

Perceived Quality of a Singing Performance: The Importance of Context

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Abstract and Keywords

The chapter summarizes the author's work developing a theoretical framework in relation to perceived quality in a singing performance. This work focused on singing performances rather than singing performance related effects, such as visual feedback, audience dynamics, live listening logistics, and other factors that might be part of a general "experience" but not necessarily part of the voiced/sung product. In addition to discussing CReMA, a technological solution the author devised for increasing the specificity of response measurement to musical performances, two examples are offered of unpublished empirical research as vignettes of the context-sensitive and context-specific nature of the singing voice in performance. The outcomes support that although assessments of singing and the perception of quality or beauty in a singing performance are not something that can be made using a deterministic rule-system, there is value in systematically acquiring more evidence specific—and also sensitive—to various singing contexts.

Keywords: perceived quality in a singing performance, assessments of singing, CReMA, context-specific nature of the singing voice, perception of quality

Introduction

THIS chapter reviews earlier research by the author (Himonides 2009; Himonides 2011; Himonides and Welch 2005), in which an innovative theoretical framework was posited in relation to perceived quality in a singing performance. This work primarily focused on singing performances rather than singing performance related effects, such as visual feedback, audience dynamics, live listening logistics, and any other factor that might be part of a general "experience" but not necessarily part of the voiced/sung product. The research was purposely centered on the appraisal of recorded singing performances, so that all participants could be exposed to controlled listening experiences, and asked to rate specific aspects of the sung performances in a repeatable and replicable manner. The theoretical framework that underpins the present work offered an evidence-based understanding of the multidimensionality of perceived singing beauty as a synthesis of seven

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“theoretical elements,” namely, musical structure (Ockelford 2005; Scherer and Zentner 2001); neuropsychobiological processing of lyrics and music (Peretz et al. 2004); human musical development (Malloch 1999; Malloch and Trevarthen 2010; Welch 2005); socio-cultural context (Durrant 2003; Durrant and Himonides 1998; Himonides 1997); listener characteristics (Sloboda and O’Neil 2001); production of the acoustic signal (Gabrielsson and Juslin 2003; Juslin 2001; Sundberg 1987); and effects of acoustic signal manipulation (Howard and Angus 2001).

It is important to clarify that although perceived beauty in singing and also assessment of the quality of a sung performance are notions that are strongly interwoven with emotion and, perhaps, the “senses,” this current research attempts to offer a broader (or even a meta-) outlook on how beauty is constructed within the listener, emphasizing the importance of the specificity of context. A very comprehensive synthesis from evidence on singing and emotion is offered elsewhere (see Coutinho, Scherer, and Dibben, this volume). In relation to the senses, philosophy, and aesthetics, the author subscribes to the scientific foundations of (p. 316) philosophy, and its ties to systematic enquiry on perception and cognition, rather than the oft self-celebratory niche of music appreciation.

In interrogating the above-mentioned seven-part theoretical model, Himonides (2009) employed a mixed-mode, methodological framework which employed a number of different empirical components (presented as research “stages”). Himonides and Welch (2005) presented findings from earlier stages of the empirical research highlighting that listeners appeared to possess co-existing conceptions of beauty in singing, namely beauty as encapsulated by a particular vocal performer and (separately) self-generated criteria of vocal beauty in the abstract (p. 64). This was somewhat reminiscent of Scherer’s “plea” for a new approach to measuring emotional effects in music (Scherer 2003) at the Stockholm Music Acoustics International Conference 2003. Listeners seldom appear to shy away from providing response data; it is “how” we ask particular questions that determines what answers are going to be offered, and “what” response data will be generated by the listeners.

Himonides (2011) presented an original technological solution for increasing the specificity of response measurement. The Continuous Response Measurement Apparatus (CReMA) was developed in order to allow the synchronous recording of physiological response data (i.e. galvanic skin response and heart rate) with real-time response data offered by expert listeners on a linear position location controller. Testing of the CReMA rendered systematic and meaningful datasets, analyses of which offered additional insights into response measurement and how this informs performance assessment. A key finding of this pilot research was that very experienced listeners could produce remarkably robust datasets that showed very strong correlations between a measure of “overall perception of quality of a singing performance” and the assessment of a very particular single component/aspect of that performance in isolation, such as diction, vibrato, intonation, etc. Even more remarkably, this was found to be genre and repertoire specific. For example, at that time an exhaustive assessment of all commercially available versions of “Dido’s Lament” from Purcell’s opera *Dido and Aeneas* demonstrated that the particular charac-

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teristic that all expert listeners systematically recorded in strong correlation with overall quality was their perception of the quality of “vibrato.”

Based on evidence that a continuous recording of an intensely focused assessment of specific attributes of a singing performance is a context-specific and also context-sensitive exercise, Himonides (2008) conducted a number of additional small-scale research investigations in order to gain additional insights into this specificity of context.

The remainder of this chapter considers two examples of short-scale unpublished empirical research as vignettes of the context-sensitive and context-specific nature of the singing voice in performance.

“The singer, not the song”

The purpose of this short-scale empirical research was to assess expert opinions on the perception of beautiful performances across different musical genres. The British Broadcasting Corporation (BBC) ran a series of five radio programs (BBC Radio 4) from January 9, 2007 to February 6, 2007. The radio series was titled “The singer, not the song,” and was classified under their “factual” program category. According to the official BBC nomenclature (as (p. 317) published on their website¹), the program’s rationale was to analyze some of the “best” voices as well as inform listeners about “music” and “context” (i.e. the musical genre). Promotional text for the program read:

What defines an unforgettable voice, and is a great voice born or made? In this series we will not only hear and analyze some of the best voices across the last century, but also inform about music and the context in which they are singing.

