

Heartbeat and Breath

Mapping a Folk Singing Style

SUSANNE ROSENBERG

 <https://orcid.org/0000-0003-0200-3144>

Introduction

This chapter proposes a model that describes a singing style by combining the features of that style into a whole and mapping the style as a compound concept. Individual features may be shared with other styles of course, allowing them to be analysed as part of other singing styles. Following on from earlier research by the author and others, the foundations and features of the Swedish folk singing¹ style are presented here in new research. The chapter also presents an approach to analysing a singing style primarily from the perspective of the singer, emphasizing the usefulness of the act of singing. A singing style is defined here as “the typical phonatory, resonatory and performance patterns cultivated within a given musical style”, according to voice researcher Johan Sundberg (personal communication 2022).

Mapping a singing style includes investigation of the foundations and features of both the musical, and technical, aspects of singing, including for example use of language as a tool for musical expression, pitch range, articulation, ornamentation, metre and phrasing, etc. The chapter argues that, in folk singing, the quality of the singer’s voice and their personality will always shine through, even if stylistic features are shared across the style. (Cf. Ahlbäck 2020 [1989])

The most common way of learning folk songs in Sweden continues to be by oral transmission, generally without any specific verbal or written instruction (Åkesson 2007). Therefore, a question can emerge: Is it useful to describe the singing style from an artistic and pedagogical viewpoint?

Might it suffice to continue the traditional method, passing tacit knowledge from one generation to the next? Tradition is a living thing, and one might argue that efforts to highlight stylistic elements would lead to the conservation of the tradition, with the selection of features to be passed on forming the tradition of the future.

A holistic way of learning a specific singing style is beneficial when integrating a particular style into performance as it directly relates practice to concepts. This approach is similar to learning a language by ear, when both what is said and how it is said are integrated in the act of communication. Supporting this transmission with tips on how to achieve the best result might therefore be helpful for the singer by highlighting features that might otherwise be overlooked.

1. In this text the terms ‘folk singing’, ‘folk song’ and ‘folk singer’ all relate to traditional music, both archival and contemporary, and not their broader meanings in English (as in Åkesson 2007).

Traditionally, folksongs were learned through oral transmission within a community, with the singing style implicitly integrated into the learning process rather than being explicitly taught. Thus, there was no need to formulate or address singing style in any mode other than by singing (Ling 1989; Bronson 1969). Today, we are surrounded by many singing styles and musical genres, giving many possibilities of what to sing and which style to use. In such a diverse world, could it be useful to describe the features of a particular style theoretically, combining them into an integral concept of 'singing style'? Could this be useful for artistic and pedagogical reasons when communicating both inside and outside the community of the genre? The present chapter introduces the methodology of mapping and describing a singing style developed on the basis of Swedish traditional singing, although hopefully it can serve as a model of how to analyse other singing styles as well.²

In describing the features of a singing style various methods and materials have been used, with the result visualised in the form of a 'map', making the results suitable for both artistic and pedagogical purposes in a similar way to that in which applied music theory relates to musicology.

The first section introduces different ways of describing singing style in (ethno) musicology. In the second section, the method for analysing folk singing style is outlined, bearing in mind its usefulness for practical singing and teaching. The next four sections introduce the foundations of singing style, followed by another four sections presenting the features which describe both musical and technical aspects of singing: Language as a resource; Voice mode and pitch range; Ornamentation; Phrasing and metre. The last sections present a 'singing style map' of Swedish folk singing, as well as discussions and conclusions.

Describing singing styles

In Western music, especially classical singing, descriptions of how to sing have for a long time been a source for those learning. It has also been important to know the specific parameters for learning the skills needed to become a good classical singer. A vast literature on learning the Western classical singing style is commonly used by pedagogues focusing on both how and what to teach and learn going back to at least the 16th century, illustrated by for example Maffei (1562, 2001 [1562]) and later Caccini (1980 [1602]). In fact, one might argue that this pedagogic literature and the methods it communicates are necessary if your goal is to be a good singer within the classical field³. There has also been, and to some extent still is, an idea that this style of classical singing is singing more generally, and that only once you have those skills might you choose to focus on other genres and styles.

