

How singers influence the understanding of sung text

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Singers differ from other instrumental performers in that they generally combine words with music, as song. Diction is an important aspect of vocal pedagogy, since the singer's foremost responsibility is perhaps to communicate the text and its meaning to the listener, whatever the language being sung. This study investigated the factors that are perceived to affect this communication process. We surveyed 143 singers, singing teachers, and listeners to choral and vocal music, asking them to list those factors they felt affected text intelligibility. In all, 43 factors were identified, of which 15 related to the performer (i.e. 33% of all statements made). These included those factors under the performers' control, such as diction, technique and training, stage presence, and breathing and phrasing. Singing teachers made more performer-related statements than other respondents, and the more important respondents deemed it to be able to understand the text in a familiar language, the more performer-related factors they listed. Thus, the performer is seen to influence sung text intelligibility in a number of ways. Knowing more about these factors can inform vocal pedagogy, particularly diction, technique, and communication with the audience. Future research will investigate some of these factors in a more objective, controlled way.

Keywords: singing; sung text; intelligibility; understanding; performer

Singing is ubiquitous in human society, and it is unique among music performance as being the only form to combine music with language. Much has been written on music's similarities to and differences from language (e.g. Meyer 1956, Sloboda 2005), but communicating sung text is clearly much more similar to language communication than mere musical expressivity.

One of the potential goals of song communication is for listeners to gain some level of understanding of the message being communicated. In a language with which the listener is familiar, this involves understanding the individual words, and therefore, the intelligibility of those words is of paramount importance. Even in a language with which the listener is unfamiliar, grasping the text can add to the overall meaning and understanding of the song. However, it is not necessarily the case that all listeners want to understand the text being sung. It might, for instance, depend on genre (pop song vs. opera vs. folk song) or the purpose of the music listening (background relaxation vs. attending to a concert).

From the singer's point of view, communicating text is only one aspect of performance, but it is arguably one of the most important. Singing training encompasses many technical aspects, including both vocal technique and diction, with the emphasis on the latter being on developing clarity of diction (Adams 1998, Falkner 1983). Clear diction obviously leads to more understandable words, and hence a better all-round performance, all other things—such as intonation, for example—being equal.

When considering how listeners understand spoken text, it is important to take into account characteristics not just of the speaker but also those of the listener, such as familiarity with the language and interest in the topic being communicated. Additionally, there may be other external factors affecting spoken text intelligibility, such as the level of background noise. We can assume that, in general, these broad classes of factor (speaker/performer, listener, environment) apply to the understanding of sung text also, as well as factors specifically related to the music and the setting of the words. Thus, there is more than just diction involved.

Very little research has been carried out investigating performer-related factors affecting sung text intelligibility, other than the work of Johan Sundberg and colleagues (e.g. Sundberg 1987) on isolated vowel intelligibility as a function of pitch. They demonstrated that at higher pitches, particularly in the soprano register, sung vowels become increasingly difficult to distinguish from one another, and this has been explained in terms of the relationship between the formant frequencies of the vowels and the resonant frequencies of the vocal tract. However, there is considerably more to understanding text, whether sung or spoken, than identifying individual vowels out of context.

This paper reports selected findings from a survey designed to address a variety of questions related to the understanding of sung text. Musicians (mainly singers and singing teachers) were asked what they perceive to be the most important factors in determining the intelligibility of sung text. The

survey was intended to produce a fairly representative list of factors and allow for some quantitative analysis in terms of the relative importance of those factors. It also allowed us to investigate the importance of different factors as a function of respondents' expertise as performers and teachers, and the importance that they ascribe to being able to understand the sung text. Although a wide range of possible factors underlying intelligibility were described, this paper focuses on those factors related to the performer.

The aims of the study, then, were to determine how important text intelligibility is, in both familiar and unfamiliar languages, to a population of singers, singing teachers, and other musicians, and to formulate a list of factors affecting text intelligibility, together with some indication of their relative importance. The data were collected through the use of a questionnaire.

METHOD

Participants

There were 143 respondents, 61% female and 39% male, aged between 18 and 67 (mean=35.8, SD=13.7 years). They comprised 47% experts (professional musicians, semi-professional singers, and student singers) and 53% non-experts (amateur singers and non-singers). Eighteen of them were or had been singing teachers. Half the respondents spent at least 75% of their music listening time listening to vocal and choral music.

