’t think about it. I don’t think about it really.
158 Q: Have you ever thought about it?
159 A: No.
160 Q: Directing it in any way? Directing your vowels?
161 A: No. I don’t think so.
162 Q: Then again, what do you do to insure that you are singing a proper vowel?
163 A: I guess I just take it for granted. I really don’t think about it.
164 Q: Before singing, do you consider how to direct your flow of air for singing?
165 A: Yes.
166 Q: What about during singing? Are you also aware of your air flow?
167 A: Yes. That’s one of my, I feel, more important things. That if the breath is there,
the voice will be. You don’t have to worry about it much.
168 Q: Can you tell me what thoughts or physical adjustments you use to help you obtain
a beneficial air flow?

Q: What about when releasing the air? Do you think about air flow beyond your inhalation?
A: No. I just --

Q: When you let it go is there any way that you direct it?
A: No. I think more of the inhalation rather than the exhalation.

Q: Are your lip movements and positions important for good diction?
A: Yes.

Q: What about mouth position or tongue position?
A: I'd say the tongue more than the mouth.

Q: Can you tell me what images or physical adjustments you use with lips, tongue, mouth, any of those, for good diction?
A: Well, I just try to let the tongue make the words that, the consonants and the words that it's supposed to use instead of getting in the way of what it's not supposed to. And then the lips -- I don't know, just the best diction as possible I guess.

Q: What do you use as a guide for this best diction that you're talking about? How do you know that this is the best diction? How do you know that's what you should strive for?
A: I guess if I'm understood then the diction is okay.

Q: During your private practice, do you ever practice silently?
A: Yes. Go over music in your head. Saves a lot on the voice.

Q: I was going to ask exactly what you started to describe. What do you do when you're practicing silently? Exactly what do you do?
A: Just go over tricky phrases that are giving me problems.

Q: How do you go over them. Are you just thinking about the notes or are you thinking about technique?
A: Mostly the notes and what I need to do physically at that time to get everything to work right.

Q: Anything else you do during silent practice?
A: Memorization, stuff like that.
Interview #11: Graduate Singer

Age: 31
Years of Private Voice Study: 5 years
Current Level of Education: Masters Degree
Name of Current Educational Institution: University of North Texas

Q: Before you begin to sing, are you aware at all of your jaw position?
A: Yes.
Q: What do you notice?
A: I notice if I feel it. Because if I feel anything then that means I've got tension and so I'll purposefully check to see that it's really relaxed.
Q: Do you check by thinking about it or touching it?
A: Both. One of my personal best tools is that I put my hand on the side of my face and then I can feel if it's doing something because it helps to make me conscious of it.
Q: So you're actually aware in that you want to make sure that it's not doing something you don't want it to do?
A: Right.
Q: Are you aware, do you think of what you want it to do?
A: No. I mean, what I want to feel is nothing. So if I feel something that means something's wrong.
Q: Are you aware of your jaw position while you're singing?
A: Yes. Basically the same methodology. A lot of times when I'm practicing I practice with a hand up [touching my jaw].
Q: Does your jaw position influence pitch, your pitch?
A: No. Not to my knowledge. Oh, I imagine if it's poor, if I'm holding it -- It probably would make me go sharp if I was holding my jaw. If there's tension in it, it probably would make me go sharp.
Q: But you haven't noticed that?
A: No.
Q: Do you think the jaw position is of any importance in pitch?
A: It doesn't seem to me to be. Well, I think if it's loose it helps you keep a truer pitch. And if you've got tension in it then it will probably alter the pitch, or at least the perception of it, because it'll probably alter the overtone series. It will probably take some of your overtones out, so therefore, make each sound like you're sharp.
Q: Do you notice that while you're singing or is this just --
A: No, it's usually something I'll hear. I'll know if it's tight and then I'll hear something on a tape that I sound sharp.
Q: Interesting. Does your jaw position influence the quality of your vowels?
A: Probably.
Q: But you don't consciously --
A: No, it's not something I attempt to coordinate.
Q: What do you think or do in terms of your jaw to make sure that you have quality vowels? Or is it what you --
A: Frankly, I don't tend to connect the two things.

Q: Are you aware of any sensations connected with singing in tune?

A: Yes. There's a certain beat at my -- There's a vibrato that my voice teacher calls kind of a beat. And if I have -- If I'm doing that, that tends to be the most relaxed position and where I tend to be the most in tune.

Q: So you find this to be beneficial?

A: Yes. I generally, among singers, I tend to not have pitch problems. Some people have, you know, more than others and I tend not to. Whenever I have a pitch problem it's usually either because I'm pressing, so I'm going flat, or I'm holding something, so it's cutting off some overtones and I sound sharp.

Q: Do you think of any sensations that are clues to you, that will guide you, to make sure that everything is going to be in tune? Or is it just that beat?

A: That's usually, right now, that's what I head towards is the beat.

Q: Now are you aware of this when you're practicing or performing?

A: Both.

Q: So you consciously think of it while you are performing?

A: No, I strive to get to the place where -- For me, I've gotten to kind of a place where I won't always be able to catch myself before I develop a tension somewhere. But I will usually catch it right after I've developed a tension and I usually try to correct that. But I don't go into singing thinking about, "Okay, I'm going to have this positioned here and that positioned there." That's not my methodology. I'm more aiming for something. I aim for finding that beat and then I stick with that. And then if I feel a tension creeping in that's when I notice something or other, whether it's my soft palate or my jaw or something like that. And then it tends to make a correction.

Q: Now what do you do to aim for that beat? What process do you go through?

A: Visual imagery.

Q: Which is?

A: Well, I basically, I think of the sound as kind of a cone. And I think of the cone going out through my front teeth as much as possible, like the top of my, in between where my gum is and the top of some of my front teeth. And I think of that cone going through that, the center of the cone going right where that is. And it gets more narrow as it goes away from you.

Q: Interesting. Do you hear internally the pitches you intend to sing?

A: When I'm singing them?

Q: When you're practicing or when you're performing, do you hear those pitches that you intend to sing in your mind?

A: So, in other words, am I singing along with myself in my mind?

Q: It could be that. It depends on the individual. Or it could be that you have an impression of it, you hear it before you sing it.

A: I'd say no.

Q: Then, do you depend on an instrument for your pitches?

A: Oh, you mean, okay, you mean before I start singing do I visualize the pitch? Like the beginning pitch of the song?
Q: Yes. But it would also lead into the song too. I mean, you have to know what comes after that first pitch. How do you hear those? Do you get from an internal --
A: I remember that -- I will like just hear and be very close to knowing what the first pitch is to the song. And I'll often go over to my piano and check it to make sure and I'm usually within a semi-tone and sometimes it's in between a semi-tone.
Q: So you have a good muscle memory or pitch memory?
A: Yes. And then I don't really think of it beyond that. Although I'll kind of hum like there's an interlude. I'll kind of mentally hum the interlude, like if the piano plays or whatever instruments.
Q: When you do that, what do you hear in your mind? Do you hear your own voice?
A: No, I hear the instruments.
Q: So you actually hear the piano if it's going to be a piano?
A: Or if I have a recording. Like I'm thinking of a certain thing that I'm working on right now and it's like all bows, clarinets and stuff and so I'll think of that. Or if it's orchestral, I'll think of the orchestra doing it.
Q: Now if you're just driving along and thinking about something that you're going to be singing, do you hear your own voice?
A: In the singing line? Yes.
Q: Do you think that that has anything to do with how you conceive of a melody?
A: No, not really -- Are you thinking of something when you mentioned me doing something like in the car? Is this just any tune or something that I sing?
Q: Something that you're working on --
A: Yes. Something that I'm working on I hear my own voice. Something like an Elton John song, I'll hear Elton John singing it. I just wanted to clarify that.
Q: What do you think, what do you do or think to insure that you'll sing the correct pitches before you sing?
A: Nothing.
Q: It just comes to you?
A: Yes. I just do it.
Q: Do you think that's from repetition?
A: Probably. I think, you mean repetition of the song?
Q: Is it through practice?
A: I don't think I developed that skill through practice, I think that's just something I can do.
Q: But, I guess what I'm saying is you know that that first note's going to be an Ab because you've sung this so many times or is it something you can do after you get through rehearsing with it one time?
A: Okay. Well, within a semi-tone? Yes, after one time.
Q: Good. While singing, do you do anything to insure that you're singing the correct pitches? Do you check yourself on the piano, do you check yourself mentally?
A: I check myself on the piano.
Q: Do you relate pitch to a sensation of high or low? A physical sensation of high or low?
A: Sometimes, at the extremes I think I do a little bit. I don't think that's right. I
132 don’t think that’s really good.
133 Q: Can you describe the images or sensations that you have that help you
determine --
135 A: Well, it usually has to do with where I am feeling vibrations in my face. You
know, the higher I’m singing, the higher I send the vibrations. The lower I’m
singing I’ll feel it further down or, you know, in my sternum. And --
138 Q: It’s actually where you kinesthetically feel it in your body or your face?
139 A: Although I’m trying to lessen that range because I think that I have been shooting
too high for high notes and maybe a little too low for some low notes. I think that
I probably felt too wide a range of vibration.
142 Q: Interesting. Before you’re going to sing the high or that low note, do you kind of
get the impression that that’s the vibration you’re going to feel?
144 A: No.
145 Q: Do you image each pitch of the song individually or as it relates to melody or
harmonic passage?
147 A: Well, that depends. If I have a hard time with the -- If it’s something that is not
real traditional harmonically, such as I’m working on this aria in "Rake’s Progress,"
it’s not a real traditional melody so I’ll kind of think of it in certain places, places
that I have a little bit -- I usually, I try to go for melodically. And then if I’m
having a little bit of trouble with it melodically then I’ll, certain notes probably
think of harmonically.
153 Q: So usually it’s a melodic phrase, you don’t think individual notes?
154 A: No, I never think individual notes.
155 Q: Does your way of thinking of a pitch change as you become more familiar with a
song?
157 A: Yes, it can. Because sometimes I will think of a melody in maybe a two-bar
phrase and then I’ll change my thinking to a four-bar phrase.
159 Q: A longer phrase?
160 A: Yes. Sometimes.
161 Q: Do you think about the position of your soft palate while you’re singing?
162 A: I’m trying to less and less.
163 Q: Are you aware of any pharyngeal adjustments that take place?
164 A: Yes, and I’m trying to less and less.
165 Q: Well, what are you aware of?
166 A: Well, I’m aware of when I do a glottal stop, certainly. This all relates to where I
am as far as my growth as a singer goes, where I am right now. Personally, I
think that I had paid way too much attention to every little change and stuff like
that in my mouth going on. And I think that in the first place, my production
tends to be kind of not particularly forward in the first place and I think it caused
it to be even less forward. So, I’m more concentrating on a forward placement,
which basically means kind of that tongue concept. And generally, if I can get a
forward placement I tend to get the beat and basically most things fall into place.
So, I’m trying not to think about any of those things right now because if I do then
everything tends to go back.
176 Q: What adjustments have you found that are beneficial for you?
177 A: Adjustments of what?
Q: Pharyngeal, I mean soft palate.
A: Well, I have tended to drop my soft palate in my middle voice and so I've had to do some conscious thinking of keeping it up, kind of downward past the passaggio.
Q: What do you do, what do you think of to keep it up?
A: It mentally, I think of it being up.
Q: So just kind of a yawn?
A: Well, yes, I don't think of the yawn because then that, for me, invites some tension in some other places. But I try to think of it staying at that position. It's naturally up when I'm singing above my passaggio. And I try to keep it as close to that position as possible when I'm going down from it by just imaging it, not getting rigid but not changing.
Q: So a more steady position?
A: Yes.
Q: Does your soft palate position influence your pitch? And you mentioned the middle range.
A: I'm sure it does, especially my middle voice. I'm sure it does.
Q: How do you insure the use of the soft palate position that will create a well-tuned pitch? Keep it up?
A: Yes, without tension. Because any time I try, "I'm going to keep this up," that implies, that puts in a different type of rigidity which causes a different problem.
Q: Does your soft palate position influence the quality of your vowels?
A: Yes.
Q: How does it influence?
A: I think when my soft palate is down my vowels tend to be, well, along with them just being placed further back. I think that they tend to not be round. I think that they tend -- I think a lot of it has to do with my regional accent and they tend to be kind of flat in production. I mean, as opposed to round in production.
Q: And so, do you have any thoughts or anything that you go through mentally or physically to --
A: Some of that is just I'm having to think of those vowels as round as possible.
Q: So you actually think of the vowel?
A: Yes. In those places in my middle voice I'm trying to think of the vowel. I don't think in the past I've thought of a very pure vowel, I think of pretty pure vowels up high but in my middle voice I won’t think of very pure vowels. So, my [a]'s will come out kind of like [A]'s because I don't think that I have a very clear image of my wanting to sing [a] at that pitch. I've just kind of always thought that if I kind of sang [a] it would come out [a], but it's just not what happens. That part of my voice, at this time, I'll try to sing real definitely with definite vowels. Real pure, Italian-type vowels.
Q: Do you hear that vowel before you --
A: Hear it?
Q: Do you hear like an [a] or do you feel where the [a] is going to be?
A: I more feel it as opposed to hear it.
Q: And you said round, what do you mean by round? What do you think of to achieve that roundness?
A: Well, I think of, when I think of round I think of the space in my mouth,
particularly in the back part where the soft palate is. Then when it’s not round, the palate’s down. And so kind of the space that the air is coming through is kind of more like a rectangle whose long sides are horizontal, as opposed to something that’s more oval or rounder, as opposed to something more like a rectangle.

Q: That makes a lot of sense. In your singing, do you think that pitch and vowel influence each other?
A: Probably. In the same sort of way that like having a tight jaw does and stuff like that.

Q: What do you do to insure that, I mean, what concepts do you use to think of pitch along with vowel?
A: If I sing [a], it will come out fine. If I concentrate on a pure vowel, it will come out fine.

Q: So it’s more you’re thinking of the vowel than the pitch?
A: Yes.

Q: Do you have a method for forming vowels?
A: Well, yes, it’s more or less, you know -- My voice teacher every week gives me slightly different exercises of series of vowels. And I will repeat those and try to have them, you know, try to keep those vowels pure and it’s basically getting it in the muscle memory. I’d say it’s over long time of repetitions.

Q: It’s easier for you to form your vowels after practicing and then you notice that the muscle actually --
A: Yes. If I start my practice by doing like a [[u-i-a-o-u]] on a descending scale from So to Do, you know, something like that, then it’ll come more naturally. The muscle memory will come back and do a lot better in the songs that I then work on.

Q: So you are aware of your muscle memory?
A: Yes.

Q: Do you think about directing the placement of a vowel?
A: No. I think of trying to place them all in the same -- I think of it more in terms of pitch as opposed to individual vowels. That’s not true because I often will try to swallow some vowels more than others. So I’m having to try to think of them all as being more or less in the same place. Because I think some of them had been going back and forth as more swallowed or more forward.

Q: Now is that placed in the rectangle that you were talking about with the round vowels or is it something more forward?
A: Well, probably what does happen is I go rectangle on some vowels so that implies that I’ve got better muscle memory with some vowels right now than I do with others. More positive muscle memory.

Q: Now you actively think of how you want to place it every time on every note or --
A: No. If I think of a really pure, if I’m thinking of the forward placement and I think of a pure [a], the two lines will intersect. But, if I’m not thinking about forward placement, or if I’m not thinking about a pure [a] both, they won’t intersect.

Q: Before singing, do you consider how to direct your air flow for phonation?
A: Yes.

Q: What do you think?
Well, I'll usually do a couple of exercises where I am consciously standing and
contracting my rib cage just to get it going. And I'll think about the, just kind of
opening my mouth to breath a bit, you know, just to let air come in. And I'll
think about how low I can get that breath.

Q: Low in terms of your body?
A: Yes.

Q: Are your lip movements and positions important for good diction?
A: Yes.

Q: Is your mouth also important, what happens in your mouth?
A: Yes.

Q: What lip positions or mouth positions do you use to insure that you have good
diction?
A: Well, that's kind of a tough one because my diction isn't that great right now, so
that's something I'm having to work on. I think, I can tell you what's not good is
that I think I produce most of my consonants somewhere in the middle of my
mouth and they need to be in the middle of my tongue and the sides. And it all
needs to be produced more close to the tip of my tongue and the front of my
teeth and I'm working on trying to get them that way. But my natural speech is to
have them somewhere around my molars.

Q: There's just another question about tongue. What tongue adjustments do you
think of or do you make --
A: I sometimes try to draw my tongue back, swallow my tongue a little bit. So I've
tried to become conscientious of when I'm starting to do that and I'll conscientiously
push it up to my front teeth.

Q: Are you aware of this while you're singing or practicing, performing --
A: Yes. It's one of those things that I haven't gotten to the point yet where I can
stop myself before I do it. It's usually, or if I -- If everything else is pretty muchly
in line then I'll just park my tongue in back of my two front teeth and just park it
there pretty muchly.

Q: When you notice it's starting to go back into your throat, do you do or think
anything to change that?
A: Yes, I just basically think, "push it forward."

Q: In your own private practicing, do you ever practice silently?
A: Yes. Especially when I'm learning a song.

Q: What do you do during this private practice learning your song?
A: Well, sometimes I'm learning -- Well, sometimes I'm having trouble, I'll be having
trouble with a rhythm or sometimes with the, just the words, getting them out.
Like if it's Italian and you've got three different syllables on one note, that kind of
thing.

Q: So you just sit down and think through how it will sound in your own voice?
A: Yes.

Q: What other forms of silent practice do you find to be beneficial?
A: I will visualize kind of where -- I'll think through where I should be feeling
something. I almost become sensorially aware of that place.