2. The 'style mapping model' originally developed for fiddle music emerged into a more general model for describing performance style qualities and has been used in the Royal College of Music in Stockholm since the 1980s (Ahlbäck 2021).
3. One can argue that listening to other singers, i.e., oral transmission, is also a factor when learning the classical singing style. However, within the style itself this is not considered preferable.

During the 20th century the so-called non-classical styles, such as contemporary commercial music (CCM: musicals, pop, rock, etc.) and jazz, saw huge development in claiming the specifics of their respective singing styles, both from artistic and pedagogic points of view. A lot of voice training literature has emerged from this development, starting with Jo Estill as early as the 1960s (Steinhauer et al. 2017).

Research on voice use in both Western classical, CCM, and jazz has been developed by prominent voice researchers such as Johan Sundberg and Ingo Titze with the aim of describing styles, demystifying voice use, and making the results accessible not only to scholars but also to singers and pedagogues themselves. There has been little research on describing the singing styles of Western classical or CCM and Jazz from a sociocultural or ethnomusicological perspective, i.e. from the outsider's point of view.

However, the situation regarding folk singing style is different. Here, the focus has traditionally been on describing the singing style rather theoretically from a musicological or ethnomusicological perspective than by focusing on the usefulness for artistic aspects of singing; moreover, generally the research has come from outside the context, and from an academic distance. Seeger (1958) introduced the concept of 'singing style' into ethnomusicological discourse, emphasizing the importance of describing singing style in traditional music as being something other than within Western classical singing. He also pointed out the strong connection between speech and music as it relates to the folk singing style. Researchers, above all Alan Lomax, conducted worldwide expeditions to collect and describe folk singing styles from an ethnomusicological perspective, paying special attention to the social aspects of singing. Ethnomusicologists also started to describe the vocal techniques of singing style from a point of view that could be useful for the singer. Lomax connected the stylistic and social perspective, claiming a correlation between singing style and the structure of society, as well as describing and comparing singing styles of different cultures (Lomax 1976, 1994 [1968]).

In the Scandinavian context we find scholars describing the folk singing style from the late 1960s onwards, mainly from an outside perspective (Ledang 1967; Gjertsen 1985; Rosenberg 1986; Jersild & Ramsten 1988; Stubseid 1993; Jersild & Åkesson 2000). Some attempts have been made to describe typical *kulning* (herding call) singing from an acoustic and perceptual perspective (Johnson 1986; Rosenberg et al. 2005; Eklund et al. 2013; Rosenberg 2014; Rosenberg et al. 2022). However, some singers also addressed the question of singing style from the singer's point of view (Røjås 1985; Rosenberg 1996, 1996–2004; Selander 1997; Borgehed 2011; Larsen Nygård 2018). And examples of traditional singers themselves describing singing style can also be found, giving an insight into the singer's considerations from this perspective. The following quotations offer valuable insight into the views of singers Jonas Jonssons, Gustaf Tillas, Skinnar Asta Larsson and Ragnar Vigdal, with respect to the singing style and aesthetics that were orally transmitted within the folk singing tradition.

His peculiar way consisted of a multitude of trills and an extended tone of the consonants in the last cadence. (About the singer Jone Jonas Jonssons, Malung municipality.)⁴

4. Svenska Låtar: Dalarna 1, Malung (Andersson & Andersson 1922–1940).

One should sing with a flexible voice, that is to say softly so that the voice follows in the trills. Oh, and then I have found that there are many of those small tones that they sing on the consonants, when it is a voiced consonant. Oh, and I should hold out the last tone as a rule. (Gustav Tillas, born 1897, on how to learn the singing style he was taught.)⁵

... but then was it so strange that the ornaments came in different places each time, so you have to get used to that, and we placed those trills where we thought they would fit.... And then sometimes they came exactly where we had put them, they did so [in the old times] before they changed! (Skinnar Asta Larsson, born 1896, on how to learn to sing.)⁶