(British Broadcasting Corporation 2007a)

Each of the five broadcast episodes of the series focused on a different musical genre. The first episode was broadcast on Tuesday January 9, 2007 and focused on “jazz” music. The invited experts for this episode were singer Jacqui Dankworth and trumpeter Humphrey Lyttelton. The second episode was broadcast on Tuesday January 16, 2007 and focused on “folk” music. The invited experts for this episode were Norma Waterson and Martin Carthy, who have been leading figures in the folk revival since the 1960s. The third episode was broadcast on Tuesday January 23, 2007 and focused on “blues” music. The invited experts for this episode were “blues troubadour” Eric Bibb and blues historian Tony Russell. The fourth episode was broadcast on Tuesday January 30, 2007 and focused on “rock” music. The invited experts for this episode were rock singer Paul Carrack, music magazine editor Mark Allen, and music writer/broadcaster Robert Sandall. Finally, the fifth episode of the series was broadcast on Tuesday February 6, 2007 and focused on “classical” music (with a particular focus on the “tenor voice”). The invited experts for this episode were Peter Auty, one of Britain’s leading tenors (as presented in the promotional nomenclature), and singing teacher Peter Wilson.

Methods

All five episodes of the series were recorded digitally and then transcribed. The transcriptions were analyzed using ATLAS.ti version 5.0.67, Scientific Software Development GmbH (a qualitative analysis package for large bodies of textual, graphical, audio and video data) in order to explore: (1) how experts' opinions might vary across musical genres; (2) whether the distilled "themes" that resulted from the qualitative analyses of the transcripts could be mapped onto the theoretical elements of a research framework built by this author (see Himonides 2009; Himonides 2011; Himonides and Welch 2005); and (3) what the commonalities and diversities were regarding experts' opinions about sung performance quality across musical genres. Structurally, all episodes of the series were similar and addressed the series' core questions, outlined in the promotional paragraph above.

Results

The themes that emerged from the contextual analyses of the five transcribed episodes were ideas relating to:

- the cultural dimension, flagged as "culture"; (p. 318)
- performers' or the experts' personal identities and their development, flagged as "identity";
- performers' or experts' musical development and musicianship, flagged as "musical_dev/musicianship";
- musical morphological, musicological and/or compositional aspects within the particular genres, flagged as "musical_score/style";
- the neuropsychobiological processing of lyrics and sound, flagged as "npb";
- the production of recorded performances as well as recording techniques and issues relevant to acoustics, flagged as "psychoacoustics";
- performers' or experts' personal emotional and/or psychological contexts, flagged as "psychology_emotion"; and, finally,
- the actual musical instrument (the performers' vocal instruments) and voice production, flagged as "timbre_instrument."

An overall analysis of the transcripts of all five episodes of the series rendered the following results (see Table 15.1), in terms of the frequency of appearance of the eight distilled analysis "nodes":

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Table 15.1 The distilled “nodes” from the textual analyses

Name	Sources ¹	References
culture	5	75
identity	5	63
musical_dev/musicianship	5	57
musical_score/style	5	22
nbp	4	13
psychoacoustics	1	2
psychology_emotion	5	70
timbre_instrument	5	52

(¹) The number of transcribed documents in which a particular node appears, at least once. Five individual documents were processed by the qualitative analysis software, corresponding to the number of episodes of the radio series.

Further analysis

In order to gain some insights into the validity of the coding, all episodes’ textual transcripts as well as the associated coding information were exported onto one eXtensible Markup Language (XML) document. The 354 individual references were assigned unique “ID” labels (from 1 to 354) and a short programming script was written (using the “AWK” programming language and the “sed” UNIX text editor), which, first, generated a random sequence of 36 unique integers (minimum value = 1, maximum value = 354) and, second, retrieved (“mined”) the corresponding (to the generated numbers) textual passages from the XML (p. 319) document and further “appended” them into a plain text digital file (the term “appended” is being used in computer programming terms; i.e. exported the passages one at a time and stored them sequentially in a plain text file).

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Table 15.2 Descriptive statistics of judge agreement ratings

Sam- ple	Fre- quen- cy	Mean	Vari- ance	Stan- dard devia- tion	Stan- dard- error	Mini- mum	First quar- tile	Medi- an	Third quar- tile	Maxi- mum
Judge 1 agree- ment	36	6.278	0.949	0.974	0.162	4.000	6.000	7.000	7.000	7.000
Judge 2 agree- ment	36	6.250	1.221	1.105	0.184	4.000	6.000	7.000	7.000	7.000

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The generated plain text file contained 36 flagged randomly selected textual passages (representing 10 percent + of the flagged body of text) and the researcher's "node allocation." This was given to two researchers (one in the field of philosophy and one in the field of music education) for validation (rating the agreement with each of the 36 codes on a scale from 1—strongly disagree to 7—strongly agree). The judges were in strong agreement ($p = 0.819$, $\alpha = 0.05$) with the initial flagging and did not express further concerns (see Table 15.2).



Figure 15.1 Node frequencies (qualitative textual analyses).