Q: So you think through it for placement and vibrations?
A: Yes.
Interview #12: Graduate Singer
Age: 29
Years of Private Voice Study: 12 years
Current Level of Education: Doctoral Degree
Name of Current Educational Institution: University of North Texas

Q: Before you begin to sing, are you aware of your jaw position?
A: Not until my teacher mentioned about it. Especially there are some vowels I
really get stiff in my jaw. For example, [i], because of the wrong method that I've
been taught by my previous teachers in Korea. Because they think my [i] should
be very, as round and as rich as the other vowels. So they, I don't know,
somehow they developed a very stiff jaw position so now I try to release or relax
my jaw.

Q: What do you notice about your jaw position? Is it a sensation or --
A: Well, I don't feel any physical pain or anything but whenever she mentions drop
your jaw or relax your jaw or something, the joints right here, this part is really
stiff. And I set a certain pattern or whatever and I can feel it. The most, the
reason why I could tell how I have a stiff jaw is my [i] vowel is not very healthy
when I have a stiff jaw.

Q: So, by stiff jaw you mean that joint at the back of the jaw just past --
A: Right, grasping or something like that.

Q: Does your jaw position influence your pitch?
A: Oh, I think so, yes.

Q: How does it influence your pitch?
A: You mean, pitch problem wise? I mean, in other words, you have like flat or
sharp problems, or the range you're singing whenever you sing? What I mean is,
are you asking me what do I do to get higher pitches and everything?

Q: I guess I'm asking both actually. Do you change your jaw position in any way or
do you pay attention to your jaw position according to what range you're singing
in or --
A: I'm not really aware of those problems about, I mean, whenever I get into the
higher note. More like --

Q: Or does it change your actual pitch? A little sharp, a little flat because it gets
tight? Or when it's loose, do you notice if the pitch is always on pitch?
A: It's really hard because I've never thought about that.

Q: Now what were you going to say before? You said upper --
A: Yes. I used to drop my jaw a lot whenever I'd go into the high pitch, but it
doesn't work that way. Because if you open your mouth, I mean the inner space
of your mouth, to get enough resonators and everything, you can open it either
upward or downward or both, right? But whenever you drop your jaw excessively,
that keeps you from opening upside, which means you can not really get to the
high notes easily. So nowadays I try to not to open my jaw very much to get the
higher notes but open my upper side better. Because for me the lower jaw, this
jaw part, opens automatically.

Q: You said you use some kind of image for that?
A: Yes. I kind of imagine an arch, you know, to open my upper part and open my palate.

Q: Does the jaw position influence the quality of your vowels? The [i]?
A: Sure, yes. The [i] and [a]. Those two are more distinctive.

Q: What do you think of to achieve a more relaxed position during that [i] vowel?
A: You know the expression that I kind of "grip" this part, I try to drop it rather like a dummy. And if you only think dummy, that doesn't help because you can't really open up a part. It's kind of hard. It's really easy to grip again or get tensed here again whenever you think "higher," so you have to do both. I have to do, I try to get both -- in other words, opening up and drop your jaw like dummy.

Q: Are you aware of any sensations connected with singing in tune?
A: Sensations. Would you elaborate that?
Q: Any physical sensations that you have that are indications that you are singing in tune? Some people feel vibrations.
A: In tune?

Q: You know that the pitch is in tune because of a sensation, a feeling.
A: I think I listen to it. Sometimes it's really hard. I mean it's really hard to listen to yourself while you are singing but, yes, actually. Well, it will feel comfortable on your throat and in your body. Otherwise, whenever you have that projection or really awkward singing way or whatever, your body tells you and your organs of singing projection will tell you that you're doing something wrong. I believe so.

Q: Are you aware of these sensations when you're practicing, or when you're performing, or both or neither?
A: Both.
Q: Both?
A: Yes. I have this experience. I entered the Met Competition one year and I sang "Donde lieta" as my choice. And they asked me to sing "Ach, ich fühl's," which is the least thing that I wanted to do. And I said, "Whoops." And my teacher was there and she was nervous about it too, because everybody knows that "Ach, ich fühl's" is not anybody's favorite to audition for -- to audition with, sorry. But, of course, once I start performance I try to be involved in the role, or in the aria, or in the song itself, because I think that's most important thing. But at that moment I was thinking about all the placement, all the technical things and work. And my teacher said it was wonderful, and the judges, when we had the conference afterwards, said it was wonderful. And I felt very, very good because high B flat and all very picky lines up there. It was so easy and it was right there. And I think it was mainly my concentration level was so high at that moment.

Q: And you were concentrating on technique?
A: Right.
Q: That's interesting.
A: Even though I had to pretend that I was Pamina at that moment, you know.
Q: Do you hear internally, in your imagination, the pitches you intend to sing?
A: No, not really.
Q: Then do you depend on an instrument for your pitches?
A: Yes. Mostly. I mean the easy ones that I can sight-read, that's no problem. But, you know, I can really hit the notes without any mistakes. But, you know, the 20th
Century music because I'm not in perfect pitch, so I really have to depend on an instrument.

Q: So what do you, how do you use the piano?
A: You mean when you learn a new piece?
Q: Yes.
A: My piano skill is good enough to play the accompany part. I mean, at least the harmonic background then the melody at the same time.
Q: So you can hear the entire piece, right?
A: Right.
Q: As you get more familiar with a song, do you depend on the piano as much?
A: No.
Q: Are you able then to hear your first pitch without going to a piano or just know what the first pitch is?
A: If I really, really get familiar with that piece that happens a lot. Until that moment, I have to have the first pitch from instrument.
Q: When you get more familiar, what does that pitch sound like that you hear in your head?
A: Well, I don't know. What happens is I start to sing the melody that I am familiar with and the placement of each note seems to be right. I can feel, "Oh, this is the right pitch," because all those -- I don't know, the -- Maybe you can call tension on your vocal cord or the feeling that you might have when you're singing a certain note. I feel it's right and that means I have the right pitch.
Q: So you feel the pitch?
A: Yes.
Q: Well, that's interesting. Before singing, what do you think to insure that you will sing the correct pitches? Think or do. What do you do or think?
A: I just focus on them when [my teacher] vocalize me. She plays a certain kind of pattern, right. Could be very simple and sometimes could be very, very complicated. Yet, I've never found myself in a very, very frustrating position because somehow it's easy for me to remember all those patterns. I just can do it.
Q: So, I don't think I do something. I totally pay more attention to get the pattern in perspective. I mean, what do you call, to get the pattern before you sing?
A: To know the entire pattern?
Q: Yes. If she plays that pattern I just listen to it with more caution or whatever, and I just can remember and then I just do it.
A: That's right. That's what I do. Sometimes I, it's very, what do you say, it's not absolute?
Q: It varies?
A: It varies, yes. In other words, G could be very low note in a certain piece but G could be the highest note in a certain piece, right. So it's my problem, you can say it's my problem. Because I even though I'm singing G, I treat them differently.
Q: According to the music?
A: Yes. For example, the piece that I'm singing right now G₅ is one of the highest notes. There are several G's and B₅'s and everything. In other words, the whole range is pretty low and that makes me sing G₄ at the different placement and
sometimes it gets me into trouble. As I told you in different question, I can feel
the height or pitches physically.

Q: Well, that's interesting. Do you imagine each pitch of a song individually or as it
relates to the melody or as it relates to the harmony?

A: If you want to learn the pitch, I need a harmonic background. But, once I know
the harmonic background maybe then I just relate them together, instead of
learning individual notes. Because that makes it a lot easier vocally and musically.

Q: Does your way of imaging or hearing these pitches change the more familiar you
get with a song?

A: That happens, yes, a lot. In other words, the more you get familiar with a song, it
gets easier.

Q: Do you hear more with the harmony then or more as a melody?

A: Sometimes I can get even new ideas that I couldn't get at the very beginning stage
of learning.

Q: Can you give me an example?

A: Well, not in detail but, you know, the Lisa that I'm singing in the Pique Dame.
The role is called a dramatic role, dramatic soprano should sing that role because
the whole range is hard. I mean, it's very, very low and not really low but, it's
kind of low and the role is very depressing. She has to just do this all the time,
very get emotional and eventually she kills herself. It's very depressing role so, it
was not easy for me to learn the role at the beginning. But you know, [my
teacher] kind of mentioned that it sits on my voice now. In other words, I can get
them new ideas. I don't have to, I don't know how to express this but -- I can
digest the phrasing or the range or I can really -- I don't know how to say it, but I
can sing better.

Q: You can feel it more, is that what you're trying to say by digest?

A: Yes. In other words, it's not that I don't speak English well enough but I really
have no idea how can I express this. But it's getting easier because I perceive that
specific phrase differently because I know that.

Q: So there's more meaning for you musically?

A: Musically and from my experience. I mean, as I keep practicing I can -- It has
something to do with your psychological thinking too. And I can treat the same
phrase differently as I get to know that piece better.

Q: Now we talked about this a little bit before, do you think about the position of
your soft palate while you're singing?

A: Yes. A lot.

Q: What position are you trying to achieve and what thoughts or sensations help you
to achieve that position?

A: As I explained it, I imagine an arch and open your cheekbones. And sometimes,
whenever I get physically tired and everything, I even try to breath in with my
nose instead of opening my mouth. So then you can really feel and see the
resonators up there.

Q: So you have images and then also sensations?

A: Right.

Q: That makes sense. Does your soft palate position influence your pitch?
A: Yes. I should think so. But sometimes it makes it kind of sharp. Because, for example, the passaggio area, my passaggio is E$^4$ and sometimes F$^3$. I mean those are really tricky. I have E$^4$. And whenever I have to sing passaggio areas I have to, I try to [maintain an arched soft palate position] especially when you have to sing the melody which sits on the passaggio area all the time. That makes me very frustrated because I just keep pulling up, up, up to get the my placement by lifting up my soft palate and everything and eventually sometimes it gets sharp.

Q: What do you think to change that or what do you do to change that, in the passaggio, so you don't sharp?

A: Try to listen to the pitch. I think that's because it's not that I don't have the pitch, but because I try to get the nicer placement for that pitch. Because it's passaggio, you know, and makes it sharp, sharper than the pitch itself. So I don't know.

Q: Does your soft palate position influence the quality of your vowels?

A: Definitely, yes.

Q: Can you describe how it influences your vowels or what you think or do in order to influence the quality of your vowel?

A: It has something to do with my old habits. I use a lot of jaw, I used to use a lot of jaw like I mentioned. Drop a lot of, drop my jaw so much that I can hardly open my upper resonators. And these days I tried to open my soft palate more so that it can really get the higher position. What was the question again?

Q: Vowels, the quality of your vowels. So you think of that arch that you described?

A: Yes.

Q: Do you think of anything else?

A: I also think about it in the concept of direction. You know, like an arrow just actually imagine an arrow, like, two arrows from my cheekbones and toward the one point up there, up and higher and forward.

Q: That's interesting. In your singing, do pitch and vowel influence each other?

A: Of course. Yes. And that's, you know, every single recital I do [my vocal coach], who is really, really into saying the correct diction, no matter what the pitches are. For example, there are very tricky passage and the proper diction and I try to sacrifice the dictions for the better vocal line. He really, really insists on the clear vowels. And, you know, if you really try hard and if you can only think that specific passage, probably you can do it. But if you have to sing like three hours or four hours, probably you have to make it easier for your vocal system then you have to sacrifice --

Q: What do you think of to think of the pitch with the vowel then in those passages?

A: I try to adjust the vowel itself for the better placement. For example, I have trouble with the [a] because of my mother tongue. My mother tongue [a] is pretty dark and deep than that of Italian. So sometimes it gets me into trouble, so I try to -- [u] is my favorite vowel and that's the vowel that I vocalize a lot and I try to combine [a] with [u] so that I can get the [u] placement and things like that. I just try to combine the problematic vowels to, I mean with, the vowels that are my favorite.

Q: Well, that kind of ties in with the next question. Do you have a method for forming vowels?
223 A: Yes, actually. This is what [my vocal coach] suggested that I do. The [œ], [o-i],
224 vowel, it is Germanic.
225 Q: The German umlaut?
226 A: Yes. For example, "You cursed him, you curse," [sung] it's not a very wonderful vowel to sing. So instead of, "You cursed him," it's, "You cursed him," [sung] you know. I use a lot of [o]'s and [y]'s and [ŋ]'s even. Whenever I go up there [my voice teacher] says it's spread, so I think more [o] and everything.
230 Q: Do you think about directing the placement of your vowels? You did mention the arrows?
232 A: The arrow is the main thing that I do or triangles. I mean, something that I can really focus toward the point up there and forward. And sometimes, as I'm teaching my private students, I told them that imagine way up there there is somebody that you have to sing for and you don't want to just blocked by anything. So you just throw the sound to him so that you can really sing out, sing out into the room.
238 Q: That's an interesting thought. Before singing, do you consider how to direct your air flow before singing?
240 A: Not consciously but whenever I get into the trouble, yes I do.
241 Q: So you're saying, "into the trouble," while you're singing then? But not before?
242 A: No. Because mostly it's very natural. I don't have to really think. There are so many other things that you have to really think about. For example, the words.
244 Q: When you get into the troubled area, what thoughts or what adjustments are beneficial for you?
246 A: The first thing that came up into my mind was [my teacher] keeps saying, "Oh, it's off your body." In other words, I don't support enough. I use my here [throat], instead of my full body and full diaphragm. That's the first thing that I can think of right now.
250 Q: Are your lip movements and positions important for good diction?
251 A: I should think so.
252 Q: Do you notice them? Do you do something?
253 A: Especially as a foreigner, yes. I kind of constantly have to think about it because I don't want to hear people saying, "Oh, I couldn't understand the right [a]" you know. And especially when I just sing in English, I have to think about it more because my speaking English -- Of course, I believe I have an accent and everything and I probably have my own peculiar way of pronouncing certain vowels and my speaking habits affects my singing habits too. So I try to disconnect them from each other. You know, whenever you learn foreign language like German, French, you have to get an individual diction to learn the correct diction of the whole piece, right? So I do the same thing whenever I learn an English piece.
263 Q: Interesting. Do you think of or do anything with your actual lip or mouth or tongue?
265 A: I sure think so.
266 Q: What do you pay attention to?
267 A: The thing that I'm doing honestly is kind of imitating. For example, the pure vowels I can probably relate them with the pure Italian vowels that I'm mostly
familiar with, but there are some peculiar vowels that a certain language has, right? So those things, whenever that happens, I try to imitate somebody else, in other words, my coach or my teacher. I mean they said do this and I try to
imitate them and it works, but I think --

Q: How do you imitate them? From hearing?
A: Yes, from hearing. I think I'm really good at that. Mimicking, you know.

Sometimes that's terrible. I really imitate people very, very well. And that gives me a hard time because once I learn -- This is what happens if I listen to somebody else's recording on the same song that I'm working on, I imitate them.

I imitate the things that she or he is doing and sometimes it works, you know, but sometimes it doesn't work and gives me some trouble. I had to sing "Dove sono" the other day at the department recital. And my accompanist told me, he has a videotape and he suggest to go his place --

Q: Oh, and watch it so you can imitate yourself?
A: No. I mean, I just went into his place and nothing to it, just watch it, I mean not intentionally -- But the next day I had to sing that "Dove sono" at the department recital and I had a hard time because the singer who sang the same aria in that song is a lot heavier and a lot --

Q: Different voice.
A: Yes, different voice. The typical contest voice. You know, very heavy and dramatic, and that's low for me and I have a -- wow!

Q: During your private practice, do you ever practice silently?
A: Silently. Do you mean like reading music?
Q: It could be a variety of things.
A: Actually, yes. I do.
Q: Going through the music without singing it?
A: Oh, yes. Sure.

Q: Okay, what exactly do you do? How do you practice silently?
A: First of all I have to translate them if it is in foreign language or sometimes I have to do it in English, too. And I, if I sing an aria I make a research on the situation that the aria happens and also about the character. Actually that's --

Q: What about the music? Do you ever go over the actual music without singing it?
A: Yes. Actually, honestly, I don't do very often but I learned that kind of method from my classes that I have taken. For example, you know, kind of analyzing, like vocal literature class. You have to analyze the real pitch, right? And sometimes it makes me understand the piece better so that you can, that affects to your expressions itself too. For example, if the first part is something fast and joyful and the middle part is in minor and very sad or something, that kind of contrast can be found by your silent study.

Q: Do you ever just sit through it instead of singing through it? Think through it, think through your music, think of how it might feel to sing through your music?
A: Yes.