It is impossible to do *krull* and *trinn* [Swe. 'curl', 'step'] on the consonant, you must use the vowel, i.e. and o and a and all of those. You can also use *krull* and *trinn* on the consonant n: if you have your tongue up in the palate, it's possible. Then you can do it, but you must have said n so long that the tongue has reached the palate. (Ragnar Vigdal, born 1913, on how to use different ornaments.)⁷

In Sweden the development of pedagogic literature on folk singing is quite young, dating back to the 1990s, but has still had some effect, focusing not only on the songs themselves but also on the singing style from the point of view of promoting oral transmission and an artistic outcome (Rosenberg s.a., 1993, 2007, 2020, 2021a [2010], 2021b [2013]; Gunnarsson 2006). However, there has been no attempt to describe the foundations and stylistic features in a more detailed way that includes musical parameters or the like.

Finding methods to describe singing style

There are several possible approaches to describing and formulating a singing style within a genre or musical tradition. The methods used in an analysis are not unimportant and do influence the outcome. In other words, there is a connection between the descriptive methods used and the expected outcome. One might argue that the decisions made in selecting methods have to do with what hat you are wearing and the aim of the study: If you want to describe the singing style for artistic and pedagogical reasons, the focus would be on the usefulness in such an artistic or pedagogic situation. On the other hand, if you want to describe the singing style for musicological or sociological reasons, the outcome should correspond with that. To give an example, it is generally not useful to describe which fundamental frequencies in Hz are prominent in a performance, whereas describing intonation principles and how a singer expresses tonality can be very useful in learning and performing. Yet fundamental frequencies might be a useful means of describing tonal organisation in the singing or the style⁸.

5. SVA BA 0626.

6. SVA BA 1500.

7. RffNgf 14. Videorecording of Ragnar Vigdal teaching traditional singing.

8. Hence the same data can be used for different purposes. One could argue that the methods will affect the outcome and the result, and therefore crucial decisions must be made when

The main research method within the current model is acoustic analysis of traditional sound recordings using different technical devices to understand what vocal technique the singers used. The various analysis methods and mapping are described, and the focus is on describing the features of the singing style from the act of singing as this would be useful in an artistic or pedagogic situation. The material chosen for this study includes more than fifty separate recordings of solo performances of love songs, folk chorales, ballads, diddlings (Swe. *trallning*), lullabies, herding songs and herding calls (Swe. *kulning*) made between 1909 and 2019, all in what could be called an older tonality⁹. The recordings include both older and newer, published and unpublished material with both male and female singers born between 1880 and 1980. Sources are listed under References.

For Swedish traditional folk singing, four basic stylistic foundations will be specified: the song as a cognitive framework; predominantly individual solo singing; expressive intonation with variable scale degrees; non-hierarchical interpretation.

The song as a cognitive framework

The song in oral tradition could be viewed as a cognitive framework (Rosenberg 2021c: 425–439)¹⁰ that gives room for variation, rather than being an absolute, rigid and stable entity. The song is a fluid entity, holding the singer's unified, tacit knowledge of the song which would take form in the moment, when singing. Bertrand Harris Bronson writes about traditional singing:

What such singers have in mind is a melodic idea, not a note-for-note record; and what anyone else will learn from their singing is inevitably likewise the idea of a song. (Bronson 1969: 71)

Tellef Kvifte uses the word 'variability' "[t]o describe the phenomenon that a piece of music may be played in different way on different occasions, and still be perceived as the same piece of music..." (Kvifte 2007: 40). Alva Granström (2016: 16) describes how the fiddler Olle Falk was "playing apropos, and not necessarily on a pulse", meaning that there is constant variation in the rhythm in relation to the cognitive pulse-frame of a tune.¹¹ Astrid Nora Ressem points out that there are "frames and basic forms" that

choosing methods, based on their usefulness, whether for musicological, artistic or pedagogic research. However, there is always a fruitful interaction between musicological, artistic, and pedagogical research with their different perspectives.