As can be seen in Figure 15.1, there is an apparent overall dominance in the appearance of certain theoretical components linked to the framework proposed by this author (Himonides 2008). At the same time, the analyses demonstrate that certain elements are under-represented. For example, the "psychoacoustics" element is the only property that appears in just one of the analyzed documents (i.e. the episode that discusses "rock" music). From an inverse perspective, the only recorded episode where no mention of the neuropsychobiological processing of lyrics and sound (flagged as "npb") was made is that of (p. 320) "the tenor voice." Although the latter might appear as an "odd" finding, consequent analyses (presented below) demonstrate that other themes dominated that particular discussion.

At a more microscopic level, each individual "case" (i.e. each recorded and transcribed episode) was further analyzed in terms of the distribution and frequency in appearance of individual nodes throughout the complete body of the textual transcript. All "cases" were analyzed both in terms of "node occurrence" (across program genres) but also in terms of "node coverage" (within and across genres); the findings were distilled using the "node coverage" property for within-program comparisons, as the latter is thought to provide a more accurate representation of the contextual "reality," as minor references to certain aspects might occur (thus, receiving qualitative "flags") that might occupy a small proportion of the actual discussion time (see Bandara 2006; Gable 1996).

Analyses of the five individual discourses are summarized in Table 15.3 below.

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Table 15.3 A summary of the nodes' frequency of appearance and coverage

	Frequency	Coverage (%)
01 Jazz		
Culture	15	54.68
Identity	13	44.66
Musical development/musicianship	8	42.08
Musical score/style	2	2.20
Neuropsychobiological processing of lyrics	1	2.73
Psychology/emotion	9	35.59
Timbre/instrument	1	2.73
02 Folk		
Culture	21	56.27
Identity	10	28.23
Musical development/musicianship	11	24.95
Musical score/style	5	14.12
Neuropsychobiological processing of lyrics	6	17.08
Psychology/emotion	17	43.05
Timbre/instrument	7	15.83
03 Blues		
Culture	12	53.91

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Identity	12	34.55
Musical development/musicianship	5	16.63
Musical score/style	3	21.48
Neuropsychobiological processing of lyrics	5	17.29
Psychology/Emotion	15	46.15
Timbre/Instrument	9	29.41
04 Rock		
Culture	18	51.53
Identity	20	52.09
Musical development/Musicianship	15	36.62
Musical score/style	5	17.15
Neuropsychobiological processing of lyrics	1	2.40
Psychoacoustics	2	3.72
Psychology/Emotion	16	37.98
Timbre/Instrument	17	34.46
05 Tenor (classical)		
Culture	9	36.52
Identity	8	18.18
Musical development/musicianship	18	50.74
Musical score/style	7	23.13
Psychology/emotion	13	26.64

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Timbre/instrument	18	70.10
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(p. 321)

For the across-genres comparison of the various “trends,” the frequencies in appearance of each node were summarized, and are presented in cross-tabular format in Table 15.4 and as percentages in Figure 15.2.

The analysis suggests that different “emphases” can be associated with specific elements of the proposed theoretical framework across the different musical genres.

Statements from the experts

Experts’ discussions regarding classical music (British Broadcasting Corporation 2007e) were dominantly focused on the performers’ musical development, their level of musicianship as well as the musical instrument itself:

“We’ve got a nice track from Franco Corelli here . . . [music] Especially at the start of the aria from *Il Dolce Bacci*—Sweet Kisses—there’s a second phrase and he goes up to a top A and he ‘diminuendoes’ [i.e. performs a *diminuendo*] on this top A—he gets quieter on it—but he doesn’t snap into a false voice of falsetto. He takes his full voice down to nothing and it’s absolutely wonderful to listen to.”

(p. 322)

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Table 15.4 A cross-tabular representation of nodes' frequency of appearance

Node	Blues	Classical	Folk	Jazz	Rock
Culture	12	9	21	15	18
Identity	12	8	10	13	20
Musical development/musicianship	5	18	11	8	15
Musical score/style	3	7	5	2	5
Neuropsychobiological processing of lyrics	5		6	1	1
Psychoacoustics					2
Psychology/emotion	15	13	17	9	16

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Timbre/instrument	9	18	7	1	17
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“His attitude to singing was—he said the first thing for singing is it’s quite simple: it exists because of a low larynx and an open throat like a yawn. But the throat should not be held open rigidly. Other tenors would say it’s nothing to do with the throat and it’s very much to do with the mask, the head and the resonance within the head. But I think that everyone does agree that an open throat is something that you have to employ when you sing. Nothing rigid; Nothing forced.”

“You can see the space on that voice—you know the loose, open throat. That was gave him [sic] the God-gift of course—and the courage—the huge courage. A tenor must have the heart of a lion, which that man had, as we can all hear. How sad it is that *Nessun Dorma* was written after he was around. Who knows what that would have been like.” (p. 323)

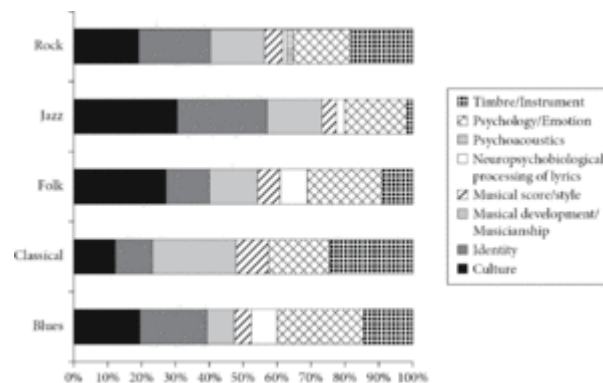


Figure 15.2 The distilled qualitative properties across musical genres.