Q: Think of how it might feel if you sing it?
A: Right. And read the words and all those things. Especially when I sing an aria, I sing arias probably, I mean, I really appreciate the words. I really feel the words. I don't really plan, "Okay, let's step back here or I can stretch my arms here."
don’t do that. But first of all I try to feel the words or all the natural reaction as you’re feeling the words, you know. It’s all those natural things that whenever you say something happens when you’re singing too, if you can really, really understand that and feel the words.
Interview #13: Graduate Singer

Age: 32
Years of Private Voice Study: 11 years
Current Level of Education: Masters Degree
Name of Current Educational Institution: Texas Womans University

Q: Before you begin to sing, are you aware of your jaw placement, or your jaw position, I should say?
A: Before the beginning of each phrase or just as in a warming-up process?
Q: It could be any time actually before uttering a sound.
A: I’d say no then. I mean you’re sort of aware but to me the main thing is the intake of the air, the sending of the breath and the alignment of the body. You get into that and once those things work, it’s like the middle things sort of fall into place. I’m not consciously thinking, “Okay, is the jaw in the right place?”
Q: What about during singing, do you think about your jaw?
A: After I’ve already got the breath started and I’m into it then yes, then more thought goes towards that.
Q: And what do you think about your jaw?
A: Actually it’s like you’re trying to get a focal point that’s almost a place outside the mouth or in front of you so that the jaw almost becomes unimportant. It’s like you work to open it but like you reach a place where then it just happens and you don’t have to then consciously think, “Okay, drop the jaw, or pull it back, or pull it shut, or any of those things.”
Q: Could you describe a little bit more what you mean by focal point?
A: Probably not. The place there where the sound resonates, it sits and it’s almost outside.
Q: Does your jaw position influence your pitch?
A: Sure. It can change the shape of a vowel which will change the pitch.
Q: Can you tell me how it influences your pitch, you said changes the shape of the vowel, but how?
A: It would depend on where, what note you’re singing, your placement. It would just depend on all kinds of things. The vowel and the placement -- I don’t really know how to answer that I guess.
Q: That’s fine. Does your jaw position influence the quality of your vowels?
A: Sure.
Q: Again, can you describe how jaw position relates to vowel quality? And you can discuss individual vowels if you wish.
A: Obviously a tight jaw is not going to give you a big, warm, full sound on any of your vowel sounds. Whereas, a more open, dropped jaw will give you a warmer, fuller sound on your vowels. Which can or cannot be what you want depending on what kind of music you’re singing.
Q: Anything you do to achieve that? The dropped jaw that you were discussing?
A: Well, proper breath management definitely makes a big difference. And I think also too, you don’t always think it but sort of subconsciously, I think the larynx has to stay lowered as, and I think that’s part of what the dropped jaw does. It pulls
that down so that then you have the space. But then if you go up, like if you’re
singing an ascending scale, if you continue to hold that set open and keep the
larynx down then the sound stays round and warm.

Q: To do that is it a physical adjustment that you make or is it a thought process?
A: Both. It can be either depending on -- I think it depends on the literature that
you’re singing. Sometimes the mood of the song or the piece can get you in that.
Or sometimes you’re -- There’s a place where you’re really having trouble you just
gotta think, "Okay, I’m going to do this, this and this." It just kind of depends.

Q: Are you aware of any sensations connected with singing in tune?
A: Well, a freedom of just the throat in general I think helps to make singing in tune.
And also a feeling of vibrato I think gives you the high overtones which makes you
really directly on the pitch, and gives you those really vibrant carrying tones.

Q: Can you describe for me some of these overtone vibrations or sensations that are
helpful for you?
A: They’re either there or they’re not. You strive for them but I don’t know the --
Q: How do you strive for them then, maybe that’s a better question?
A: By finding the focus and the jaw and the breath and all those things put together
at the same time. And then usually that feeling of, we call it a spin. And that’s
what you’re looking for and you can get it in all different colors. It can be really
light or really dark, any kind of vowel, but usually when the spin is there and you
feel that then you’re on pitch.

Q: When do you notice the spin or where do you notice the spin, in your chest, in
your neck, in your forehead?
A: You just hear a spin, you don’t feel it. It’s an aural sensation.

Q: Do you hear internally the pitches you intend to sing?
A: Yes.
Q: Can you describe how you hear these pitches in your mind? Is it your voice, a
piano, the sound?
A: Wow, I don’t even know. I just hear them. I guess more my own voice, but not
always. Yes, I guess more my own voice. I don’t really know.

Q: Do you ever depend on a piano for pitches?
A: Sometimes. Especially for learning new music, but once you know the music then
I don’t have to have it.

Q: Would you say then once you know the music that you can just sing the first pitch
and it will be correct?
A: Oh, you mean I guess like two days later go back to the same thing?
Q: Yes.
A: Most of the time, no. But I have found that if I’m rehearsing a piece daily and
very intensely that, yes, I can kind of go right to it. That’s only if I’m rehearsing a
lot, the same piece.

Q: Before you sing, what do you do or what do you think to insure that you will sing
the correct pitches?
A: I never worry about it. I know I can sing the pitches that’s never been my trouble.

Q: Not only in terms of being in tune, but the correct pitches of that melody?
A: I really don’t concern myself with singing on pitch. My concerns are always that
the technique and the expression is right. The pitches are -- I don’t even have to
learn them at all. I just learn the rhythm pattern and hear the melodies a couple of times and the notes are there.

Q: How do you know that you are going to be singing the correct phrase, the phrase that's written on the page and not sing a B♭ instead of an A♭? But you've actually learned --

A: Yes. You learn it. You just rehearse it. It doesn't take --

Q: So through rehearsal?

A: Yes, through rehearsal.

Q: Do you relate pitch to a physical sensation of high or low?

A: Sometimes. I think that depends again too where you are at in the music. Sometimes you can't find anything else to relate it to, especially if you're singing choir stuff and it's, "Okay, we're going up, we're going down." You really don't care. When you're singing solo repertoire, it's more like you attach it to an emotion. Like did he give you that high note loud because she's screaming or, you know, so that you think the emotional thing instead of, "Okay, there's the high note. There's the low note."

Q: Can you describe any images or sensations that help you with pitch placement?

A: Yes. I think just the real centered focus.

Q: Outside of your face?

A: Yes.

Q: Do you image each pitch of a song individually or as it relates melodically or as it relates harmonically?

A: Melodically.

Q: Does that change the more familiar you become with the piece?

A: No. Maybe once in a while you get to hear the harmonies more, especially if you're singing the non-melody part, then obviously. But most of the time, no, I just hear it. I hear the continuing line, the line that I'm singing, I hear it. I hear the others but that's not what's setting me up a lot of times.

Q: Do you think about the position of your soft palate while you're singing?

A: Not as much, no. I think of other things.

Q: Are you aware of any type of pharyngeal adjustments?

A: Sure, especially depending the colors you want.

Q: Could you describe one of those situations?

A: Well, if you're belting or something like that and you want more of a nasal sound you have a different placement. You can set it in there where you want to sing something louder and fuller and more dramatic. You get that feeling of a lower larynx and that all there is more space but you try to keep that same focus for all those things. It's just those other places that shape those colors.

Q: So you use different portions of your pharyngeal adjustment according to what the repertoire is?

A: Yes.

Q: Does your soft palate influence your pitch?

A: I'm not aware if it does.

Q: Do you use any type of pharyngeal adjustment then to create a well-tuned pitch?
A: I’m sure I do, but I don’t -- I really can’t put my finger on it and say that I’m conscious of it. I don’t really concern myself with singing the right pitch. I almost never sing flat or sharp.

Q: Maybe another description then. When you say focus, is there something that’s going on before you reach that point outside of yourself that helps create that focus?

A: Well, like I said the alignment of the body and the proper intake of air and that feeling of “it goes on.” You don’t stop and all those things. You know how to fill up. You know what you’re going to do and you feel, I don’t know. You place it, I guess. I don’t know how else to say that. And depending on what pitch you’re singing, you drop your jaw or what word you’re singing or what emotion you’re portraying, you know, where the change is in the mouth position then.

Q: One more soft palate question. Does your soft palate position influence your vowels?

A: Oh, yes. It goes up and down. I would think so, yes, sure. Doesn’t it go up and down on certain vowels even when you speak?

Q: I’m not sure about speaking, I would assume more so on speaking than singing. Can you tell me how that position influences your vowels? Any sensations you notice?

A: No. I really don’t think of a focus on the soft palate. I always think more in terms of raising and lifting through the nasal cavities. It’s just not a sensation that I focus on.

Q: Could you describe what you sense when you say raising or lifting of the nasal cavities? What thought you use for that or what adjustments you use?

A: I just do it. I don’t know if I can put that into words.

Q: Doesn’t have to be perfect.

A: Well, I know, but it’s just that it’s -- You go by a sensation, you don’t -- I’ve got a blank. You’ve got me. The soft palate, I don’t think that. The soft palate is farther back amidst all that and I don’t spend a lot of time doing that. I think more of dropping this and focusing here then the other things sort of fall into place.

Q: It’s more of dropping the larynx and focusing in front of the mouth?

A: Yes.

Q: In singing, do pitch and vowel influence each other?

A: Sure.

Q: What concepts do you use to think of pitch in combination with vowel? Or you could say vowel and pitch, they’re interchangeable.

A: Well, some vowels work better on some pitches than others in order to get your maximum resonance. So you have to sort of play around with modifying them and in order to get the colors and the volume that you need.

Q: Do you have a method for forming vowels?

A: Sure, there’s the basic IPA rules on how to make the vowels with your mouth and tongue and jaw, yes.

Q: What is your specific method? What do you think of or what do you adjust?

A: Well, there again, it depends on what pitch you’re singing. Sometimes it has to be more open, sometimes it has to be more closed. I don’t know, it’s kind of vague.
Q: Do you ever think about directing the placement of a vowel?
A: Sure. More forward or more back, brighter or darker.
Q: What thoughts do you use to direct the placement of the vowel?
A: Try to think of it more nasal, or try to think of it more -- Maybe even a spread sound. Sometimes you even want a really bright sound. Most of us don't but in popular music people do it. All kinds of things. The sky's the limit.
Q: Is there anything, say you're singing a solo piece in a recital, is there anything that you do, any thought you use, or any physical adjustment that you use to direct that vowel?
A: Yes. All kinds of things. It just depends on what you're doing. It's not just any one thing all the time. It's always different because you always want different effects. You don't want different songs to sound the same.
Q: Can you give me maybe two different instances of how you might direct it differently?
A: Well, you might try, if you want a more "ping-pingy," pinpoint sound, you might try even more up and over and really feel like there's air blowing through your nose, so that you get a really pointed focus. Or maybe you want a real dark sound and you still want to keep some of that focus but you can drop the jaw more and get more of an opening lower down and get a big dark, warm sound.
Q: That helps. Before singing, do you consider how to direct your flow of air for singing?
A: Yes. I could say that I probably do. Especially the feeling of not stopping. That kind of thing, you know, none of that holding.
Q: So it's a continuous motion that you notice?
A: Yes.
Q: What about during singing?
A: Yes. You don't ever want to have any holes. If you get like this then you're stuck vocally, as well as, physically and you look stupid. And you can't sound the way you want to. So, feeling of continuous movement is really important.
Q: Are your lip movements and positions important to good diction?
A: Sure.
Q: What about mouth position? Is that also important for good diction?
A: What do you mean by mouth?
Q: Anything that you might do within your mouth?
A: Tongue, jaw? Sure, all those things.
Q: Can you tell me what images or physical adjustments assist you with lips, tongue, mouth in achieving good diction?
A: I don't know about images for good diction. I mean I've read all the IPA stuff where they have the little drawings of how the mouth is placed all the, you know, jaw, tongue, lips, teeth and such. So you've seen it in print. So, once you see it, it sort of gives you a different kind of mental image of what it is.
Q: Do you see that in your mind when you're singing?
A: No.
Q: Those little charts?
A: No. Maybe once in a while the [i] vowel, yes. Just to make sure that the tongue is down there.
Q: During your private practice, do you ever practice silently?
A: Yes. I walk a lot and find a certain rhythm in my pace that goes with a certain piece of music and the character of the music. You can get into the feeling more easily. Your pace varies according to the character. You're doing a pendulum motion that helps incorporate creative thinking. We learn music intellectually but the body doesn't learn it, so you need to incorporate it into the body. Then the body learns it as well as the mind. When you watch a dance performance, dancers never forget their routine. They incorporate the routine into the body and the body never forgets.

Q: Are you speaking of muscle memory?
A: It must be. I just know if you work on that the body remembers.

Q: Is there anything else you do during your silent practicing? Do you ever think about technique?
A: Yes, sometimes. Whatever your goal is for the day. Maybe yesterday it was technique and today it's expression.

Q: Do you do this by walking and talking?
A: Yes, I do.
Interview #14: Graduate Singer

Age: 30
Years of Private Voice Study: 13 years
Current Level of Education: Doctoral Degree
Name of Current Educational Institution: University of North Texas

Q: Before you begin to sing, are you aware of your jaw position?
A: Sometimes.

Q: What do you notice about your jaw position?
A: I try to tell whether or not the muscles are relaxed.

Q: Are you aware of your jaw while you're singing?
A: Sometimes. The same thing. I try to keep it relaxed.

Q: Does your jaw position influence your pitch?
A: It can.

Q: Can you tell me how it influences your pitch?
A: When it's tight, when my jaw is tight, I will tend to pull a pitch down.

Q: Any thoughts you use to overcome that tension, or any adjustments you make?
A: I lift the soft palate and relax this.

Q: Does your jaw position influence the quality of your vowels?
A: Yes, definitely.

Q: Can you describe how your jaw position relates to vowel quality?
A: When the jaw is back, more back, the quality is rounder.

Q: Are you aware of any sensations connected with singing in tune?
A: Usually it has to do with the position of the soft palate. If it's up, I'm usually singing in tune.

Q: So you feel that as a sensation?
A: Yes. I can tell when it's up when I'm breathing between phrases.

Q: Are you aware of these sensations when you're practicing or when you're performing?
A: Yes. I usually only think about it in performing if I'm having problems. If I'm not in good shape. Otherwise, I just don't think about it.

Q: But you do think about it during practice?
A: Oh, yes.

Q: Any other sensory vibrations that are beneficial for you?
A: No. I do a lot of things visually.

Q: Oh, you do. Such as?
A: Looking in the mirror, watching myself, mouth position in the mirror.

Q: Do you hear internally the pitches you intend to sing?
A: Not generally. Not unless it's something that I'm worrying about and it's an entrance.

Q: What about when you're learning a piece?
A: Not usually.

Q: Do you depend on an instrument then for your pitches?
A: Yes. Usually when I'm learning a piece. I mean, I'm reasonably decent at reading music but I don't like to practice that way. Because when I'm first
learning a piece I'll tend to not have the techniques moved out and it will -- The
pitch isn't as accurate as if I'm tuning to an instrument. And I'd like to learn it
specifically to the and place it specifically according to the tuning of another
instrument. Because I otherwise may not make necessary compensations for out
of tune notes.

Q: So that's how it's beneficial for you?
A: What?
Q: The piano is beneficial for you in that way.
A: Yes. To make sure that I'm not singing -- Yes, to make sure that I'm singing it in
tune and I'm not -- That I should be compensating and I'm not.
Q: That's understandable. Before singing, what do you do or think to insure that you
will sing the correct pitches?
A: If it's something I know, I don't do anything.
Q: How then do you get your first pitch, from the accompaniment?
A: Yes.
Q: While singing, do you do or think anything to insure that you stay on pitch and
continue to sing the correct melody?
A: No. Not if it's something I know.
Q: When you know it real well, how can you be secure about singing the correct
pitches and the correct melody? Or what do you do that makes you feel this
secure?
A: I just know it. It's just --
Q: Is it through repetition?
A: Yes, I repeat and I repeat it until it's automatic.
Q: Do you relate pitch to a physical sensation of high or low?
A: Sometimes.
Q: When you do, can you describe for me the images or the sensations that help
you?
A: No. Because I do it completely by how it feels physically. I just know because I
learned what sensation is right and when it's right and I just go back to that.
Q: And what is that sensation?
A: It's nothing that I can describe. I mean, it's where it, it's placement --
Q: Does it vary with the pitch?
A: Oh, sure.
Q: Okay, but you then have a definite sensation in different parts of your voice,
pitches in different parts of your voice?
A: Yes.
Q: And that helps you relate in terms of tonality and intonation?
A: Yes. Like there's, what am I doing, it's the "Per pieta" in Cosi, where you have to
drop from head voice basically down to, I think it's middle C or something. And I
just, you know -- It's not easy for me to find, but it's the only note that is in my
chest voice that's in that chord. So I just drop to the one that that's what it is.
Because if I don't drop all the way in the chest voice, I hit a third too high
basically is what happens.
Q: That makes sense. Do you image each pitch of a song individually or as it relates
to a melodic or harmonic passage?
I can do both. If it's a coloratura passage I usually do it in groups. You know, if it's Handel usually there are four note repetitions that, you know. And places like that you just learn the pattern and then hit the first note and do the pattern.

Now does your way of imaging or hearing change according to how familiar you are with the song?

Oh, sure. Because I don't even think about it if I really know it.

How is that different from when you begin to learn it?

Well, then I watch every note and watch the specific contour, but if I know it I just start and go.

Do you think about the position of your soft palate while singing?

Oh, yes. All the time. Surprise, surprise.

All right then, what position are you trying to achieve and what thoughts or sensations help you to achieve that soft palate position?

I try to keep it up as much as possible and I do it by breathing right.

So it's through a physical adjustment? Anything that you think help?

Just make sure I either breathe through my nose, if I've got time to do it, or gasping and open everything up. If it's short, it's a short breath and that's it and that'll set it. And then just making sure it doesn't slide down.

Does your soft palate influence your pitch? How?

Yes. It strips the overtone out when it's down and it strips the upper partials over and makes everything sound flat.

What do you do in terms of your soft palate position, to create a well-tuned pitch?

I breathe right.

So it's all through the breathing?

Yes.

Does your soft palate influence the quality of your vowels?

It gives them more roundness and depth.

And maybe this is repetitious, but I'll ask you one more time -- How does your soft palate position influence the quality of your vowels?

When it's up there's more, you get a richer number of partials, and when it's down you get a lot brighter, flatter tone quality. You don't get as rich of a sound.

Does it vary with you according to which vowel you're singing?

No, not really. It has the same effect on all the vowels basically. It's more obvious in some.

In your singing, do pitch and vowel influence each other?

Sure.

What concepts do you use to think of pitch in combination with vowel and vice versa?

I don't. I think about them separately.

Oh, you do?

Yes. Generally.

Then, what concepts do you use to think of them separately?