9. This older tonality will be described below in the Expressive intonation subsection, with variable scale degrees.
10. The singer's cognitive framework consists of the mode, musical phrasing, lyrical and epic formulation style, melodic variations, ornamentation and singing style, rhythmic pattern and narrative style, including rhyming, alliteration and repetition (Rosenberg 2021). There is no first version of the song, only variations, with the singer being both interpreter and composer of the song in the moment, given that "singing, performing, composing are facets of the same act" (Lord 2000 [1960]: 13).
11. "...spelade *apropå*, och inte nödvändigtvis *på*, en puls" (Granström 2016: 16).

the singer varies and that give “rich possibilities for personal interpretation according to the singer’s temper, creativity and the listener’s response” (Ressem 2009: 149).¹²

Thus, in this chapter the song is described using the concept of the cognitive framework (Rosenberg 2021c: 425–439) and from the multifaceted point of view that the song does not exist outside the act of singing, that there is no first version since all songs become variations of each other, and that all of these possible ways of singing might be ‘the song’. From a conceptual viewpoint, the song can be seen as a structural formation in the mind, a framework for interpretation. This also relates to the ‘performance’ concept formulated by, for example, Reimund Kvideland (1981) in the 1980s.

Variation is thus an integral and natural part of the performance of traditional folk songs, since there is no original version, only variants, a notion that has strong bearing on both artistic and pedagogical practice. Margareta Jersild (2009) shows in *Frasen som formel* (The phrase as a formula) that the singer Valborg Carlsson uses fifteen different interpretations of a musical phrase within thirty strophes, giving a constant melodic variation. Ressem (2009) demonstrates that variation occurs constantly in a particular melodic skeleton that is used for several lyrics. Susanne Rosenberg (2009, 2019) shows in several studies that in one performance of a lyrical song there is no recurring melodic line, but constant variation.

In some forms of folk singing in Sweden, such as *kulning*, variation is very prominent (Johnson 1986), although variation of different aspects of performance, such as ornamentation, intonation, phrasing and timing, can be found even in single performances within traditional folk singing.

Predominantly individual solo singing

Predominantly individual solo singing is another foundation of the Swedish traditional singing style. The overwhelming majority of the collected recordings and the living tradition of folk singing in Sweden is solo singing, therefore the material for this study consists exclusively of solo singing. However, singers have also sung together, especially in religious and working contexts, including heterophonic or polyphonic singing¹³. Today it is quite common for people to sing together in vocal groups in polyphonic settings.

Nonetheless, solo singing dominates in the older recorded material and is frequent in today’s practice, which offers many possibilities for individual freedom of expression and variation in intonation, lyrics, ornamentation and phrasing.

12. “rammer og grunnform”, “rike muligheter for egenutfoldelse alt etter humør, lyst, kreativitet og lytternes respons” (Ressem 2009: 149).

13. However, based on documentation – the strategies of the collectors being transcribing and recording The Song as an entity and not focusing on the act of singing – the documentation of polyphonic or heterophonic recordings and transcriptions is not huge, although there are some striking examples (Rosenberg 2018).

Expressive intonation using variable scale degrees

Expressive intonation using variable scale degrees¹⁴ is the third foundation of the Swedish traditional singing style. Despite the strong influence of Western major–minor tonality in Swedish folk singing, especially in folk song styles that became popular during the 19th century, it is quite common in folk singing to use what is called *Vallåtsmodus* or the herding call mode.