“We don’t write operas like this. We don’t have a Verdi or a Puccini in Britain. Choral tradition in this country is wonderful but I think it’s so difficult. It’s impossible for a young lad learning how to sing to be in a choir with all the aspects of his technique, the freedom, the release to try and blend in with other voices. Solo singing by nature is not about blending—it’s about development.”

On the other hand, opinions about Jazz sung performances (British Broadcasting Corporation 2007a) are predominantly shaped by cultural and identity views:

“She’s one of my favourite jazz singers, Joni Mitchell is [laughs] because it’s so honest. It’s so beautifully honest and she’s not trying to sound like a jazz singer—in inverted commas—she’s just sounding like herself. This is why I get frustrated by the compartmentalization—because she’s just a great artist and she definitely lives in the present moment. And you could feel it, when you hear her sing it; you feel that you’re in the room with her—and she’s *living* the song in the same way that Billie Holliday does and Nancy Wilson.”

“There’s something about an individual voice which is just that—it’s individual. And what comes with that is not only the timbre, but it’s also the phrasing . . . how

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people think about time and how people think about a lyric and what to emphasize.”

“It took me a long while to understand Billie Holliday. I used to listen to her when I was 18 or 19 and didn’t really understand why. . . I kind of went along with it because everyone raved about Billie Holliday and I was like . . . huh? . . . and then when I heard this album I was in my thirties, really, and it just completely hit me and it’s so . . . oh—it’s just so heartbreaking. There’s something so vulnerable about what she does. And so personal, so intimate.”

Cultural elements appear to be very strong in the discussion about folk music (British Broadcasting Corporation 2007b). But there is also a very strong emphasis on the performers’ and listeners’ psychology and general emotional worlds:

“In 1957, we went down to Ken Colyer’s Jazz club and in the interval there was—a lady and a man got up and she played the banjo and he played the fiddle and she started to sing and then I fell in love, really, I fell in love with that music—the yearning, the soul, everything in there that human beings have was in those songs that she sang and I was totally found. Absolutely found. I was lost and I’d been found.”

“What they did was to evolve a way of group singing *semi*—well not exactly *improvised*, but they worked it out by ear and it was just tremendously powerful. I remember the first time I heard them I was in a record shop in Oxford Street and someone put this record on and—my goodness, what is that? It was tremendously uplifting, it was tremendously forceful, it was tremendously well-grounded.”

“There is a difference between having a great voice and being a great singer. You can have the greatest voice in the world and not tell a story. What’s the point in that? You might as well sing the telephone book. You *have* to tell the story; that’s what traditional music is about. And if you don’t do that, then you’ve failed in your job.”

“The thing about this music is that it moves. What I sing today, I certainly shan’t sing tomorrow because I’m older tomorrow. I hate recording; I hate it—the others will tell you. I sing it and then say ‘Was that all right? Were there any bad notes, did I sing out of key or anything?’ and they say ‘No, that was alright’ and it’s like ‘Right, I’m going!’ [laughs]—because I can’t do it over and over and over again. I think it takes the soul out of it if you keep going over and over and over and over and over again. I think recording it puts a full stop on it.”

“Singing is a weird thing; singing is often a question of timing. It’s why I would prefer to listen to Bob Dylan than the modern Luciano Pavarotti. Pavarotti has a gift of God as a voice—Bob Dylan hasn’t. But I listen to Bob Dylan—and I *believe* him.”

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(p. 324) Blues singing appears to be mainly associated with “emotions” and “the voice” that communicates them. The Blues were presented as “the singer’s music,” a genre where performers speak about their own troubles, not someone else’s. The very core of blues music lies in the communication of feelings and the sharing of empathy. This is evident in the experts’ comments (British Broadcasting Corporation 2007c):

“I think of the language of the Blues as being a language of the heart. It starts out maybe . . . even without words . . . it could be a moan. Spontaneous, emotional musical expression.”

“Magnificent, resonant voice that had a rough edge to it that was so *exciting* and just seemed like he was a man of the world who had seen it all. He seemed like a lion who just had this beautifully musical roar and one note from Howling Wolf’s throat told you half the history of you know, the race, it seemed, it just was, um, so rich, with so many nuances that . . . yeah, I wanted some of that world too.”

“One, I think is size, the sort of sheer grandeur, breadth, and Howling Wolf has that in spades. It’s a huge, great tsunami of a voice that you know, knocks houses down at hundreds of yards. It’s a wonderful way of doing certain kinds of song. One of the things that Wolf started out doing, for example, was living up to his name; he sang these songs with these wolf-howls, these strange eerie cries in them that trademarked his name, so to speak, but they also fitted a certain kind of very Southern down-home Blues as in his song ‘Smoke-Stack Lightning.’ ”

“I’m Kyla Brooks, I’m a Blues singer. The best moment for me is when I can feel that the audience is with me and they’re understanding the emotion that I’m trying to convey; they get what’s going on inside *me*. I don’t think they have to understand what you’ve been through—you know, you might be singing of something they have no experience of. You just get a prickly feeling and you *know* that it’s working and you can just *see* it in the audience, you can feel it.”