Well, generally, with pitch, I don't usually have trouble with pitch. It's just not a problem. It's never been a problem, I sing on pitch and even if I'm learning pieces it's just repetition that gets them right. Vowel, I can influence pitch by vowel by bringing, when the vowels are brighter the pitches sound higher. And
same thing when, you know, the soft palate’s down or if there’s, you know, if I
want a darker vowel. I can put it further back over the more space in the back of
the throat. I can change the vowel quality. But I generally do the two things
separately. I will sometimes specifically change a vowel so that the pitch changes
but I will not change pitch to fix a vowel. You see what I’m saying?

Q: Yes. Now, how do you change, how do you make that change?
A: Depends on what the problem is.

Q: With the pitch to help the vowel? I mean with the vowel to help the pitch?
A: If the pitch is low, generally what I’ll do is make the vowel brighter and that’s
usually, in my voice that is the more usual problem.

Q: And how do you do that? How do you create that brightness?
A: I think it further forward. I think that the vowel as being formed further forward
in the mouth instead of further back in the mouth while trying to maintain the
space in the back and not close that. But I will think it, you know, as being right
here in the front of my mouth instead of being formed further back. Even though
I know it’s where the tongue position is that actually changes the vowel, I know
that, but somehow if I think it in the front of the mouth it’s brighter and the pitch
is more accurate.

Q: Do you have a method for forming vowels?
A: I don’t know that you’d call it a method. No, I really don’t. I know what I want
the mouth shape to look like in the front and then I’ll fix the vowel in the mouth.
Inside the mouth until it reads properly to the audience.

Q: Do you do that according to sensation or according to how you see yourself in a
mirror?
A: I do it according to how I see it in the mirror and how somebody who’s sitting out
there perceives it. And it’s just practice.

Q: Do you ever think about directing the placement of a vowel?
A: Sure. You mean as far as putting it in a specific part, yes.

Q: What thoughts do you use to direct the placement of a vowel and how do you
direct it?
A: I just think of it right here. Kind of like it’s on my two front teeth and if it’s there
-- That’s the only place I ever put it. Right there.

Q: And then you direct it forward that way?
A: No. I just think about putting it right there and it just brings it forward and that’s
usually all I’ve ever had to do is to, you know -- If everything else is right, if the
jaw is relaxed and the mouth shape is right, if I think the vowel right on my front
two teeth then it’s the right sound.

Q: Before singing, do you consider how to direct your flow of air for phonation?
A: No.

Q: How about during singing? Are you aware then of an air flow?
A: Oh, sure. I’m aware of it but I don’t do anything specific with it.

Q: Well, what thoughts or physical adjustments help you to obtain a beneficial air
flow?
A: Making sure the mouth isn’t wide.

Q: And that affects your air?
A: Sure. If your mouth is wide, you’re letting air go that’s not being used properly
and generally you're using more air than you have to to produce the sound you're getting. And if you're narrow, you can generally produce the same sound. Often it will be more focused and you'll be using less air. Particularly in parts of your range like the lower, middle part where it's very difficult to get a focus sound and you have to use a lot of air. If you try to do it with your mouth wide, you're going to run out.

Q: You mentioned some of this earlier, are your lip movements and positions important for good diction?
A: Yes. Definitely.

Q: Then what lip, mouth and tongue positions do you use to elicit good diction?
A: Mostly what I do is try to do as little as possible. You know, go from one vowel to one consonant to -- you know, whatever I have to do with as little movement as possible. You know, once you hit ideal mouth shape, keep it and just let the very tip of your tongue do everything else. Move the jaw as little as possible, move the lips as little as possible, make it as efficient as you possibly can.

Q: So it's very focused and efficient?
A: Yes.

Q: Do you concentrate at all on the tongue with any kind of image?
A: No, except using just the tip of it, just thinking about using as little of it as necessary to make like "L's" and "D's" and "T's". And don't do it with the whole.

Q: During your private practice, do you ever practice silently?
A: I'll do it, the only time I do silent, I wouldn't call it silent, no I don't do that.

Q: I guess that answers that question.
A: I just don't. I mean if I'm having trouble with rhythm I'm doing it out loud. You
know, I’m doing "da da" or whatever I have to do out loud because usually when I’m doing the rhythm I’m doing rhythm with words. I may not be doing it with pitch but I’m doing it with words.

Q: Anything with language that you do silent practice?
A: Silently, no. Look it up in the dictionary.
Interview #15: Graduate Singer

Age: 25
Years of Private Voice Study: 8 years
Current Level of Education: Masters Degree
Name of Current Educational Institution: Southern Methodist University

Q: Before you begin to sing, are you aware of your jaw position?
A: It's not my primary concern. No.
Q: Is there any awareness at all? Do you notice anything about your jaw?
A: Yes, I try to, I'm just more concentrated on not having it tightened or locked. Keep it as loose as possible.
Q: Is there anything you do or think to achieve that?
A: Yes, I do. I do chewing exercises, just things to make me more conscious of the jaw and how it moves so there will be movement in the jaw. So you'll take all the rigidity out of it.
Q: Does your jaw position influence your pitch?
A: On the upper part of the range I believe it does, because it has a major factor to do with the vowel modification on the top. Proper dropping of the jaw but not going into like the bottle jaw affect, like you find with a lot of English singers. So it's not cramped down to the floor or anything like that.
Q: And how do you notice that?
A: It's more -- I use a lot of mirror. I use the mirror a lot when I'll do my warm-ups. Just when I'm working the top voice to make sure that it will open sufficiently.
Q: Do your jaw position influence the quality of your vowels?
A: Yes. I think this goes back to the vowel modification. Because if it's not open enough then the mouth can't get the proper width to be able to maneuver the lips so you can modify.
Q: Do you think of it as width when you're singing?
A: Well, you have the length and you have the width. I could have more length in my style of singing because I've gone to a lot of nasal pharynx type of placement now. So, I think the length has a lot more to do with it. Now to get a brighter sound, I'm concentrating on the width with a little bit of lift in the upper lip. So you have to concentrate on maybe not dropping the jaw as much as before.
Q: Are you aware of any sensations that are connected with singing in tune?
A: No, I think more of it would just be the placement up front. Also, I would say the raising of the soft palate would be one, just because being able to do a quick adjustment there, I find in myself, and a lot of the singers I teach, that has a lot to do with a flattening of the pitch. If they're not raising the soft palate and also if they're not focusing enough attention on the hard palate or the nasal pharynx area. If those sensations are not achieved, usually you'll find a back sound occurring and that will tend to flatten the pitch.
Q: Do you notice these sensations when you sing?
A: Yes. I notice them a lot more now because in the past I had a lot of back sound going. So, I just assumed everything had this dark woofy tone and probably I was singing a little flat. Now I'm more conscious of anything that goes back because it will probably affect my pitch.

Q: Can you describe some of the sensations that you feel that you were discussing so that you know that there --

A: I feel, not really a buzz in the nasal pharynx area but in the whole face, in the face as a whole, especially around the cheekbones. Also, I try to imagine everything in the vertical which I know is, like some people think it's very abstract. But it seems to cause a certain buzz up just in back of the hard palate. So it's more like the whole face is a resonance. If I don't achieve that, I know the sound is going somewhere else where I really don't want it to go. I also do a lot of working with pinching off my nose. Because since I've gone to such a forward placement, I'm so afraid of singing in my nose now that I have to constantly check that.

Q: You physically pinch off your nose?

A: Yes. I will physically pinch off my nose to see if it affects the sound at all. Because if I pinch it off and the sound is affected, then I'm singing in my nose and you don't want that. I was told "The nose is in the sound but the sound is not in the nose."

Q: Can you describe what you hear when you think them, and what you feel also?

A: I think the buzz ahead of time and it's placement. Because it seems to be since there's more energy and more sound coming out on the top part, the buzz is greater in the face. So, I try to think that sensation. I think the soft palate lifting in the back and I also will try to think of the jaw position and the formation of whatever I'm going to do.

Q: What do you hear? Do you hear your own voice or a piano or a buzz?

A: I hear what I think would be my voice. I'm not hearing a big warm sound or something but I'm thinking -- It's more like I'm thinking of the pitch or I'm thinking of this area. Like I'm going to press this button right here to get this effect, so it's almost like a visual thing within in my mind. It's, "I'm going to think this so this pitch will come out." It's not, I really don't hear as much.

Q: It's more a visual sensation?

A: Yes.

Q: Do you depend on an instrument for your pitches?

A: Yes. I'm not as -- I don't rely on the piano as much as I used to because when I started singing I really had no formal theory training whatsoever. Now I'm not as reliant upon it, but I still do.

Q: How is it beneficial for you?

A: I don't know. Like I said, I still rely upon it.

Q: Just to play through your melody or --

A: Well not even that. It's just to get my tonal center now. It used to be, I needed
my pitch playing with me and now I've gotten to a point I just need to be -- I
need that tonality in around me. I have done some 20th Century pieces, some
Schoenberg, some twelve-tone, where I had to completely rely on sensation and
memorizing the pitches but I found it only made my ears stronger.

Q: Do you notice then after you're more familiar with a piece you're able to just start
on the proper note without an instrument?

A: Yes. I can come probably within a quarter step even if I've done something like
the opera I'm working on now. Most things I can come within a quarter step of
singing just without the piano or anything, just because you're that ingrained with
sensation is there it doesn't matter.

Q: Before singing, what do you do or think to insure that you will sing the correct
pitches?

A: Well, I don't warm up as much as a lot of my friends do. But I do try to do some
sort of, just something to get my cords working so I know I won't be flattening
pitches or anything like that. Because when I completely go in unwarmed up and
the mechanism isn't working, I will tend to flatten. I just have to get my throat
warm and a lot of that just comes from like drinking certain fluids and doing
humming exercises and little bubbles or trills or things like that. And that seems
to do it and then I usually warm up to whatever I'm doing.

Q: How can you make sure that you are going to sing the correct pitches that are in
that melody?

A: That melody. I think a lot of it just comes from the rehearsal time before. I just
rely on those sensations.

Q: While you're singing, you rely on them also?

A: Yes. I think I try to do as much homework as possible. Like in the rehearsal
time, even though we don't get as much chance to do that, but I'm really pretty
good at when I work in a rehearsal I can learn something pretty fast. I can't read
that well so I have to rely on picking it up quicker. So I basically memorize
patterns of pitches and that seems to work for me. Because I don't have big pitch
problem that anyone's discovered, that I've been made aware.

Q: Do you relate pitch to a physical sensation of high or low?

A: I think more, yes. It didn't use to be this way but since now I've gone with this
forward placement I have to be more conscious of my chest voice, my lower
register. Because I've lost a lot of that since I've moved up into Lyric Baritone
fach and it is a conscious effort for me to move into my upper passaggio. Like it
is for a lot of young male singers. So, yes, I have to, it is a conscious effort on my
part to move from one to the other.

Q: Can you describe any images, maybe you have actually already done this, but can
you describe any images or sensations that help you determine pitch placement?

A: Yes. Well, there's certain things I will do. I think one of my favorite is the snarl.
It's an effect, we call it snarl effect, and if you imagine like a lion growling or
something like that and the snarl, and it's almost like the jaw, like the top teeth
come out. It's like you're going to bite something or snarl at something and the
nose seems to crimp up and you go "[subject imitates a "snarl"]." For some reason
this helps me get into my upper voice more. It brings more ping in my upper
voice. With the low voice we have to use it too because I try to get more chest
resonance. Because now I'm more conscious I have to get as much as I can. I don't rely on as lower breathing or anything. It's just more -- I wouldn't call it a push, but just more support down there. That is a conscious effort on my part is concentrating my breath when I'm low and concentrate on just getting a certain type of snarl or ping on the top when I'm high. And that seems to help move me into those and help with the pitches.

Q: Do you imagine each pitch of a song individually or as it relates melodically or harmonically?

A: It really would matter what style of music we were talking. If we're talking opera, I imagine phrases. If we are talking songs like ballads or things like that or the popular genre, I think I almost think pitches because I try to use -- You have a lot more liberty and what you can do. You can change pitches. You can add a seventh resolution. You're free. So I think a lot more pitch as it pertains to the harmonic. When I do art songs I try to think as much line as possible, like the entire phrase. But even in a song, sometimes when you come on particular pitches it matters how late 20th Century, I mean 19th Century and 20th Century it is, how difficult it is. The harder harmonically it is the more I think pitch. Classical period I'm only thinking phrase.

Q: Does your way of imaging or hearing a pitch change as you become more familiar with the piece?

A: Oh, yes. It's just -- I mean, I don't think pitch. If I'm real familiar with the piece, I don't think pitch. I'm thinking complete lines and I think I just rely on more, I let my memory click in and I just try to think of what I'm singing about. Just try to put everything on maybe a type of auto pilot. Something like that.

Q: Do you think about the position of your soft palate while you're singing?

A: While I'm singing, no.

Q: No?

A: No. Once in a while I'll go back. If something doesn't work, I'll go back and try to figure it out and sometimes it will be to lift the soft palate. But while I'm in the course of singing there's too many other things going on.

Q: Are you aware of any pharyngeal adjustments at all while you're singing?

A: No. I think most of it would just be, like I said again, be like the upper range and support and if I have to use vowel modification and darkening, a lot of that will come just from the mouth area. And, then I do have to think what I'm going to do or else you die.

Q: Does your soft palate position influence your pitch?

A: Yes. I think if you don't have the proper lift, or sometimes I hear people with too high a lift in their soft palate, they try to yank their soft palate up really high and that seems to cause some sort of pressure on their larynx. It's like it almost causes a grip on their larynx because they're trying to raise their soft palate so high. It would affect pitch because I think it affects the sound all together to get a more constricted sound. To me, I've always been taught to keep an even larynx position, neither high nor low. I've been taught very low styles, I've been taught very high styles. I try to keep in the middle. That just seems to cause a natural flow of the raising of the soft palate. Once in a while I'll have to raise it because I think it will just let more sound out. Not really affect the pitch, but just let more
Q: What do you do or think yourself to insure the use of a proper soft palate position for pitch?
A: I think a lot of it deals with my inhalation. I try to -- I used to be what I call a mouth breather and I didn't find the -- You didn't get enough lift in the soft palate with that. You can take very shallow breaths. Once you try to breathe with your nose and your mouth at the same time, which is a very Italianate style, it causes an instant lift of the soft palate. If you go, and that can stem also -- I like this idea, of breathing in on the vowel you're going to sing. Not enough singers do it. They all take it for granted but no one ever does it. If you're singing an [a] vowel and you go [a] it causes a cleaner attack. If you go [a] it seems to cause more of a glottal attack or a little bit of stroke off the chords. Also, the soft palate all of a sudden has to make an instant lift when you don't breathe in on the vowel. This way everything is set up to sing if you do that. And I have trouble breathing in my nose and mouth at the same time but just thinking about it. Someone described it to me as imagine you were going to bite an apple or it's like a surprise breath.

Q: So you also think the vowel you're going to sing?
A: Right.

Q: Interesting. Does your soft palate position influence the quality of your vowels?
A: Yes. Well, if someone's trying to lift too high they will get a woofy sound in back of it. If there's not enough lift in there, I think it causes a very restricted sound. And then you're going to find a lot of wear and tear on the cords. Yes, so I think it does.

Q: Now what do you do?
A: I try to correct it by this type of breathing. To set it in just a natural position and let the breath do the work to lift it. Don't think it so much like, "I'm going to lift my soft palate now," or "Oh no, I forgot to do that." I'm letting the breath in the natural mechanism take over the cords.

Q: In your singing, do pitch and vowel influence each other?
A: Yes. I've found that a lot. I have trouble with [i] vowels, giving them enough space. Maybe it's because I'm an American singer. I don't know why. With [a], [u] and all those things I know I'm in as much trouble. [i] I will tend to clamp down on and it'll tend to sharpen on top if I don't give it enough space. And that's one thing I realize.

Q: What concepts do you use to think of pitch in combination with vowel?
A: I try to -- I think it's more like the shading of the vowel that we were talking about. If I know I'm going to go up and going to sing an [i] vowel, I know if I sing a true [i] vowel as I know it, I will probably sharpen the pitch on top. So now I have to go to more of an [I] vowel on top, like "it" or something like that. I'm going to have to give it a little more space. Broaden and shade my vowel good so I'll be able to sing the right pitch. Because once a male voice seems to be in the upper register, especially mine, I notice if I'm trying to sing vowels too open or too closed and the mechanism can't react to it properly. The pitches will get scattered. They'll either get too woofy a sound or too bright a sound and that will influence the overtones as a whole.
Q: So is it just an intellectual awareness? Like, "On this pitch I have to watch vowels, or do you actually think of pitch with vowels?

A: I think it ahead of time. I'll go and sing through a piece. I'll find out where the adjustments have to be made and I will mark accordingly in my music, "This has to be done on this." It's not as natural for me to do. I can't immediately state, "This has to be an [a]". Some things are more natural but things like an [i] vowel on top, yes, I do have to mark and think accordingly, "On that pitch, I'm going to have to sing a shaded vowel."

Q: Do you have any method for forming vowels?

A: No. There's things like my [a] vowel on top will turn to an [A]. My [o] vowel will probably turn to more of an [e]. And [i] will turn to [I]. And also on the bottom I will open up vowels more. I will try to brighten a vowel instead of having [A] it will be [a]. So it will carry better and that's just basically for resonance.

Q: Okay, so you do have certain concepts that you use for different --

A: Right.

Q: What images do you come up with to help you with the vowel that you want to use in the lower or upper range?

A: It's not really an image thing. It's more -- Again, I'm using the mirror to do this. I have to see what it looks like because even when I will shade a vowel, sometimes I won't give enough space to it in my mouth and it won't carry as well or the sound won't get up. So, I have to actually see how much space I have to give it.

Q: Do you ever think about directing the placement of the vowel?

A: Oh, yes. And that goes back to this forward resonance that we talked about before with using the whole face and the hard palate and the nasal pharynx.

Q: And what thoughts do you use to create that direction?