Materials

We piloted and conducted a questionnaire survey based loosely on that of Himonides and Welch (2006) to address the broad research questions outlined above. The questionnaire was made available both on the web (through SurveyMonkey) and on paper.

Procedure

Likely groups of respondents, such as choirs and singing teachers, were invited to complete the survey, and it was publicized on the PsyMus email distribution list (see www.sempre.org.uk). In addition to collecting demographic data, including listening preferences and singing experience, the questionnaire asked respondents how important it was to them to be able to understand sung text, in both familiar and unfamiliar languages, and what proportion of music listened to was vocal and/or choral. Respondents were then asked to list the factors (as responses to open-ended questions) that they

believe underlie the intelligibility of sung text, under five headings: performer-related, listener-related, environment-related, music- and words-related, and other. One example for each of the first four headings was given. In this paper, only those responses categorized as being performer-related will be discussed.

RESULTS

The intelligibility of sung text in familiar languages was very important to 61% of respondents but very important to only 17% when text is in an unfamiliar language.

In all, 394 open-ended statements were provided by 94 respondents. These were categorized by the authors independently and, after discussion over any categorization differences, 43 factors were identified. All statements that respondents put under the “other” heading were re-categorized into the first four categories, and some statements belonged in multiple categories. There were 15 performer-related factors representing 33% of all statements. These factors are listed in Table 1, with the most often mentioned first.

Table 1. The number of statements (No.) and cumulative per cent (Cum. %) of performance-related factors affecting sung text intelligibility.

<i>Factor</i>	<i>No.</i>	<i>Cum. %</i>
Articulation, diction, enunciation	73	21
Balance between singer(s) and accompaniment	58	39
Communication of text, expression, and stage presence	38	50
Attitude, effort, preparation, projection	31	59
Volume	20	65
Language/text: Feel for/knowledge of/understanding	19	70
Voice quality and range	17	75
Choral ensemble	14	79
Consonants	13	83
Technique and training	13	87
Pronunciation and accent	11	90
Vowels	10	93
Other	9	96
Performance style, vibrato	8	98
Breathing and phrasing	6	100

The respondents were then split into subgroups on the basis of various demographic variables, including level of expertise (expert vs. non-expert), perceived importance of text understanding (very important vs. quite or not important), and the proportion of vocal/choral music listened to (at least 75% vs. less than 75%). Additionally, singing teachers were considered separately.

Singing teachers (n=18) made more performer-related statements than other respondents. There was also a significant correlation between the number of performer-related factors provided by respondents and their rating of the importance of text intelligibility in a familiar language ($p < 0.04$): those who felt that understanding text sung in a familiar language was more important provided more factors related to the performer. There were no other significant findings involving performer-related factors.

DISCUSSION

The survey yielded a rich source of data, both qualitative and quantitative. The respondents, 18 of whom were singing teachers, had a broad range of singing expertise and are, therefore, a good representative sample of vocal performers. It was felt important to tap singing teachers' views as they are responsible for training singers in aspects of vocal technique including diction.

Overall, a third of the statements provided by respondents were related to the performer. In particular, singing teachers provided more performer-related statements than other respondents. This is probably due to the fact that they would be more focused on improving the performers' delivery and clarity as part of their teaching. Similarly, those respondents who rated understanding text in a familiar language as more important tended to provide more performer-related factors than those who did not. Most respondents were themselves performers, so they would have been aware of the impact that they as performers could have on listeners' understanding. If respondents were not very interested in being able to understand the text, we would perhaps expect fewer performer-related factors to occur to them.

The four most regularly mentioned factors accounted for almost 60% of the performer-related statements. These related to diction and articulation (which was one of four example factors given on the questionnaire), balance between singer(s) and accompanying instruments, communication and stage presence, and attitude, preparation, and projection. With the exception perhaps of balance, these factors are all clearly under the control of the performer and, therefore, addressed by vocal pedagogy.

It would be interesting to repeat this study with a population who listen to vocal and/or choral music but are not themselves singers or instrumental musicians. Although it is unlikely they would come up with any new factors not identified in this survey, it is quite possible that different factors would be seen as more important

Finally, it should be noted that this exploratory study identifies only those factors that respondents believe are important. Future research will investigate the potential impact of some of the factors nominated in an objective fashion. This will enable us to increase our understanding of how to enhance the intelligibility of sung text and improve singers' diction through more effective vocal pedagogy.

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