“If a blues singer doesn’t have some sort of story to tell then he won’t have much of a future as a blues singer . . . ”

Finally, the analysis suggests that rock music is a paradigm of diversity. This does not come as a surprise, as rock music may be perceived to be the offspring (or sibling) of practically all of the musical genres mentioned above. Even today, where rock music has been established as a “unique genre,” we can come across submusical genres such as “blues-rock” (e.g. Allman Brothers Band, ZZ Top, Joe Bonamassa), “jazz-rock” (e.g. Weather Report, Allan Holdsworth), “folk-rock” (and its regional variations, e.g. “country-rock”) (e.g. Fairport Convention, the Beatles) and even classical music influenced rock (e.g. Yngwie Malmsteen, Ritchie Blackmore). The diversity of rock music is evident in the experts’ comments (British Broadcasting Corporation 2007d):

“I went to see the Stones, recently, actually, and I originally saw them in the sixties at the Sheffield City Hall and I hadn’t seen them since . . . And I thought it

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was probably going to be a bit of a joke, you know, a bit of a pantomime, these old guys in leather trousers. As a singer myself, I never really considered Mick Jagger to be a great singer, but I was blown away. I thought that Mick Jagger was absolutely *outstanding*. Unbelievable performer. And he left the stage for a couple of numbers and I've got to say . . . it wasn't happening, you know, until he came back!"

"Freddie Mercury's voice, of course, is very difficult to disentangle from the sound of Queen and of course Queen had the most fantastically loud guitar and drums behind his voice. Again, that's the context in which his slightly camp, operatic style was listened to and appreciated. There was another aspect of Freddie Mercury's voice, which was the sheer power of it. Yes, he was very much *not* the kind of rough-and-ready sounding blues singer, but my goodness, he could blast the stadium vocally—and rock is partly about that." (p. 325)

"Liam Gallagher's voice has a wonderful kind of low-level projection. But what he does do is have a very menacing presence and he patrols the lip of the stage in a rather menacing and again, very theatrical way. And so he just generates this sort of rather scary vibe."

"I think rock music doesn't favour female singers as much—and there simply aren't as many of them, partly because girl singers tend to favour more emotional music—you know, they tend to be more drawn to personal songs—intimate songs, poetic songs and so there aren't that many of them—I mean, there are lots of girl singers, but they tend to drift into folk and into R&B and certainly drift into pop. You know, you've got people like Tina Turner who was actually a soul singer—the great rock grandma, you know *stomping* on stage."

"I think that Chrissie Hine is one of *the* great rock voices although she's got massive emotional range—songs like 'Stop Your Sobbing.' It's a thin line between love and hate and these beautiful soul and pop songs all in minor chords and very, very moving."

"There's a great bit in Live Aid where she [Tina Turner] does a bit with Mick Jagger—you know, it's absolutely hilarious—they're both terribly competitive and they've both decided that they're going to outshine the other one. And it gets more and more comic—wagging fingers at each other and strutting—very very camp. And yeah, let's be honest, Mick Jagger loses. He is no match for this girl. She absolutely wipes the floor with him. She's just got incredible presence and incredible projection. You just cannot take your eyes off her."

The above findings shed more light, though from a slightly different perspective on the "prism" of our present investigation. Although it is recognized that the textual analyses are a snapshot of opinions from performers and other "experts," the 75 minutes of programming reveal strong biases in the discussions, particularly across, as well as within,

musical genres. Overall, socio-cultural contexts, psychobiological design and biography are strongly implicated in listener judgments.

An online-survey-based evaluation of Tibetan throat singing

The purpose of this short-scale empirical research investigation was to capture participants' opinions regarding the overall quality of a traditional Tibetan throat-singing performance, this being chosen as a sung musical genre that was likely to be unfamiliar to many listeners outside the world of ethnomusicology.

Methods

The performance was given by world-class Tibetan (Khoomii (overtone)) throat-singing specialist and clinician Michael Ormiston,² and filmed during a research-based visit to a special secondary school in south-west London. The performance was videotaped and later converted to digital video format (mpeg layer 2) so that it could be uploaded onto the World Wide Web. An online survey instrument was implemented for the evaluation of this performance, comprising (1) response fields regarding the respondents' sex, age, and ethnic (p. 326) background; (2) an embedded version of the digital video performance; (3) a seven-point rating scale of perceived performance quality (values: 1 = "very poor"; 2 = "poor"; 3 = "not so good"; 4 = "I cannot tell"; 5 = "fairly good"; 6 = "good"; 7 = "excellent"); and (4) an optional response field (memo box) so that people could provide comments. The online instrument was coded using XHTML (for the textual part of the instrument) and PHP (for the response data handling part of the instrument) and was deployed onto this author's personal web server. Online invitations for participation to this online instrument were communicated through "usenet" and, mainly, through the electronic newsgroups "rec.audio.pro" and "rec.audio.opinion." The survey received 177 responses.

Participant demographics

Of the 177 participants, 96 (54.24 percent) were male and 81 (45.76 percent) were female. The youngest of the respondents was 22 years old and the oldest was 64 years old. The average age of the respondent sample was 44 years (standard deviation 12 years). Of the 177 participants, 30 participants (16.9 percent) were between 20 and 30 years of age; 43 participants (24.3 percent) were between the ages of 31 and 40; 42 participants (23.7 percent) were between 41 and 50 years of age; 45 participants (25.4 percent) were between 51 and 60; and 17 participants (9.6 percent) were aged 61 years or above.

As we can see from these figures, the population is distributed quite evenly, with a small bias towards the "61+ years" and "20-30 years" age groups. This slight bias might be justifiable by the access-age statistics of the particular newsgroups where this survey had been advertised. In the specific context of the research, this was not perceived to pose a problem, as it was not intended to perform "within" and "across" groups' comparative statistics. The objective of this survey (which was to "capture" people's responses regard-

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ing the quality of a particular sung performance) as well as the findings (as presented here), support the argument that all age groups are relatively well represented.