A: It's more of a natural effect now. I mean, I think the only one I do -- Again, we talked about this breathing in on a vowel. The support is basically there now. I use a fairly standard support like you'd find in the Italian school. It's not a pushed support like you find in German. So it's constant pressure of this isn't going to move out or move in, it's just going to remain stable. And that seems, the air just seems to go to the right place now.

Q: What about direction of back out again?

A: It's this conscious thing of the steady breath in. Keep this same support down, stable support and that just seems to keep a constant flow. I'm not into pushing. I used to be, but I also found that when you push, you're also working at the bottom to do it. You're using more stomach muscles to push out with. So now I try not to use the stomach muscles as much to bring air back out. Because that just seems to cause tension in the sound and in the singer and tends to tire the singer out faster.

Q: Now we talked about what you might do before singing to direct your air flow, is there anything you do while you're singing to direct air flow?

A: No. I just try to -- This is almost a visual thing with me or something I plan out
when I prepare a piece. Instead of singing note-to-note or word-for-word, like so
many singers do, I have to sing to the end of phrase. That's the only way I can
pace myself and it's that sort of mental thing that works the air. I don't say, I
need this much air to go through. Through hunting and pecking and everything, I
figured out if I blow this much air out here I've got enough to the end. So, I'm
only thinking end of phrase. And it's just getting in that mind set seems to set it
up.

Q: Are your lip movements and positions important for good diction?
A: Yes, I think so. On the top they have a lot more to do with the vowel
modification, but on the bottom I've now been taught to sing on the teeth. Which
is a very strange idea to come across because you don’t put the words on the
teeth. I think we only think about putting the words on the tongue and on the
lips. I still haven’t grasped this totally but it seems like my diction has cleaned up
since I thought about this, tried to grasp this idea. And it has by using the lips a
lot more, just to spit my words out. To try to be more clean. Not go as much
with the sound, with the vowel sound. So many singers just sing on the vowel
sound and they forget they’re singing a language. They’re not singing vowels. So
now I try to think about every word I’m singing. I’m doing a French opera being
done in English right now and the words are very difficult to understand because a
lot of them go so quickly. So I found myself relying on the consonants even more
than the vowels. It might detract a little bit from the voice but it would be more
understandable. And I think in the end I can hook everything all together better.

Q: Any other images or physical adjustment you use to assist you to achieve this good
diction? Like you said, behind the teeth?
A: I think it’s just putting, like this idea about putting the words on the teeth. I’m
very conscious of my tongue when I sing and not raising it to clog off the sound.
Like you’ll find a lot of lift in the back of the tongue with a lot of singers. I used
to do that quite a bit. So now I’m thinking a lot more flat tongue, a lot more
where the tip of the tongue is directed.

Q: Do you have sensations that guide you?
A: Not as much. Someone once taught me to do – Some people believe in rolled
"R’s" for their diction and I mean like almost rolling every "R" they sing, even
though it’s not proper in Italian or in English to do that, like a flip sometimes is
just better. It will increase the diction 100% to do it. The words carry a lot
better. Unfortunately you may sing a few wrong words but I’m constantly thinking
of what will bring the sound out more. What will bring the word out more. It
seems the tongue and the lips do it. There’s no sensation to cause that, I think it’s
more something you have to do in rehearsal and see what works better.

Q: During your private practice, do you ever practice silently?
A: You mean thinking it in my head or – Yes, I do a lot of that. It’s not even, since
time is so limited to graduate students like that, you spend a lot of time in your
car learning your music even though you’re not supposed to. I find myself walking
around in the hallways working on my recital in the hallways and actually singing
my recital while waiting in the doctor’s office or something in my head. I used to
not do that but now I have to.

Q: What are you doing or thinking during this silent practice period?
A: Some of the time it's just thinking words. Some of the times you're actually singing it with my throat, like how my throat will adjust, how the larynx will adjust, how the soft palate will -- without even singing a pitch.

Q: How are you aware of those adjustments?

A: I can feel the muscle placement and you actually feel the mechanism going. It's like going to watch a recital and if you hear a singer, I watched Sherrill Milnes in recital once and it was one of the most muscular performances I've ever seen. I left the performance very tired because it was subconscious but I ended up singing the entire recital with him and I didn't even know all the pieces. But, I sat there silent and my muscles immediately, instinctively picked up on what he was doing and I followed him and I left the recital tired in the throat. So I do the same things in the hall and find, if I'm having trouble with a certain phrase, I can actually sing it through in my throat without making a sound and the muscles will go ahead and react themselves.
Interview #16: Professional Singer
Age: 48
Years of Private Voice Study: 28 years

Q: Before you begin to sing, are you aware of your jaw position?
A: No.

Q: That was a very definite, "no." During your singing, do you think of jaw position in any way?
A: No.

Q: Do you believe that your jaw position influences your pitch?
A: Yes.

Q: How or in what way does it influence your pitch personally?
A: I think it certainly can add extensions either lower or higher depending upon the degree to which you can open and relax, be relaxed open. And depending upon whether you have the concept of the separation in back or just dropping the bottom jaw, which is another thing. Whether you have a feeling of lifting and separating or whether you just have the feeling of lowering the bottom jaw has a lot to do with. But I don't think of these things when I sing because I like to hope my singing is spontaneous and already at the point where I don't have to think of something so elementary as that. If I were singing something involving the absolute edge of my range I might think of it, but I don't think so.

Q: You mentioned sensation. A sensation of feeling the separation?
A: Yes. Or it's a concept, of imagery or whatever. I may be but I don't think about it.

Q: So it's innate?
A: I hope it is.

Q: Do you believe that your jaw position influences the quality of your vowels?
A: Yes. Depending on which vowels and so on.

Q: Can you describe how your jaw position relates to vowel quality?
A: Well, I suspect I'm thinking more of the open vowels. And I think an open and relaxed jaw position contributes to a better feeling of a high palate and that contributes to a richer sound and warmer sound and perhaps in the upper voice a more rounded sound and less strident.

Q: Are you personally aware of that sensation of the high palate?
A: Yes, I think so.

Q: Do you hear internally the pitches you intend to sing?
A: Yes. I suspect I do. I think that's become so spontaneous to me I don't think about it really now. But, yes, I'm certain I hear it.

Q: I was going to ask you to describe how you hear it. You said it's spontaneous.
A: No, not necessarily. I just hear much like I hear the hum in this fluorescent lighting here. I just hear it.

Q: Do you depend on any instruments for pitches?
A: No. I have a very weak keyboard background. I hadn't any lessons in my life when I went to college. So for me, depending on an instrument would be
ridiculous. I never learned to play the piano very well, only enough to pass my
battery and various exams at different levels through college. So for me the
keyboard has never been a crutch and I never played another instrument so that's
not a crutch. I learned to have good pitch association and I think I have a fairly
decent concept of relative pitch.

Q: Probably so from your description. Before singing, what do you do or think to
insure that you will sing the correct pitches?

A: Nothing. By the time I'm standing in front of somebody I could sing -- I could
begin my piece without any introduction and everybody else's around me, if it's an
opera. It's just the way I study and the way I teach. Very frankly, I could begin
any of my students on the correct pitch of their piece without the introduction.
That's just something I had to learn to do because I don't play an instrument.

Q: So I assume that with you, even with a piece that you're not extremely familiar
with, maybe one that you've just begun to learn, that you could immediately sing
that initial pitch, that that would be very comfortable for you.

A: Well, fairly comfortable. I don't sight-read so perfectly but I'm very methodical in
my studies and so I think because I play things over and over and over again in
my own mind, for example, and not the whole piece because I'm not so proficient.
That's how it comes.

Q: Interesting. Do you relate pitch to a physical sensation of high or low?

A: No.

Q: How then do you recognize the relationship of one pitch to another as it relates to
your voice?

A: Well, I don't really. I'm not so sure. I know that I was taught very early on not to
think of myself as a soprano or an alto or anything. Just to hear the pitch and
sing it and that's what I do and I really don't think of whether it's going to be
higher or lower but I do hear very accurately because I really can't stand flat or
sharp singing. I know that my ear is very good but I don't know very frankly how
it is.

Q: So you relate it to maybe a mental image?

A: No, I don't honestly. I can say that I don't really know what I relate it to.
Perhaps I have an image of the keyboard. Because sometimes when I'm teaching
my students I often say to them, "Imagine playing this with your right hand and
which notes you'd have to go up to the black keys for," and so on. So, I suspect
maybe I've done it so long that that's what I've done and I don't think about it.
Sometimes perhaps.

Q: Do you image each pitch of a song individually or as it relates to the melody or
the harmonic passage?

A: I don't imagine each pitch. I think, I just imagine the lines and I hear the opening
pitch and I just sing through the line, I think.

Q: So it's an entire concept like a sentence would be?

A: Yes.

Q: Does your way of imaging or hearing a pitch change if you become more familiar
with the piece?

A: Oh, of course. I'm sure that I think of things relative to playing them in my right
hand, for example, in the early on stages of learning. And after that, I feel whole
phrases and whole pages and whatever, whole concepts.

Q: Do you think about the position of your soft palate while you’re singing?
A: Yes. Not often, but I suspect to especially if I’m singing very high or if it’s in the middle of the voice where, for instance, the female needs to have as much intensity, I think about it.
Q: What position are you trying to achieve and what thoughts or sensations help you to achieve that position?
A: Well, I suspect I want to get as much space in my mouth and throat as I possibly can. And so I think of it as being raised and that’s what I’m trying to achieve without any unnecessary stress or strain, pressure.
Q: Is it also sensation that you’re aware of?
A: Maybe. I don’t know that I’m so aware of how it’s feeling unless I’m in certain difficult passages. I don’t routinely think about it, I don’t think.
Q: Does your soft palate position influence your pitch?
A: I think it would depend on which vowel. Perhaps some of the more open vowels.
Q: How do you insure the use of the soft palate position that will create a well-tuned pitch?
A: I think that’s all really connected with the breathing and just preparation for making a sound. And if those preliminary things are done correctly, you don’t really have to think about it through singing. It’s a preparatory thing and then afterwards it’s more spontaneous, I suspect.
Q: So you think about it prior to or in practice?
A: Yes. In practice. And I probably don’t think about it in singing unless I’m singing some particularly difficult passage, particularly flurried where the notes are very close together or fast moving, or particularly chromatic or something like that.
Q: What are those preliminary thoughts that you have in a practice?
A: They’re more breath and posture related and I think when those things work the palate’s already in the right position.
Q: Does your soft palate influence the quality of your vowels?
A: Yes.
Q: Could you tell me how the soft palate influences your vowels?
A: I think the position of the vowel tends to slip or at least be further back and has a less impacting intensity and the character of it is darker, it seems to me.
Q: In your singing, do pitch and vowel influence each other?
A: In my own singing, not necessarily, but I think in the early stages of learning it certainly is a consideration. I think you can have a dark or bright vowel that’s clearly on pitch if you have a good keen sense of pitch. But in earlier years I think when you’re singing often it’s just too difficult. That’s the fine line.
Q: Then would you say that you have a concept of pitch and vowel being separate?
A: Yes. Probably. Because often I think if I would have a student who had difficulty with one vowel or another, I’d change it. It doesn’t necessarily mean they’d have trouble hearing the pitch but often in the same, on the other side, if I would have the student having difficulty hearing a pitch or singing accurately with one vowel, I’d change the vowel and they could sing the pitch accurately. So, I think they are two different things but often they relate and they influence each other.
Q: Do you have a method for forming vowels?
A: No. I think that should be natural and spontaneous.
Q: Then what concepts or images do you use to form vowels?
A: Well, I'm not so sure I use concepts or images except if they, the vowels themselves, are not clear then I might suggest a more relaxed tongue or a more forward tongue.
Q: With yourself, do you do the same?
A: Yes.
Q: Do you think about directing the placement of a vowel?
A: Yes, I'm sure I do. Toward the hard palate.
Q: What thoughts do you use to direct that placement towards the hard palate?
A: I imagine the tone or the sound begins low in the body, not in the throat itself and that it goes in circular motions from the back of the head and then forward. So that you use and exercise all the space of your body, your neck and throat and mouth and head, as a reverberating chamber and not merely to direct and also force the sound from up directly out. That you allow the head, some spin in the head and so on.
Q: Now you made a motion that looks like it was going up over the soft palate and then forward.
A: That's exactly right.
Q: Before singing, do you consider how to direct your air flow phonation?
A: No. I don't think anything about the flow of my air. But I'm sure I did early on. I might in the beginning of long passages think of preserving it or not to give so much in the initial attack or to worry about such consonants as might take greater energy or more breaths. But that's all. I mean I don't think about directing the flow of it.
Q: I didn't know if that maybe went back to the concept that you described?
A: Perhaps it does. I just think -- I don't think about the breaths. Directing the flow of it.
Q: Are your lip movements and positions important for good diction?
A: I think it's important for every part of your singing but I think my own feeling is just to have a warm mouth and not have it tight or taunt lips. Or my way of expressing it is not to sing with a wide mouth. I think if you ever sing with the mouth stretched this way you distort your vocal tone color.
Q: Mouth position, do you consider that also?
A: Oval. I consider it, yes. I just think it's very important not to have taunt lips and a wide mouth.
Q: So you do think of maybe a north and south mouth position?
A: Oval.
Q: What images or physical adjustments help you to achieve these things you've just described. The warm mouth and the oval position?
A: Well, I have exercises which I do and give my students and they seem to help.
Q: Warm-ups that you do yourself?
A: Yes.
Q: And during your private practice, do you ever practice silently?
A: A lot.
Q: What do you do during your private practice, during silent thought?
I breathe and I pace myself through it. I think the line, pace my breathing through it, and I sing in my mind. I just sing.

Is it your own voice then that you're hearing?

Yes.

Do you also notice the sensations that you may have such as the oval mouth and raised palate? Is that something you also sense during silent practice?

Probably, yes.
Interview #17: Professional Singer
Age: 46
Years of Private Voice Study: 25 years

Q: Before you sing, are you aware of your jaw position?
A: It's not something I think about. I think over the years, you know, it's something that has become habit. When I first started singing I think I had ingrained in me that we sing with the jaw of an idiot, dropped, easy going. So there were times when I would think about that. But I started singing very, very early in life as a boy soprano and sang in my first opera as Amahl at the age of 11. That was my first professional thing at age 11, so it's been something that I've been around an awful lot. My dad was a preacher and I did a lot of singing in the church and a lot of solo work. I had no real formal training but was very actively involved in children's choirs and all kinds of things through our church and got some good training there.

Q: So therefore, your jaw is something that's just kind of automatic now?
A: I really think so. I don't really think about, "Where is my jaw?"

Q: Are you ever aware of it while you're singing?
A: Occasionally. Especially if I'm going for a specific high note or something. Relaxation is the key here. That sort of thing. I try to think of things that would make me relax the jaw. Drop it, give more space, especially depending on which vowel I'm on.

Q: Does your jaw position influence your pitch?
A: Not that I'm aware of.

Q: Is your jaw position of any importance to you in terms of pitch?
A: I think sometimes if I open too widely and drop too much to give too much space, it has a tendency -- As I've done recording sessions and that sort of thing, if I give too much space it has a tendency to push the pitch sharp.

Q: Does your jaw position influence the quality of your vowels?
A: Yes. [i] being the smallest position jaw wise and [a] being the largest position jaw wise.

Q: Do you actually sense that position? How are you aware or how can you describe?
A: Here again, that's become habit over the years. In teaching my own students I try to get them to feel a very, very forward vowel placement on their vowel [i], especially with tenors which I work with a good deal, being a tenor myself. [i] being a very forward vowel and then trying to keep the [a] in as forward a position. Even though the space is greater, trying to keep the position of the vowel as forward as the [i] on the [a].

Q: So you do it in terms of sensing where the [i] is and then placing other vowels there?
A: Yes.

Q: Are you aware of any sensations connected with singing in tune?
A: Just a great deal of listening and being very aware of trying to hear myself from the outside in rather than the inside out. Here again, having worked in studios
and done a lot of recording, you almost have to train your ear to hear yourself as
others hear you rather than hearing yourself as you perceive yourself on the inside
out. You almost have to retrain your ears so that you’re listening from the
outside in rather than the inside out.

Q: So it’s actually through a hearing process, not through another process?
A: Right, to me it is.

Q: Do you hear internally the pitches you intend to sing?
A: Yes, I think so. I not only hear them but I feel them.

Q: Can you describe what you mean by feel them?
A: Feel even without singing, even without beginning the tone or beginning the
sound. I visualize and hear a sound in my mind’s eyes before I ever make the
sound. I try to center the pitch in the very center of the note so that it’s not flat,
so that it’s not sharp. And that’s a feel as much as anything. It’s very hard to
describe but it’s a feel. I try to sense the pitch before I ever make the sound.

Q: I understand what you mean by sense but when you do hear something, are you
hearing your own voice or a generic sound or a piano?
A: No. I think I am hearing my own voice as it relates to the pitch. If I’m singing
with a piano or with an orchestra, I’m sensing the pitch that I’m getting from them
and then matching that.

Q: With your own sensations?
A: With my own sensations.

Q: Do you depend on an instrument for pitches?
A: I do not have perfect pitch. I have very relative pitch. Most of the time I can
give you an A or a B♭ but it may be a quarter of a step or a half step off. So I
would say yes, to a certain degree I do depend on an instrument as I sing to help
me really centralize the pitch.

Q: As you become more familiar with a piece, can you just begin singing on the
correct pitch without referring to an instrument?
A: Most of the time, I can. And here again, that’s the feel. I can sing a note and
almost tell you what that note is from where it feels in my voice from having
studied my voice and sung with my voice for as long as I have. When I sing an F♯
I know what an F♯ feels like in my voice or I know a high B♭ sounds or feels in
my voice. And here again, that can change maybe a quarter step to a half step
but most times not too much more off from that.