Interestingly, the two older year groups are “led” by female participants at 70.6 percent (61+ years) and, at a weaker dominance, 51.1 percent (51–60 years). Almost all major ethnic backgrounds were represented in the acquired dataset. The biggest respondent group (93 participants, 52.5 percent) labeled themselves as “white”; the second group were the participants that labeled themselves as “Asian” (30 participants, 16.9 percent); the third group of participants labeled themselves as “Chinese” (18 participants, 10.2 percent); the fourth group of participants (16.9 percent) labeled themselves as “other”; and, finally, the two groups of participants that labeled themselves as either “mixed” or “black” each comprised 10 participants (5.6 percent). Due to the fact that this particular survey was Internet-based, it is noted that the distribution of respondents on the world map is not dissimilar from official international Internet usage statistics.³

This argument is based on the assumption that the majority of both European and North American populations can be classified as “white.” Regarding the participants’ responses about the perceived “quality” of the sung performance, the results are noteworthy in that 133 (75.14 percent) participants reported that they were not in a position to tell whether the sung performance was good quality or not. Later filtering of the responses in the “optional” commenting field of the online survey instrument also suggests that the respondents felt (p. 327) that they did not possess the experiential criteria to evaluate such a performance. Some participants stated that they responded positively solely because they had never come across such a musical genre and had found this experience extremely exciting. The overall results of the survey are presented in Figure 15.3.

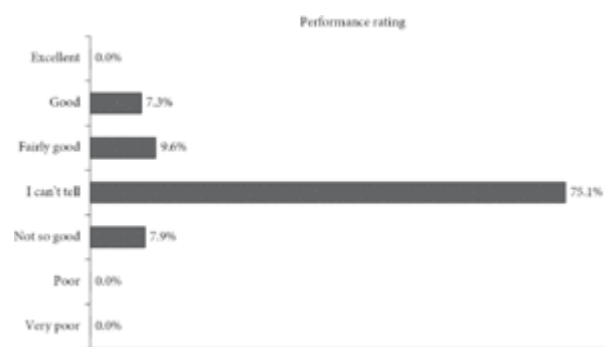


Figure 15.3 Tibetan throat-singing performance perceived quality rating.

Results

A further analysis was undertaken within ethnic groups in order to explore whether certain groups appeared to be more “informed” about this particular type of singing. The results are reported in Table 15.5. As can be seen, there appears to be a similarity of response by ethnic group (e.g. 60–87.5 percent responded “I can’t tell”).

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Table 15.5 Performance rating scores within the different ethnic backgrounds

Rating	Asian	Black	Chinese	Mixed	White	Other	Total
Fairly good	16.7%	10.0%	16.7%	30.0%	5.4%	0.0%	9.6%
Good	10.0%	20.0%	0.0%	10.0%	7.5%	0.0%	7.3%
I cannot tell	70.0%	70.0%	77.8%	60.0%	76.3%	87.5%	75.1%
Not so good	3.3%	0.0%	5.6%	0.0%	10.8%	12.5%	7.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

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A k-samples comparison of variances (Levene's test) was performed in order to investigate whether the ratings varied homogeneously across different ethnicities. At the level (p. 328) of significance $\alpha = 0.05$, the inequality of variances appeared to be statistically significant ($F = 2.641$, $p = 0.027$) as ratings across different ethnicities did not vary equally. The results of the statistical test are presented in Tables 15.6 and 15.7.

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Table 15.6 Descriptive statistics of the ratings across different ethnicities

Sam- ple	Fre- quen- cy	Mean	Vari- ance	Stan- dard devia- tion	Stan- dard- error	Mini- mum	First quar- tile	Medi- an	Third quar- tile	Maxi- mum
Asian	30	4.4	0.5	0.7	0.1	3.0	4.0	4.0	5.0	6.0
Black	10	4.6	0.9	1.0	0.3	3.0	4.0	4.5	5.0	6.0
Chi- nese	18	4.1	0.2	0.5	0.1	3.0	4.0	4.0	4.0	5.0
Mixed	10	4.6	0.5	0.7	0.2	4.0	4.0	4.5	5.0	6.0
Other	16	3.8	0.2	0.4	0.1	3.0	4.0	4.0	4.0	4.0
White	93	4.2	0.5	0.7	0.1	3.0	4.0	4.0	4.0	6.0

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Even though one would assume that Chinese or other Asian participants might be “causing” this particular “skew” in the data, as they might be more familiar with (and thus able to be more critical of) this type of genre, it is the “mixed race” group of participants that appears to behave quite “idiosyncratically” with nearly 40 percent of the mixed-race respondents replying positively to the performance. Overall, however, the findings of this short study appear to be quite robust, comprising respondents from all over the world, nearly equally distributed across genders and age groups, who were largely unable to evaluate the quality of this particular sung performance.

Participant comments

Some of the comments that were offered (in the optional comment field) were:

Table 15.7 Levene’s test results for the ratings across different ethnicities

F (observed value)	2.599
F (critical value)	2.641
DF 1	5
DF 2	171
One-tailed p-value	0.027
Alpha	0.05

“OMG [Oh My God] I have never heard anything like this before! I don’t know if it’s good but it certainly is unique.”

“This is really amazing! I never thought about this . . . I don’t think that I can tell.”

(p. 329)

“I really don’t know . . . the fact that the performer doesn’t look Western might give people hints . . . but then again, I don’t know.”

“He is good . . . not perfect . . . I heard more good performer in Tibet. But he good.”

“Fascinating!!! Absolutely fascinating!!! But is it bad quality? Is it amazing quality? I just can’t tell.”

“How does he do that? It’s like two people singing! I thought that the voice can only sing one note at a time? Is this real?”

“He looks like he knows his stuff . . . but then again, I can’t say.”

“Could I email you? I would be fascinated to find out what the results are going to be . . . I couldn’t tell myself.”

Technology, training, context, and performance quality assessments

Vocal pitch modulation and manipulation are strongly evident in modern recording studio practice, and have been present since the early days of recording, creatively exploiting whatever technological means were at hand at a particular juncture. One example is the Beatles’ song “Tomorrow Never Knows” (1966), where the recorded vocal track was fed through a Hammond revolving Leslie speaker, a technique that was consequently used by numerous other artists such as Cream, the Moody Blues, and the Grateful Dead (Everett 2008). With the advent of the modern microcomputer, and the migration of the largest proportion of recording studio practice into the digital domain, the manipulation of vocal pitch has become more controlled, systematic, and context sensitive. There is a plethora of software in the professional and “prosumer” market that enables the recordist/producer to perform sample-accurate pitch manipulation (e.g. Celemony Melodyne, Antares Auto-Tune, Roland V-Vocal) either to purely control the final vocal “product” for accuracy in intonation, or in order to evoke innovative esthetic experiences by meaningfully “abusing” the available technologies (e.g. what is known as the “Cher Effect,” referring to the manipulated vocal recording in Cher’s song “Believe” in 1998). Regardless of the purpose, technique, and technological means, no real systematic evidence exists concerning the implications of such interventions to the perception of performance quality and the perception of expressivity. On the other hand, there is a plethora of examples from empirical research that demonstrate that even highly skilled professional performers tend to deviate—sometimes dramatically—from fixed tuning. Furthermore, it has been demonstrated that such deviations do have an impact on people’s perception of expressivity (see Sundberg et al. 2013). There is, therefore, a direct implication for music education, particularly the training of a singer/performer. An educator’s role (and perhaps moral obligation) to foster the development of a singer’s voice could not possibly be viewed as taking place in a vacuum, or even mapped against a table of sterilized criteria, curricular bullet points, or exam board specifications. The development of the singer needs to be seen using a context-specific as well as a context-sensitive lens. This will further ensure that the developing musician is receiving effective support that takes into consideration not only the subtleties of their genre(s), personal biography, psychological and socio-cultural worlds, level of musicianship, skill, instrument, aspirations, goals, abilities and challenges, but also the expectations and context-specific “filters” of the audiences that they aspire to reach. Hopefully, further research will help us to identify, in a more systematic (p. 330) manner, the particular thresholds, nuances, and style/repertoire-specific param-

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ters. This is hypothesized to enable singers and educators to focus on these, in order to augment singing performance vocabularies and skills.

Conclusion

The specificity of context is absolutely central, not peripheral, to the perceived quality of a singing performance. This is perhaps why contemporary singing competitions (e.g. “The Voice”) are produced for television and not for radio, and this is perhaps why so many heated debates can be witnessed over social media about judges’ choices and decisions.

As an epilogue, it might be interesting to revisit what was reported in the January 2012 issue of *Sound On Sound* magazine. The editor-in-chief, Paul White mentioned in his leader:

[D]uring one of our Studio SOS visits a few months back, Hugh [technical editor Hugh Robjohns] and I listened to a demo recording on which the studio owner’s daughter had provided the vocals, and we both thought that he’d been too heavy-handed with Auto-Tune or some similar pitch-correction plug-in. He told us that he hadn’t used any pitch-correction processing at all, that was just the way she sung. It turns out that she’d grown up on a diet of pop music in which heavy pitch-correction was the norm, and she’d learned to sing by emulating what she heard on record. I mentioned this to UK producer Steve Levine when we met to sit on a panel earlier this year and he said he’d also come across this development, specifically female vocalists who had learned to pitch very precisely and to move cleanly from one note to another without the normal glides and slides you hear in a typical unprocessed vocal.

(White 2012)

This is somewhat exciting evidence of how extremely disparate assessments of the quality of a performance could change from something that sounds “wrong” or pathological to something that simply observes a novel technologically mediated esthetic paradigm. The multifaceted and extraordinary singing voice could never be assessed by an automaton, but this does not mean that we cannot develop the evidence base further in order to become more effective at fostering better singing and greater experiences through singing.

References

Bandara, W. (2006). Using NVivo as a Research Management Tool: A Case Narrative. In: A. Ruth (ed.), *Quality and Impact of Qualitative Research. 3rd Annual QualIT Conference*, pp. 6–19. Brisbane: Institute for Integrated and Intelligent Systems.

British Broadcasting Corporation. BBC Radio 4 (2007a). The singer, not the song: the jazz voice. Broadcast Tuesday, January 9, 2007, <http://www.bbc.co.uk/radio4/thesingernotthesong/pip/lbsbq/>, accessed June 19, 2017.

Perceived Quality of a Singing Performance: The Importance of Context

British Broadcasting Corporation. BBC Radio 4 (2007b). The singer, not the song: the folk voice. Broadcast Tuesday, January 16, 2007, <http://www.bbc.co.uk/radio4/thesinger-notthesong/pip/bqnpd/>, accessed June 19, 2017.

(p. 331) British Broadcasting Corporation. BBC Radio 4 (2007c). The singer, not the song: the blues voice. Broadcast Tuesday, January 23, 2007, <http://www.bbc.co.uk/radio4/thesingernotthesong/pip/bquy5/>, accessed June 19, 2017.