Q: Before singing, what do you do or think to insure that you will sing with the
correct pitches? And I don’t just mean correct in terms of sharp or flat but what
is written on the page.
A: Well, that’s a hard question. I think I hear for the most part, the instruments but
at the same time as I visualize the written notes -- For instance, this piece of
music here. If I were to open this up and I’d see a B♭ here, I’m instrumentalist
myself, a pianist, and so I visualize myself playing that on a piano. And I think
that’s why my pitch is so relative because I, myself, am so geared to the keyboard.
So I think I somewhat visualize myself playing and then matching the pitch that I
think of in my mind as I play it.

Q: Do you also do that while singing, not just before singing?
A: Not particularly. Here again, I don’t think of myself usually as accompanying
myself. All along I'm just singing along with whatever instruments there are.

Q: Is there any other process then that you use while you're singing to insure that you are singing the phrase as written on the page?

A: Not to speak of. Not that I can really think of.

Q: Do you relate pitch to a physical sensation of high or low?

A: Yes. Here again, I can almost -- Each note to a certain extent has a certain feel involved in it. And that has just come about through years studies and knowing my voice from where I am in my voice. And so, yes, I physically sense a certain position.

Q: This is more difficult. Can you describe those sensations or images?

A: Down low usually, I think of a very forward placement. Being a tenor I try to -- I don't worry too much about making a lot of sound. I have a fairly good amount of sound in my low notes for a tenor or for a high voice, but I strive to get the good forward placement that will cut through either a piano or orchestral instrumentation. The higher I go the more forward in the frontal cavity, up towards my sinuses and in between my eyes, where if I drew a triangle for instance, right here around my mouth, I feel like my lower register is right here at my mouth. And as I go higher my pitch center becomes more between my eyes and forehead. And then in the very, very highest position of my range, I feel like it's very -- coming out of the top of my head.

Q: That's very descriptive. Do you image each pitch of the song individually or as it relates melodically or harmonically?

A: As it relates melodically and harmonically in the context of a phrase usually.

Q: So you also hear the harmony?

A: Yes, I do. I don't usually get it down to just hearing my own. I hear my phrase, my musical singing accurately relates usually to the accompaniment of what else is going on.

Q: Does your way of imaging your melody change the more familiar you are with the song?

A: Oh, sure. It becomes automatic. You don't have to think about it. You know the melody, you know where it's going, you know where the sensation is, what it's going to feel like in your voice. And then you can concentrate not on pitch but on emotion, upon colorization of vowels. Upon things that are going to color it from a musical emotion standpoint rather than just a musical pitch standpoint.

Q: Do you think about the position of your soft palate while you're singing?

A: Usually only in the very, very highest parts of my range. And especially then in the [a] position. Because I had a teacher who -- she kind of taught everything from the pure [a] high, high soft palate position and I think I always go back to that to a certain extent from time to time. I think about it in, like I said, in the very highest parts of my range. But I've had also to almost not think about that from time to time because I would almost achieve, what I would call in my teaching, a double lift. My teacher, the one that stressed this, was a coloratura and so everything was just very, very high, high soft palate placement -- You smile a lot. And in my own singing I've had to come back and find a happy medium. Whereas, that may work for some coloraturas, it doesn't work for every voice type.

Q: Instead of using that inner smile image, is there any other thought or sensation...
that you use to help you achieve the soft palate position that’s best for you?

A: Soft palate position many times I think of, for instance, there being a hot potato in my throat that I don’t want to burn myself with. A lit light bulb space. I think that the only problem that sometimes you can encounter with the extreme space on the inside is that many times the space is from the soft palate up. I feel like it should be from the soft palate up then getting all the cavities here in the front open. Many times voice students will start trying to manufacture the space by depressing the tongue at the same time raising the soft palate. But all that does is create a big cavity in the back of the throat and get a real throaty sound, not allowing the sound to come forward and resonant in the frontal cavity. I think that is the thing I fight most with my students, is not to depress that back of the tongue, particularly [a]. Keeping that side work from [i] to [a] and say, "Okay, [i] is here and the back of the tongue is almost up. Okay, try to keep the tongue almost in that same position as you go to the [a], [i]-[a]." So that it’s not [i]-[a]. It may be hard to remember on the tape but I’m making all these gestures. I feel like the space should never me manipulated with the tongue. And many times it is as people will go from the [i]-[e]-[a] and manipulate the space with the base of the tongue rather than through position of the soft palate in the frontal sinus cavity.

Q: Does your soft palate position influence your pitch at all?

A: Yes. I feel like as the soft palate is raised more and more, you get a brighter sound, you get more tendency to be on the high side of the pitch rather than the low side of the pitch. It can be overdone. Here, again, if you over do, you can certainly sharp.

Q: What do you do to insure that you’re using a soft palate position that will give you the pitch that you desire?

A: I think I try to think in terms of a yawn, of relaxation. Not raising falsely the soft palate but letting it almost take the position of a yawn as you go higher. And then as you are in the highest part of your range, the yawn position will be even more, so that the uvula on the soft palate almost arches out like a rainbow.

Q: Does your soft palate position influence the quality of your vowels?

A: Most definitely it does on the [a] vowel, not so much on [i] and [e], but particularly on [a]. And that’s why I said you have to be very careful not to manipulate the soft palate with the tongue.

Q: Again, what or how does your soft palate position influence the quality of your vowels, or what do you do or think to create the position that you want for a quality vowel?

A: For me in having worked with a teacher who stressed the soft palate so much, I’ve almost had to back away from thinking about the soft palate. Instead I think of my sound being produced out in front, almost in front of my face. I know from time to time even when I’ve worked with a friend who is also a professional singer, she’ll come up and she’ll make the statement, "You need to think more hard palate." What she’s meaning, it’s too back. The sound is too back and I need to concentrate on getting the sound more forward. I have to work towards getting my sound forward, because like I said, I had a teacher who stressed so much the position of the soft palate.
Q: In your singing, do pitch and vowel influence each other?
A: Do pitch and vowel influence each other? Yes. As I go higher, it's harder I think to sing the closed vowels to me, [i], [u]. That's harder than it is to sing the open vowels, [a] and [o], because the space is so much more open.

Q: What do you do or think to conceptualize pitch with vowel and vice versa?
A: Here again, I try to think in terms from the closed vowel position. As a tenor I'm always trying to turn my voice over and get it into that natural cover that comes about. And so many times I will try to sing the [a] in the same position as the [i]. Or I will modify an [a] slightly towards [A] or [o] slightly towards [u]. The real high open vowels will tend to modify towards the closed vowels for me.

Q: Do you have a method for forming vowels or was that it?
A: Yes. In terms, particularly of [u] and [o], I feel like those vowels especially have to be shaped with the lips. Whereas I'm not a real mouthy kind of singer, I do feel like [u] and [o] especially have to be more rounded. I almost think of my mouth as being like a trumpet bell at that point and shaping the vowels somewhat as I go higher especially.

Q: Do you think about directing the placement of a vowel?
A: Most of the time I'm always thinking in terms of directing it forward into the mask, so that it's moving on the breath and forward.

Q: Before singing, do you consider how to direct your flow of air for phonation?
A: That is to me the absolute secret of good singing is the flow of breath. Without breath constantly flowing, making the vowels change, that is the secret of good singing to me, is breath. And without it there's no way to sing well without the real flow of breath at all times.

Q: During singing, are you also aware of this flow?
A: Yes, absolutely. Especially as I go higher I think of my throat being, for instance, like a collapsible pipe and as I go higher the pipe expands because I'm putting more breath through it. So I think of it as being like a faucet that you turn on and as you turn it on higher the pressure is coming, like a water faucet. And as I go higher, there is more breath. Not only coming through the mouth but I feel I have to, as the tenor, in order for my sound not to become nasal, I feel like that sound has to blow through my nose. In teaching and in singing myself and when I get up fairly high in my voice, it's not that the air is coming violently and out my nose, but I think of blowing the air through my nose so that those cavities stay open.

Q: Are your lip movements and positions important for good diction?
A: Absolutely.

Q: Do you also think that your mouth and tongue are important for good diction?
A: Yes. Although the tongue does not play as much a role with diction as the lips do for me. I try to think of the tongue as being kind of out of the way. Being there, I sometimes tell my students, "I want you to think of your tongue like a piece of liver in your mouth." It just sits there and just stays there. And as you send the breath through, it's there, it's important, it stays against the teeth and it always stays there, forward. I tell my kids that, "The tip of the tongue tells the tale." and if you pull it back the sound's going to have a tendency to pull back. But as long as I keep the tongue always out of the way, and here again, the only way to do
that is to sing on the vowels. Get the consonants out of the way so that you can
elongate the vowels and really sing an [a], [e], [i], [o], [u].

Q: Are there any other images or physical adjustments that you use to achieve good
diction through lips and tongue, etc.?
A: Not that I'm totally aware of. I strive, with my students especially, that good
singing should be as natural as good speech. And that if you're doing anything
more in speaking than you are in singing it's probably that one or the other is not
correct. That it should be very, very natural and that it should not ever sound
affected. My mother was one of the -- Like I told you I started singing when I
was very, very young and singing in church most of the time, you know. She was
such a stickler. I couldn't understand the words and what good it did, especially
just singing in church which you can't understand the message that you're trying to
sing. So that's something I've always been really, really aware of. Striving to sing
in such a way that people can understand the words. But I don't think of it being
any different than just well supported good speech.

Q: During your private practice, do you ever practice silently?
A: Yes, I certainly do. I certainly do.

Q: Could you tell me what you do during your silent practice period?
A: I try to visualize and think in my mind. For instance, if I'm singing in a particular
phrase, I try to think in terms of where is this placement, what am I feeling
emotionally, what am I feeling from a physical sensation. Trying to sense,
physically sense the relaxation that I want to have. I'll many times try to visualize
if I'm particularly having perhaps a very hard time singing a very high phrase, then
I will stop entirely and I will come back and I will go through silently, visualizing,
trying to feel what I should be feeling. And then amazingly so, I go then and
make the sound having just practiced silently. It's usually very, very helpful in that
regard for me. I'm not saying that works for everyone, but for me it does.
Q: Before you sing, are you aware of your jaw position?
A: Not really. Usually I just am aware of the breath and how I take the breath and that -- Usually if you do that well then the jaw position somewhat takes care of itself.
Q: Anything you notice with that intake of breath? What do you notice about that intake of breath that's helpful for you? Is it a physical adjustment? Is it a thought?
A: Both. I try to think of just relaxing and filling completely with air, as deep as possible.
Q: Are you aware of your jaw at all then during singing?
A: More during singing then preparing to sing. Trying to make sure that it's open for certain vowel sounds, consistently, but especially with some.
Q: Does your jaw position influence your pitch?
A: I don't think so. I think the pitch is more controlled by the breath and the breath flow and concentration as opposed to space. I always think of the jaw position as affecting the space that the sound has to resonate in, but not necessarily the pitch. Because the pitch can be correct whether it's a wide jaw position or a narrow one.
Q: Does your jaw position influence the quality of your vowels?
A: Yes.
Q: Can you describe how your jaw position relates to vowel quality?
A: Well, okay. The jaw position affects the shape of the vowel again because each vowel, to pronounce a vowel phonetically correct, you have to get the right position with where your tongue is, where your teeth are, everything -- Those things that are connected to the jaw. So, if the jaw position is not correct or not open enough then certain vowel sounds are not going to be correct or open enough.
Q: And what do you yourself do or think to get that open position for each of the vowels?
A: I think of opening the throat, raising the soft palate, and just trying to keep that position as much as possible to help again keep the vowel sounds as connected as possible.
Q: Is there a sensory image that you use or not?
A: No, not for me. Almost mechanically.
Q: Are you aware of any sensations connected with singing in tune?
A: Relationship to pitch, you mean in tune -- Sensations? No, not really.
Q: I guess this question is suggesting that some singers are aware of the overtones and therefore have sensations when everything is well produced --
A: I've never found a relationship in that, no.
Q: Are there any sensory vibrations that are beneficial for you at all in singing?
A: Vibrations?
Q: Yes.
A: Some. When I feel, you know, when I feel like the sinuses and so on are open, a lot of times then I feel more like the voice is in line with where it should be and resonating correctly for example. So you feel if you want to call it more of the overtones you feel more of the correct ping and the quality of the sound when you have the correct space and the correct air flow and so on. I think in that respect.

Q: Do you hear internally the pitches you intend to sing?

A: Yes.

Q: Can you describe what you are hearing?

A: I don't know that I can describe it --

Q: Is it your voice, the piano?

A: I think probably my voice. As an instrumentalist prior to singing, you know, it varies sometimes, I think with maybe even a particular passage in a song. Or what situation, environment that I might be in might affect actually what I'm thinking as far as a concrete image of what the pitch is. But, because of that background I always think of the pitch before I sing the pitch. But I couldn't put it into concrete terms of what, if it's my voice that I'm hearing or, you know, the imagery of a piano or what.

Q: So it varies?

A: Yes. I think it does for me.

Q: Do you depend on an instrument at all for your pitches?

A: Depend on an instrument for pitches? Well, without perfect pitch, of course, you have to have an instrument for whatever pitch you can get on, but after that ideally, no. But of course there's reference, I'm sure I'd need to an extent.

Q: Before singing, what do you do or think to insure that you will sing the correct pitches?

A: Mostly, the breath, getting the correct breath, you know, setting everything up well. If it's your posture, taking the correct breath and then trying to release the breath thinking the pitch. Doing all those things before you even release the sound to try to make the pitch correct.

Q: Also, by this I mean, not just correct pitches in terms of not sharp or flat but correct in terms of what the composer has written for you to sing. Is there anything that you do or think prior to singing to insure you are going to sing what was written on the page?

A: I don't know. Prior to, for example, the first time you have seen a piece of music, or when you're getting ready to perform something you already know?

Q: Either.

A: The relationship that I'm drawing is that if you're initially sight-reading something then, you know, you prepare yourself for the pitches by looking at the music as in trying to draw intervallic relationships and so on.

Q: What about when you know it better?

A: I don't know. I'm not sure if I'm in the right track with you. But if anything, again, trying to just think of the relationship of the pitches and the definition, the high or low, the range of the pitch in relationship to setting yourself up for the breath for those pitches. Is that what you're driving at?

Q: Yes. While singing, is there anything that you do, I understand what you do before, is there anything you do while singing to insure that, again, you're going to
sing correct pitches as written on the page?

A: Well, continually concentrate on listening to yourself in relationship to whatever instrument if you’re with the piano or whatever. So using that relationship and also trying to relax and keeping that relaxation, you know, in the body and also in the muscles, the throat and face. To try to keep the pitches correct so you don’t tense up and make them go sharper.

Q: Do you relate pitch to a physical sensation of high or low?

A: Physical sensation of high or low? Yes, I think I do.

Q: Can you describe the images or sensations that help you determine where a pitch is?

A: I don’t know. Images or sensations that help, ask the question again and let me think about it.

Q: What place would you release it on a higher pitch?

A: The higher the pitch for me the more the air goes vertical as opposed to horizontal. The lower the pitch the more I think of the breath being released across before the end of teeth or the higher the pitch I think of the breath being released up almost in the eyes vertically. Can you see that?

Q: Do you image each pitch of a song individually or as it relates melodically or harmonically?

A: Melodically and harmonically more than individually.

Q: Does this change as you become more familiar with the piece?

A: Yes, to an extent, I guess. You know once you really know a piece well, from a melodic and harmonic standpoint, then you can zero in more on individual pitches to make sure that those are more correct maybe than what you initially thought they were. Maybe in that sense, but basically I still think of the line of the pitches as opposed to an individual pitch.

Q: Can you tell me how you think of it harmonically?

A: Mostly just where the pitch fits within the harmonic structure, you know. It’s easier to sing something that fits well within a triadic chord for example as opposed to something that is not within the chord structure that’s there. It’s obviously harder to sing in tune.

Q: Do you think about the position of your soft palate while you’re singing?

A: Yes. I always try to think of it being lifted high.

Q: Is there any physical adjustment or thought process that helps you to achieve that high, soft palate position?

A: Mostly the breath. The initial breath.

Q: Inhalation?

A: Right, inhalation. And each time you take the breath, again, trying to think of the
opening in the back of the throat and lifting of the soft palate to take the breath.

Q: Does your soft palate position influence your pitch?
A: I don’t know. I don’t think -- Again, I think if you have the proper -- If you have the proper breath, proper breath control and the proper mental image of the pitch, I think of that in stronger terms of anything else. I mean, I think the mental image of the pitch is almost the most important. And since the soft palate raises in relationship to the intake of the breath, then I guess it would probably have some effect on the pitch.

Q: Do you use any pharyngeal adjustments to create a well-tuned pitch?
A: No.

Q: Does your soft palate position influence the quality of your vowels?
A: Yes. Because it has the same relationship to the vowels, the shaping of the vowels, quality of the vowels, as the jaw does.

Q: What do you do or think to ensure that you are creating the space that you need and the soft palate position that you need for proper vowels?
A: After the original intake of the breath I don’t know that I make any other adjustments with the soft palate or try not to at least. Try to keep it in that same lifted position but still relaxed for all of the vowels.

Q: Are you aware of it being lifted while you’re singing?
A: Sometimes, depending again maybe on the passage, the pitch, but high notes are, you know, the range of the pitch. But I think of vowel relationships more as what happens with the tongue. The tongue, the teeth and the lips more than I do the relationship of the soft palate.

Q: Let me ask you one more follow-up question. How are you aware of your soft palate position? How does that inhalation make you aware of that?
A: How does it make me aware of it?