British Broadcasting Corporation. BBC Radio 4 (2007d). The singer, not the song: the rock voice. Broadcast Tuesday, January 30, 2007, <http://www.bbc.co.uk/radio4/thesingernotthesong/pip/714h2/>, accessed June 19, 2017.

British Broadcasting Corporation. BBC Radio 4 (2007e). The singer, not the song: the classical voice. Broadcast Tuesday, February 6, 2007, from <http://www.bbc.co.uk/radio4/thesingernotthesong/pip/ider2/>, accessed June 19, 2017.

Durrant, C. and Himonides, E. (1998). What makes people sing together? Socio-psychological and cross-cultural perspectives on the choral phenomenon. *International Journal of Music Education* 32(1): 61–71.

Durrant, C. (2003). *Choral Conducting: Philosophy and Practice*. New York: Routledge.

Everett, W. (2008). *The Foundations of Rock: From “Blue Suede Shoes” to “Suite: Judy Blue Eyes.”* Oxford, New York: Oxford University Press.

Gable, G. (1996). Integrating case study and survey research methods: an example in Information Systems. *European Foundation of Information Systems* 3(2): 112–126.

Gabrielsson, A. and Juslin, P.N. (2003). Emotional expression in music. In: R.J. Davidson, K.R. Scherer, and H.H. Goldsmith (eds), *Handbook of Affective Sciences*, pp. 503–534. New York: Oxford University Press.

Himonides, E. (1997). *What makes people sing together? Socio-psychological and cross-cultural perspectives on the singing phenomenon*. Unpublished MA dissertation, University of Surrey, Guildford, UK.

Himonides, E. and Welch, G.F. (2005). Building a bridge between aesthetics and acoustics with new technology: a proposed framework for recording emotional response to sung performance quality. *Research Studies in Music Education* 24(1): 58–73.

Himonides, E. (2008). *The Psychoacoustics of Vocal Beauty: A New Taxonomy*. Published doctoral dissertation. London: University of London.

Himonides, E. (2009). Mapping a beautiful voice: theoretical considerations. *Journal of Music, Technology and Education* 2(1): 25–54. <https://doi.org/10.1386/jmte.2.1.25/1>

Perceived Quality of a Singing Performance: The Importance of Context

- Himonides, E. (2011). Mapping a beautiful voice: The continuous response measurement apparatus (CReMA). *Journal of Music, Technology and Education* 4(1): 5–25. https://doi.org/10.1386/jmte.4.1.5_1
- Howard, D.M. and Angus, J. (2001). *Acoustics and Psychoacoustics (Music Technology)*, 2nd edn. Oxford: Focal Press.
- Juslin, P.N. (2001). Communicating emotion in music performance: a review and a theoretical framework. In: P.N. Juslin and J.A. Sloboda (eds), *Music and Emotion: Theory and Research (Series in Affective Science)*, pp. 309–337. New York: Oxford University Press.
- Malloch, S.N. (1999). Mothers and infants and communicative musicality. *Musicae Scientiae, Special Issue* 3(1): 29–57.
- Malloch, S. and Trevarthen, C. (eds). (2010). *Communicative Musicality: Exploring the Basis of Human Companionship*. Oxford: Oxford University Press.
- Ockelford, A. (2005). *Repetition in Music: Theoretical and Metatheoretical Perspectives*. London: Ashgate.
- Peretz, I., Gagnon, L., Hébert, S., and Macoir, J. (2004). Singing in the brain: insights from cognitive neuropsychology. *Music Perception* 21(3): 373–390.
- Scherer, K.R. and Zentner, M.R. (2001). Emotional effects of music: production rules. In: P.N. Juslin and J.A. Sloboda (eds), *Music and Emotion: Theory and Research*, pp. 361–392. Oxford: Oxford University Press.
- (p. 332)** Scherer, K.R. (2003). Why music does not produce basic emotions?: a plea for a new approach to measuring emotional effects of music. In: R. Bresin (ed.), *Proceedings of the Stockholm Music Acoustics Conference 2003*, pp. 25–28. Stockholm, Sweden: Royal Institute of Technology.
- Sloboda, J.N. and O’Neil, S.A. (2001). Emotions in everyday listening to music. In P. N. Juslin and J.N. Sloboda (eds), *Music and Emotion: Theory and Research*, pp. 361–392. Oxford: Oxford University Press.
- Sundberg, J. (1987). *The Science of the Singing Voice*. Dekalb, IL: Northern Illinois University Press.
- Sundberg, J., Lã, F.M.B., and Himonides, E. (2013). Intonation and expressivity: a single case study of classical western singing. *Journal of Voice* 27(3): 391.e1–391.e8. <https://doi.org/10.1016/j.jvoice.2012.11.009>
- Welch, G.F. (2005). Singing as communication. In: D. Miell, R.A.R. MacDonald, and D. J. Hargreaves (eds), *Musical Communication*, pp. 239–259. New York: Oxford University Press.

Perceived Quality of a Singing Performance: The Importance of Context

White, P. (2012). Shaped by Technology, <http://www.soundonsound.com/people/shaped-technology>, accessed 3rd February 2013.

Notes:

(¹) <http://www.bbc.co.uk/radio4/thesingernotthesong/>

(²) <http://www.soundtransformations.co.uk/Michaelbiog1.htm>

(³) <http://www.internetworldstats.com/stats.htm>, accessed May 2008.

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