Q: How do you know that it’s in the position that you want it to be?
A: I just feel the openness. You can feel the space and the relaxation if you take a proper breath, if you get the soft palate lifted up. If you don’t have the comfort of taking in a nice open breath then the soft palate is not going to be lifted high enough.

Q: In your singing, do you think pitch and vowel influence each other?
A: I think they do. I think they can influence each other. I don’t think it’s, I don’t know. It’s a hard question because I don’t know that pitch again depending -- Regardless of what the vowel is, in my opinion, whether it’s a very poorly formed vowel or its an [i] or an [a] the pitch can be correct if the breath is correct and the thought process is correct.

Q: Do you use any concepts to think of pitch in combination with vowel? Or vowel in combination with pitch?
A: Ask that again.

Q: Do you use any concepts to think of pitch in combination with vowel or vice versa?
A: No, I don’t think so.

Q: Do you use any concepts to think of pitch and vowel separately?
A: No, not to specifically separate them. Again, I don’t draw a direct correlation between them but at the same time I don’t separate them. I mean, they happen
simultaneously. Even though they are affected one by the breath and one by the soft palate and the jaw and the tongue and the formation of the vowel. Even though they are in my mind two different things, they happen simultaneously. I don’t separate them but at the same I don’t think that they are directly related.

Q: Do you have a method for forming vowels?
A: A method. Well, I don’t know.

Q: Any concepts or images that you use to form vowels?
A: I don’t know. I don’t know about images. That’s a tough question, too. Again I just try to think of each vowel in relationship to the space. If it’s an [i] vowel, for example, there the tongue is higher in the back and so there’s less space. But you have to try to create space without affecting how the tongue works to be able to get the vowel to open and not be a bright nasal sound. So I think in terms more of, from my approach, more almost mechanically of space than I do imagery for it.

Q: Do you think about directing the placement of a vowel?
A: Yes.

Q: What thoughts do you use to direct the placement or adjustments?
A: Again, depending on the vowel, I think of where the vowel should be in relationship to how open or how closed the vowel is. It’s difficult to put into words. Again, there’s a relationship between pitch and the vowels in that an [i] vowel sung on a low pitch is going to be placed in a different place than an [i] vowel sung on a high pitch. So there’s that difference again, even though I think pitch and vowel are separated in the way that they are produced.

Q: So you would think, like you said before, of the lower [i] vowel being direct and more horizontal whereas the higher pitched [i] vowel being more vertical?
A: Right.

Q: Before singing, do you consider how to direct your flow of air for phonation?
A: Yes. I guess. Basically, the time that I’m breathing in at the same time that you’re beginning to sing, as you open to take the breath through inhalation then immediately try to think of the release of the breath in an even flow. Do you want more specific as far as where the breath?

Q: Yes.
A: I always think of directing the breath up toward the soft palate and out rather than blowing it out through the mouth. Almost breathing it out through the nose as opposed to releasing it through the mouth.

Q: During singing, are you also aware of your air flow?
A: Yes.

Q: Do you use those same thoughts that you just mentioned or something different?
A: Yes. I think I use the same thoughts. I just try to think of again the relaxation that will create the breath flow evenly without releasing too much.

Q: Are your lip movements and position important for good diction?
A: Yes.

Q: What about tongue and mouth?
A: Tongue and mouth.

Q: Are those positions also important?
A: Yes. I think the tongue, in relationship to the teeth and the lips, is most important when it comes to diction. Again, to keep correct vowels you have to
concentrate on the space but more of a back space and letting the diction be forward. You know, thinking the words on the teeth and using more of the tip of the tongue and the teeth and the position in the front of the mouth to create the diction as opposed to the actual vowel sounds.

Q: Besides what you just mentioned, are there any other adjustments or thoughts that you use to keep that forward diction?

A: I think of, continually think of singing on the teeth. Thinking of the sound and thinking of the, at the same time the breath is released through the top part of the mouth through the nose, thinking that the consonants, the crispness of the diction happens up on your upper teeth and the very, very forward part of your mouth. To produce that while still again keeping the space for the resonance in the back.

Q: During your private practice, do you ever practice silently?

A: Yes. Quite a bit. Especially learning pitches oftentimes because, again, that's a mental process to learn the pitches. It's not something that -- Once you learn the correct relationship of intervals and so on, then you should be able to learn something, if it's not too extremely difficult, contemporary 20th Century in nature, without having to have a piano or something to have the pitches for you. You should be able to mentally create the pitches.

Q: So you memorize pitches. How do you do that mentally?

A: You just develop a good sense of the interval relationships and through repetition, mental repetition, then you can memorize that particular passage.

Q: Is there anything else you do in your silent practice? Do you think about technique at all?

A: Mostly from the standpoint -- Well, I guess, in probably several areas: the breath, as well as, again the space that you have and where you are going to put a certain consonant or something for diction purposes, and so on. You can do a lot of that silently without ever actually producing a sound.
Interview #19: Professional Singer

Age: 40
Years of Private Voice Study: 20 years

1 Q: Before you sing, are you aware of your jaw position?

2 A: Before I began to sing --

3 Q: Before you begin.

4 A: I don’t understand.

5 Q: When you’re inhaling or right before you begin a piece.

6 A: Am I aware of where I am?

7 Q: Of your jaw position at all.

8 A: Oh, the jaw position. Not really. I don’t think about it anymore. It’s something that just happens. You open your mouth and drop your jaw and that’s it. It’s always been taught to me that way.

9 Q: So it’s just automatic?

10 A: Yes. I think it is right now.

11 Q: Are you aware of it at all while you’re singing?

12 A: No, unless I feel tense in some way. Usually the tenseness is physically related to tiredness. So, then something clicks in and says relax.

13 Q: How can you tell if it’s tense. What do you feel or what do you notice?

14 A: Well, it starts creeping up from the shoulders and then it goes up to the jaw position. Or if your jaw really gets tired and you’re not relaxed enough you sort of close it instead of opening. I would say that it’s related more for me to being physically tired.

15 Q: Does your jaw position influence your pitch?

16 A: No, because I always sing sharp. I tend to be on the sharp side of the pitch instead of the down side of it, so usually pitch has nothing to do with my jaw.

17 Q: Even when you notice that tired jaw?

18 A: Pitch has to do with my ear.

19 Q: We’ll get to that question. Does your jaw position influence the quality of your vowels?

20 A: The quality, the change, the modification of vowel sounds happens in my tongue, my jaw in adjusting various things. The older I’ve gotten the more I’ve learned about even stretching the jaw a little wider to get more sound or to get certain modification in the vowels. But that’s also in, not just the jaw, but the tongue position as well.

21 Q: Now on to hearing. Just what you were mentioning before. Are you aware of any sensations connected with singing in tune?

22 A: Sensations, physical sensations? No, not really. My ear has always been pretty good. I can adjust to a sound. Sometimes except when you’re singing from something backstage in the distance, if you’re dealing with distances, that’s when I sometimes have a problem. You have to stay on top of things. But I wouldn’t say that I have had any problems with that.

23 Q: Are there any sensory vibrations that are beneficial for you that tell you that your
voice is singing well, that you’re in tune, that it sounds good?

A: If my physical self is okay, because usually my starting to warm up begins with my
body being warmed up. That’s exercising, doing stretching exercises, and being
totally free of tension which directly relates to what I feel vocally. If I’m breathing
properly, inhaling, and I feel a freer sense of air flow within the upper
membranes, in my nasal membranes, which seems to make my eyes glisten and
make everything feel good. Then I feel like everything’s okay.

Q: That’s exactly what I had in mind. Do you hear internally the pitches you intend
to sing?

A: Usually, sometimes. If I’ve worked on a piece it comes automatically. If you’ve
worked on it long enough it happens. I mean if you’re going to remember it each
day then it’s all in the memory.

Q: So when you’re more familiar with a piece you can just begin singing on the pitch
without referring to --

A: Sometimes it happens that way. Given the right conditions and there again I
relate back to the physical because I found myself being really up for something
and I’m right on. I can go straight to a piano and I can go to the pitch. I can
think the piece itself and then I can go straight to it and play it. So you play it in
your mind’s eye and then from there just set it. I guess it somehow must have
something to do with memory.

Q: Now when you’re hearing the piece in your mind, what you are hearing? Your
own voice, a tone?

A: In my mind I hear a bit of both. How I would sing it and the pitch itself. Or I
can sometimes see the music and visualize what it sounds like. I have that sense
so it helps.

Q: When you hear the pitch is it a piano pitch? You said you sometimes hear your
voice --

A: I’m not sure if it’s the piano pitch or if it’s how the music fits together as a total.
The listening of the whole piece itself. If it were a piano piece and I’ve done it
both with the piano, yes. I can visualize how it would be done or how I would
phrase it or how I would start it and hearing the pitch and the tonality of a
specific piece. Yes, it depends on what I’ve done. Which medium I’ve performed
that piece in mostly with either the piano or the orchestra.

Q: Interesting. Do you depend on an instrument at all for pitches?

A: Yes. I have pitch pipe, but I always carry a pitch pipe around.

Q: Can you tell me how you use your pitch pipe?

A: I always start on A and from A I either work downward to, when I’m vocalizing,
to warm up the lower part of my voice and then the middle part of my voice.
And then I start doing -- The higher I get I start doing various things to gradually
coax the voice into performing well rather than shock treatment. You know,
yelling and screaming right away. So it’s a slow process I found with my voice
because it’s a heavier voice, so it takes a little bit more igniting. You have to put
on the glow plug, like a diesel engine and let the glow plug set for a while before
you even start to crank it up. So I find that when I’m in, especially on a slow day,
I really have to do the physical exercises. This morning I went walking to get
myself going because I started off slow so I had to really work a lot and stretch
and do a whole lot of other things before I even began to sing.

Q: Back to hearing. Before you sing, what do you do or what do you think to insure that you are going to sing the correct pitches? Meaning, the pitches that are written on the page.

A: Gee, what do I do? I never really thought about that because everything becomes automatic after a while. You're going to sit down and learn a piece, you look at it, you look over it and I usually look at the words first before I match rhythms with it and try to speak it or say something and then I start with the music or trying to learn the pitches. So I don't know if there's a, "When does it actually start clicking in." It may click in from the very first but you never really learn it until you've done it over and over again for it to stick with you. My memory is just like that and I need to go over a piece ten thousand times before it really sets in. I can do it, I mean I have learned operas in a week's time and that's pressing. It's also very nerve racking but you learn, you try to learn the total piece and how it fits with everything else because you begin to hear various melodies or themes and the motifs that fit in. This is where your music training comes in and your theory part starts coming in and you really don't realize it but that's what happens. So, you figure out what's going on and the way the whole piece is put together.

Q: So maybe, would it be fair to say that you think of the entire piece before you begin to sing and that's how you're insured of singing the correct melodic line and the correct pitches, because you have this total picture?

A: Yes. I think that it gives you a better concept of what you're actually doing instead of just looking at your part in context of an opera compared to a Lied or some other art song that you might be doing. When you're looking at an operatic work you look at the total picture and see how your part fits in to the total picture and not just your little one liner or two lines or the aria. You know, everybody wants to get to the aria and see what that's like, but you try to figure out from beginning to the end. I might go and get a recording of something if one is available. If not, when you're doing new pieces it's not available, so you try to figure out. You read the whole story and then you look at the thematic material and how it fits in with what you're doing. So, it's a learning process. It's always a learning process.

Q: Again, while you're singing, say in a performance situation, is there anything that you do or that you think to again make sure that you're singing the correct melodic line, the correct pitches?

A: No. I just sing them.

Q: That's a legitimate answer.

A: No. If I've learned it wrong then I'm going to sing it wrong. If I learn it right, I'm going to sing it right and I don't give any second thoughts to as I'm trying to check myself in a, from a pitch standpoint, if I'm singing with music. I don't physically think or mentally think that I'm really checking myself during the course to make sure that I'm on pitch, to match pitches and make sure that you've learned the lines the way it's supposed to be sung. And to try to sing each note or into each note the way it's supposed to be. I don't have any problems with that.

Q: Do you relate pitch to a physical sensation of high or low?

A: In the early days, I guess I did. Right now, because I used to always sing, I was
once a bass-baritone and now that I'm a baritone I -- It's funny because I'll look at
a piece of music and I think sometimes how I couldn't sing this stuff at one time
and now I can and what was once difficult for me is now easy. And sometimes I
get, I found myself in positions where I thought it was actually higher or lower
than what I was actually singing. It's been an adjustment, a bit of an adjustment.

Q: So you'd get no special sensation that says, "Hmm, this is a high pitch or this is a
low pitch."

A: Well, sometimes I do because with orchestras it's very difficult, because orchestras
tune to various pitches and that's what screwing up the whole system. Because
once an orchestra tunes to A, not A440 but A440 and a half, 441, 442 and they
start going up and the pitch starts going up and you say, "Oh, my gosh." Because
I've had instances -- I recorded a performance that I did and then I went back and
played it on a piano that was in tune and I said, "Holy smoke, this orchestra
upped the pitch a whole step here," and I was wondering why I was blaming my
blood vessels were coming out of my neck and everything seemed higher and it
was for good reasons. And some conductors like for the higher strings to be
there.

Q: It's not easy for the singer though.

A: No, it's not easy.

Q: Do you image each pitch of a song individually or as it relates melodically or
harmonically?

A: I would say that, a little of both. It's a combination. I look at the vocal line, then
sometimes first I look at the harmonics of the piece to see how that relates to the
vocal line. But if you're learning something right quick and you look at it, the first
thing you're going to look at it is the vocal line to see how it relates to what you
have to do. And then looking at the harmonics of it all and you're saying well,
especially in the avant garde or contemporary pieces, it doesn't always fit. So you
have a totally different perspective to deal with compared to 18th, 19th Century
music. Which is far more simpler, I think, than to deal with the other even
though contemporary conductors or composers will tell you that that's not
necessarily so.

Q: Does your way of imaging or hearing pitches change as you become more familiar
with the piece?

A: Only in terms of phrasing and interpreting, interpretation.

Q: Do you think about the position of your soft palate while you're singing?

A: No. Because my tongue is always at the bottom, touching the bottom teeth and I
never let it go back. And the upper part of my mouth is arched and my jaw is
dropped so everything else should fall into place. I just have to breathe.

Q: Are you aware of any type of pharyngeal adjustments at all?

A: Not aware when I'm singing, no, I just try to open my mouth as wide as I can
under various circumstances.

Q: During practicing?

A: In practicing, it's the same way. In practicing it's a matter of loosening up
everything. It's exercising. Going through the exercises to make sure that
everything is falling into place and articulating as well as possible.

Q: Does your soft palate position influence your pitch?
180 A: Not that I know of. It hasn’t influenced mine one way or another.
181 Q: Do you think of any pharyngeal adjustments that help you create a well-tuned pitch?
182 A: No. I can’t think of any.
184 Q: Does your soft palate position influence the quality of your vowels?
185 A: The soft palate position influence the modification of vowels? [a] compared to [a]?
186 Yes, I supposed that some adjustments are made there, slightly.
187 Q: But you’re not aware of them?
188 A: No, because when I see [a] I sing [a], and when I see [a] I sing [a]. Because it’s what’s coming out, you know, articulation and diction has always been a stickler for most of the people I’ve worked with and for myself as well. So, I try to articulate as well as possible and to get the right phonetics involved. So, as far as making the adjustments internally without an, within the vocal apparatus itself, I’m not sure if I really pay any attention to that. It’s more of an ear thing then it is a --
195 Q: So you listen for the vowel sounds?
196 A: Yes.
197 Q: In your singing, do pitch and vowel influence each other?
198 A: Pitch and vowel? No. I don’t think so.
199 Q: Maybe I should clarify that. Does how a vowel is formed influence the pitch and does the pitch also influence different vowels?
201 A: I suppose to some degree, but it’s not, you know -- There again, I would say that it’s an ear thing. It’s the way you perceive or hear things.
203 Q: Do you think then of pitch and vowel separately? Do you listen to them separately?
204 A: No. How can you listen to them separately?
206 Q: Do you listen to them in combination and think of them in combination then?
207 A: Yes. Because if you’re going to sing it ”[i]” or ”[e]” and you’re just matching pitches on vowels sounds, you know, you’re going to do it. To me that’s still an ear thing. You hear the pitch and you formulate the vowels, an [i], [a], [e], [i], [o], [u], based on what you hear.
209 Q: Does your way of forming it change according to which part of your register you’re singing?
211 A: My way of forming it comes from the position of my tongue. So it’s only a slight variation in tongue position.
215 Q: Do you have a method for forming vowels?
216 A: Tongue positions. I have a very big tongue so I can form just about any vowel sound I want.
218 Q: Like the old Vennard book, that’s what you mean by the tongue positions, such as [a] and [u] --
220 A: Oh, yes. Vennard had the perfect position on that I suppose and ”The Voice of the Mind” by Herbert Caesari. That’s some positioning that I think of as well.
222 Q: So that’s your method you would say?
223 A: Yes. I mean, if you’ve studied books like that then it stands to reason that stuff rubs off on you in some ways.
225 Q: What concepts or images do you use to form your vowels? To also, maybe, to
influence your tongue position?

A: It's just a relaxed jaw, open the mouth and keep the tongue forward. It's all based on what position [a] is in and from [a], [e], [i] it goes from open to closed which conductors and composers probably say what is an open and closed vowel, you need to sing the vowel pure. You don't sing it at all. It's going to be a modification there of, according to the variation of pitch, it may be a closed vowel in the middle, in the middle range of a person whereas it could be open in some others. So, vowel modification is another topic of discussion.

Q: That's true. Do you think about directing the placement of a vowel?

A: Placement. Now there's a word for you. Placement. Where am I going to place it? I place it in my mouth. It comes out the mouth and where the actual sound hits the sounding board is the top, the roof of the mouth, and it comes out. So, the way it comes out is the, I suppose it's perceived because, you know, you're going to use the resonating chamber, the head is the resonating chamber and the nasal membrane, then you're going to have some semblance of a pure vowel sound and how it comes out or a distorted sound. And, there again, that goes back to what you're doing with your tongue, because I've seen some guys who will curl their tongues up all the way back to the roof of their mouth and it chokes me to do that. For them, they get a totally different sound because there you have an acoustical effect being formed actually within the mouth itself compared to a nasal sound or a woofy sound. Which we usually refer to as a woofy sound in men's circles because I don't think really make woofy sounds like that unless you're a low mezzo or contralto. And you keep a combination of all those things without modifying or adjusting the tongue from the slippery side of the back bottom teeth. But I've always been taught to keep my tongue flat and almost to talk without moving the jaw or to, in practicing, I usually do that. If my jaw is curling up or if I'm, because we all get into bad habits after a long period of time, and so you check yourself out from time to time in a mirror to see what you're actually doing. Once you've forced yourself to get out of the bad habits, I think things begin to happen automatically.

Q: You talked about directing the placement through the roof of your mouth or over the roof of your mouth?

A: Yes, actually I think that the top hard palate to get up to that and we talk on the vertical. The sound coming out of the resonating chamber, heading up to the top of the mouth and then you get that bad effect of the sound actually bounding out. So, you have that sounding board at the top that it actually comes out compared to just having an open throaty sound.

Q: Before you sing, do you consider how to direct your flow of air for phonation?

A: Yes. I've always thought sometimes I feel that I stop the breath to do something compared to just letting it flow out. So I guess the muscular action that I actually do use in the diaphragm and the way that I approach something.

Q: During singing, are you aware of your air flow also?

A: I try to be. That's one of the things that I'm always thinking about is to breathe
so that I can get through a phrase and make sure I don't kill myself or
hyperventilate. The physical attributes, I mean, when you're singing Lied it's no
problem. When you're doing a lot of action, dramatic action, in an opera, you do
things for effect, vocal effect, so there are a lot of things that might happen during
the course of an opera that might not happen during the course of singing Lied.
More often than not, young singers, or any performer, is asked to do the
impossible and do a whole lot of running while one is asked to sing, perform on
stage and acting. And you might have a fight that you have to do or any number
of things that a particular part calls for. So, you have to be well aware of your
bodily functions and how you're going to get into various positions to produce a
good sound all the time.

Q: Any physical adjustments or thoughts that you use?
A: I think it comes from body and I always try to think open. Make sure you try to
keep your throat open and don't clamp down. Because once you start breathing
hard after a physical fight or something like that, then it's very difficult to keep
the sound flowing.

Q: That sounds impossible, to fight and sing.
A: Well, it sometimes happens. I just had a big fight scene in the Carmen. Don José
and Escamillo have that fight. And then to do the duet while you're actually
doing the physicalities. So you get to the point where you can start chopping off
words and you don't really make good sounds, it's more like, it's not true singing.
It's cut singing, it's abbreviated in some way in order to compensate for the
breathing, the hyper-breathing that you're doing.

Q: Interesting. Are your lip movements and positions important for good diction?
A: For good diction. No, you leave your lips alone. Unless you're using labials or
something like that. Something that's going to use the lips.

Q: Is your mouth position important for good diction?
A: Mouth position being important. I suppose so since everything comes out of your
mouth. At least it always has for me. I really don't think about it anymore
because it was something that I've always practiced. So once I begin to sing a
piece I try to make sure that I'm singing good diction all the time.

Q: You mentioned your tongue before. Again, how is your tongue important for
good diction?
A: Always keeping it forward. Keeping things on the tip of the tongue and don't let
it get too far back as in some of the Russian things that you might do or the some
of the Slavic, languages you sing. And you make adjustments with your tongue to
try to get [gutteral sounds] it almost sounds like a swallowed tongue. But it's very
difficult to do those things, so you relate back to the Italian way of singing. Sing
pure vowel sounds and only touching the consonants to add to the dramatic
impetus of the word itself or the non-dramatic of the word.

Q: Are there any images or physical adjustments that you use for this Italianate,
simple tongue type of diction?
A: Are there any simple --

Q: Are there any images that you use or physical adjustments?
A: Oh, geez, images. Like riding on a cloud.

Q: It could even be just the image of your tongue being more forward or anything
like that too.

A: No, I think that it’s a matter of keeping a relaxed jaw, a relaxed tongue and keeping it forward and not forcing it forward, but letting it relax as well. Because it will always tend to creep back on you and the formation of other consonants and not necessarily vowel sounds. It will creep back upon you so you have to roll your [r]'s and do those other things with it. It’s just a matter of staying relaxed, remaining relaxed.

Q: Okay, final question. During your private practice, do you ever practice silently?

A: Oh, yes. Study, mental preparation, yes. I’ve done that a lot. In instances where I don’t want to physically sing then I’ll -- Even the mental preparation is exhausting in itself. But to mentally think -- Because I think that the whole process of making sure that everything, the mechanism, works properly. It’s like self-healing. You have to have the mental capacity to prepare yourself, ready yourself for the competitiveness, the actual job that you’re doing and then the presentation.

Q: What do you do specifically during your private silent practice time?

A: Pray. A combination of things, to calm down, many things might ramble on in one’s mind. I think that it’s a matter of focusing in on what’s true to the moment.

Q: Do you, when you are thinking through a piece that you have sung or are about to perform, do you actually feel the piece as you would, sense the piece as you would in a real performance?

A: I think about the times that I’ve done it well. So, I don’t really think about the times that I’ve done it badly. So, I try to imagine doing it well and what I really have to do to accomplish it.

Q: I assume too, you mentioned going over the text, reading through the text and rhythms is that another type of thing that you do during mental practice?

A: Sometimes. If I have dialogue or something like that, it’s always something you review mentally. I do it.

Q: Anything else you do during your silent practice?

A: No. That’s about it.
Interview #20: Professional Singer
Age: 30+
Years of Private Voice Study: 15 years

Q: Before you begin to sing, do you consider your jaw position?
A: Not at my level, no. I think about it sometimes when I'm singing just, it's like, "Oh, this needs to be more relaxed here." But no, I don't sit there and think about my jaw.

Q: That was my second question, if there's any time while singing that you --
A: Yes, sometimes you'll feel like something needs more space. Or somebody listening to me might say, "Oh, that needs more space," or "That needs more roundness," or, "Blah, blah, blah."

Q: So the way you recognize that your jaw position needs adjustment is through a sensation, is that what you're saying?
A: Yes. A sensation or something in the neck might feel tight or I might need more space. Or somebody listening to me might say, "Oh, that needs more space," or "That needs more roundness," or, "Blah, blah, blah."

Q: Does your jaw position influence your pitch?
A: I think it does. I think a tight jaw can make a really tight, out of tune sound. I've seen that in other singers and I've seen it in teaching.

Q: In yourself?
A: Yes.

Q: Also, does your jaw position influence the quality of your vowels?
A: Definitely.

Q: What do you do or think to make sure that you are using a jaw position that is most beneficial for vowels?
A: What I do is I think, some people call it "the lift," some people call it "the smile." To me it's an inward smile where you feel like you're stretching from the upper, where the two bones come together. I don't know what you really want to call that, right here [subject indicates -- above the cheekbones and near the temples] where the two bones come together, right here. And you can't think that you're just dropping your jaw. You have to think that's only 50%. That you lift and drop at the same time. If you just drop the jaw, most people interpret that as the jaw going straight down and that puts, to me, puts tension in the jaw. It has to be a stretch from the top and a feeling of going back in the jaw rather than down.

Q: Just for the tape, when you said right here you were pointing just below your temple --
A: Yes. Where the two bones, it's right above the cheekbone where the two bones come together. You have to feel like it's a lift inside. I mean, that's the way I've been taught and that's the way I teach and that's the way I see a lot of singers singing.

Q: Are you aware of any sensations connected with singing in tune?
A: Yes. The voice just, when it's really in tune, the voice feels like it's spinning. But I don't sit there and think is this note in tune on every note I sing. You just assume -- I can tell more about that when something's out of tune because it feels like the voice isn't spinning or it doesn't have sparkle on it.

Q: Well, you just answered by next question. Well, actually let me ask one more in
that vein. Are you aware of this when practicing at all or when performing?
A: Both. Yes. But when performing, you might, I know it might not be absolutely
perfect. Like if you're doing a role, because there might be something
dramatically you're trying to portray and so then you have to decide is the voice
more important or the dramatic intent more important. I mean, what would you
rather do, see somebody standing on stage perfectly perfect or somebody interpret
a role? I'd rather see somebody interpret a role. Other people would go the
other way but I think they're in the minority. That's just my opinion from being
out singing professionally.
Q: Do you hear internally the pitches you intend to sing?
A: Yes.
Q: Can you describe what you hear internally?
A: No.
Q: Possibly your own voice, a piano, a beep?
A: I don't know, you just hear the pitch. I don't have any idea. You just hear it, if
you know your music.
Q: Good point. Do you depend at all on an instrument?
A: For what?
Q: For pitches at any time.
A: Yes. To get your pitches, of course. I don't have perfect pitch. Somebody's got
to be playing accompaniment until you hear a pitch.
Q: Then when you're more familiar with the piece after you have been practicing it
for a while, are you able to --
A: Oh, I see what you're talking about. No, I don't, I just learn the pitches when I'm
learning a melody and then I just -- No, I don't rely on instrument. I thought you
were talking about if I'm standing on stage singing.
Q: Oh, I'm sorry, no I mean at any time actually. I assume with you it would apply
more to practice and learning.
A: Yes, when you're learning in music. Yes, I sit down at the piano and learn it.
Q: And then, I assume you were answering this also, later when you are familiar with
a piece and you're off book, is it possible to just begin the piece knowing where
that first pitch will be?
A: No, not for me. I don't have perfect pitch. I can sort of feel where it is because
I've sung long enough. I can sort of feel if it's high or low and sometimes I can
hit it right on. But no, I wouldn't in a performance. If I was standing in an
operatic performance or something like that I wouldn't. I'd find my pitch from
someplace, something I'd sung before or somebody else's pitch.
Q: Before singing, what do you do or what do you think to insure that you will sing
the correct pitches? And by that I don't mean sharp or flat, but what's written on
the page.
A: I guess you just think the pitch and rely on your ear. I mean, I don't know how to
answer that. I've sung so long I don't really know. You just hear it.
Q: Do you hear the entire phrase?
A: Yes. You know what the phrase is going to do, yes.
Q: So it's a phrase concept?
A: Yes.
Q: It hits you?
A: Yes.
Q: While singing, do you do or think anything to insure that you will again be singing this correct phrase or correct melody?
A: I think you have to think a lot about what the breath line's going to do, what the phrase is going to do, the architecture of the phrase, so you know what you have to do with your breath.
Q: Do you relate pitch to a physical sensation of high or low?
A: I don't know. I never thought about it. I don't know what that means exactly.
Q: Do you physicalize what high is and what low is within yourself? Is there a relation to you, this is high, this is low?
A: Only in the way you have to approach the phrase. Only in the way you have to approach it with your breath because you're going to breathe differently for a high note than you are for a low note, because you're gonna -- The vowel position is different. The tongue position is different. The hard palate area is different. So you're going to start on low A, it's going to be a different breath approach than it is on a high A. You've got a two octave difference there.
Q: Can you describe any images or sensations that help you determine that placement? And the need for breath?
A: It just feels like it. You're singing toward the nose not in the nose. I think the nose is involved in the sound. This is a Caruso quote, "The nose is in the sound but the sound is not in the nose." You definitely feel like, it feels, if singing is right, it feels the best right at the beginning of a cold because you're singing right exactly in the mask. And that's exactly where the beginning of a cold feels like.
Q: Now is that more for a high placement or --
A: No. Period.
Q: Do you image each pitch of a song individually or as it relates melodically or harmonically?
A: More melodically.
Q: Does your way of imaging or hearing pitch or pitches change as you become more familiar with the song?
A: Yes. Your phrase gets easier, because your breath gets easier. Yes, I think so.
Q: Do you think about the position of your soft palate while you're singing?
A: Yes. Mainly through the breath inhalation at the beginning of the phrase. Also, it's related to the jaw.
Q: As you mentioned earlier. Again, what position are you trying to achieve with your soft palate and what thoughts, sensations or physical adjustments help you to achieve that?
A: You just need a feeling of a big space back there, a big vertical yawn space. Some people I think lift the soft palate too much, but it depends on the voice type. It depends on if they are baritone or, I mean a bass-baritone, or it actually it depends on a body structure for face. I have a real long, narrow face, you do too. And I have, I didn't even know if you were soprano, I don't remember, but you probably have a very narrow hard palate area inside. If you've ever looked at people's insides, mezzos always have a flatter, wider inside and soprano's high voices always have a very high narrow -- almost always. There are exceptions, but
almost always. Joan Sutherland's an exception. Well, she's an exception, period.

Q: She's a marionette. So you try to achieve a high, open vertical space?
A: Yes.

Q: Does your soft palate position influence your pitch?
A: Yes.

Q: Can you describe for me what you do or think to create a soft palate position that will give you a well-tuned pitch?
A: If I understand your questions correctly, getting a soft palate position to me is related to how you inhale your breath. I think you can explain it. I try to explain it methodically in several steps when I'm explaining it to a student. But when the end result starts to happen, you're standing on stage and you're getting ready to sing, it should all happen just in sort of one swift motion.

Q: So it's something that you are aware of during inhalation?
A: Yes.

Q: Is this during practice or performance?
A: Both.

Q: And what is it that you are actually aware of? Is it an adjustment, is it a thought?
A: It's a feeling of a yawn. It's a feeling of lifting the soft palate and keeping your voice box, your vocal cords down. But not in a forced or pressed manner.

Q: Does your soft palate position influence the quality of your vowels?
A: I think -- Well, I don't know. Yes. It probably does but I think the vowels are formed more inside the mouth with the tongue and the lips and the teeth. I don't think the vowels are formed in the back of the throat. I think they're helped but I think you actually have to pronounce them. That's a whole different school of thought. Some people think they are formed totally inside. I don't because I think then you don't understand the words.

Q: Then do you ever think of soft palate in any way connected with your production of vowels?
A: Yes. Because the soft palate has a different position on every vowel.

Q: What do you do or think of --
A: It takes more space to sing an [a] then it does an [i].

Q: And you're aware of that?
A: Yes. You're going to breathe in a different position for each vowel because each tongue position is different for every vowel. You can get books out and see the tongue positions when they have overlays of the tongue and the mouth and the hard palate area.

Q: You think of that with every single vowel that you're singing?
A: Yes.

Q: In your singing, do pitch and vowel influence each other?
A: Yes.

Q: Can you tell me what concepts you use to think of pitch in coordination with vowel and vice versa?
A: No.

Q: Do you have a method for forming vowels?
A: Yes. They're an extension of the speaking voice, if a speaking voice is produced correctly and placed properly.
So again, any concepts or images that you use in your method?

No. Just an extension of your speaking and -- Young singers don't know how to form vowels. They will pronounce them all in the same way and they'll spread an [i] and they'll swallow an [a]. You have to explain to them exactly what we're talking about and show them pictures and tell them to take speech therapy and just keep working. It takes a very long time.

Do you think about directing the placement of a vowel?

What do you mean by directing?

I guess some people might call it focusing.

Yes.

Allowing it to go someplace through the direction --

Yes. The spin of a note.

Can you tell me what thoughts you use to direct that, or you could say focus that placement?

Not specifically because it's going to depend on the pitch that you're on. It's going to depend on the vowel. It's going to depend on the word. It's going to depend on the language. And it's going to depend on the dramatic intent.

Can you give me a for instance?

No, not off the top of my head.

I was just thinking maybe an [o] on a first ledger line A in Italian? What might possibly be something that goes through your head or what adjustment might you make?

It would depend on if it was an [o], a happy [o] like [sung], or like [o] [sung], like an upset [o]. Your breath's going to be different. Your thought's going to be different. The shape of the [o] is probably going to be different.

So you're saying it's influenced by dramatic role and emotion?

I think it is.

So that's what you think of?

That's what I, yes.

Well, you've answered my question. Are your lip movements and positions important for good diction?

I think so.

Mouth position and tongue also, or not?

Yes, I think so.

In producing good diction, when producing good diction, what adjustments, thoughts, sensations do you use with those elements?

Trying to use a singing voice that's in the same position as your speaking voice and articulating it. Bringing -- Keeping your voice very forward in the front of your teeth and your lips and your tongue.

During your private practice, do you ever practice silently?

Yes.

What do you do during your silent practice?

I memorize a lot silently and then I'll go back and I'll go over the words because I don't have a photographic memory. But I know exactly what something looks like on a page and where it is on a page and to me that's very helpful. Because if you're standing on stage with 20 people on stage with you and the lights are
shining down, the orchestra’s blaring away, you better know where you are in your music.

Q: When you said you go over your music, do you actually feel like you’re singing it?

A: Mentally, yes. And I count the measures so you know exactly where you are. That’s the way I do it, other people just learn it by rote, but I learn it both by rote and also mentally as to what I’m doing.

Q: I’m trying to clarify exactly what you mean by mentally what you’re doing. You mean the actual conception of the voice, technique?

A: Yes. It’s exactly what comes next.

Q: Sensations included?

A: Yes.
SELECTED BIBLIOGRAPHY


Hu, Yung-fang. The Effect of Mental Imagery Approach on Vocal Pitch Accuracy. Research paper presented as part of MUED 5120 Course at the University of North Texas, 9 August 1989.


Landauer, Thomas K. "Rate of Implicit Speech." Perceptual and Motor Skills vol. 15, no. 3 (December 1962): 646.