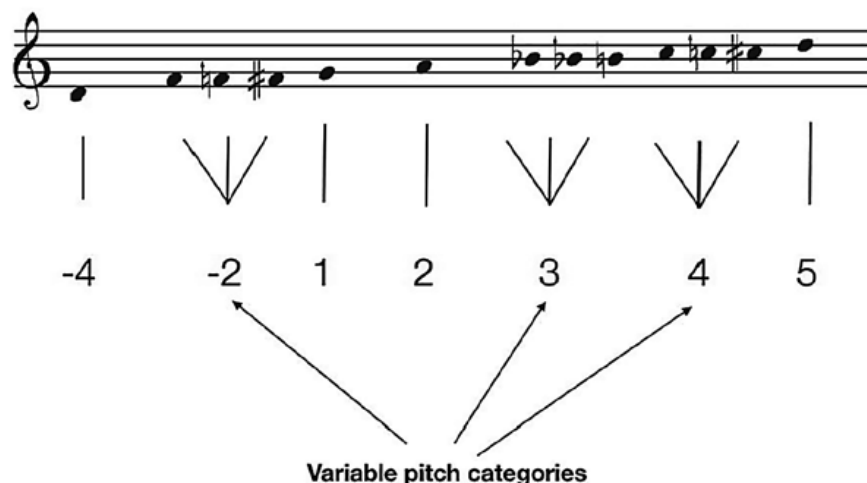


Figure 1. Herding call mode. (Cf. Ahlbäck 2020 [1989])

This mode was described by Ahlbäck in *Tonspråket i äldre svensk folkmusik* (Tonal language of older Swedish folk music, Ahlbäck 2020 [1989]) and is characterised by a limited register, most often ranging from the sub-fourth to the fifth, where the prime, second and fifth are most stable in terms of pitch, while the fourth, third and sub-second can vary greatly in intonation, including micro-tonal alterations. (Figure 1) Moreover, certain melodic patterns are often associated with a certain intonation of a scale degree, for instance a minor second – major third in a falling second-third motion. With variation of, for example, the third, which can range from minor to major, this mode does not fit into the major–minor dichotomy. The representation of this tonality in recordings and notations of folk songs and herding calls in Dalarna and Jämtland/Härjedalen is approximately 60% (Ahlbäck 2020 [1989]), which might be explained by the influence of music connected with herding in the region; however, evidence of this tonality in traditional folk singing is not limited to this region. Singing in a tonality that includes microtonality offers many opportunities for variation,

14. Sven Ahlbäck (2018, 2019) has identified different modes typical for older Swedish folk music in his research. He uses method of modal analysis (Ahlbäck 2020 [1989]) where the pitches in a melodic line are assigned to melodic pitch categories (scale degrees), defined by melodic movement and labelled by the distance from the tonal centre (tonic), like church modes or solmisation system, allowing for microtonal deviations, but without assuming octave equivalence. Within this concept, a tonality can be described as a set of hierarchically related melodic pitch categories (scale degrees), where each pitch category can have different intonations, including microtonal alteration.

giving the singer an expressive palette that enables him or her to choose from different intonations of, for example, the third. The question of intonation practice as an expressive quality stands out when looking at the repertoire of folk singing. As seen in Figure 2 the singer uses different types of intonation to vary the singing throughout the song.

The image shows a musical score for a Swedish folk song, transcribed from a recording. It consists of four staves of music, each with a treble clef and a key signature of one sharp (F#). The lyrics are in Swedish and are written below the notes. The first staff has a triplet of eighth notes over the words 'Fal - ska klaf - fa - re'. The second staff has a slur over the words 'De bju - da till'. The third staff has a slur over the words 'list och hot De bju - da till'. The fourth staff has a triplet of eighth notes over the words 'Till att om gö - ra vårt för - bunn'.

Figure 2. A transcription from the singing of Lisa Boudré (1866–1953), Gästrikland, Sweden, made by Sven Ahlbäck in 1994, digitised in 2020 using ScoreCloud software. The recording was originally made by Folke Hedblom and Manne Eriksson in 1935 and is kept at the Institute for Language and Folklore in Uppsala, Sweden (ULMA Gr 155A2). The figure shows the song's first verse with the different intonations used by Lisa Boudré as well as other features of the interpretation.

Non-hierarchical interpretation

The fourth foundation, non-hierarchical interpretation, designates an interpretative paradigm whereby the interpretation in terms of, for example, phrasing, timing, dynamics, etc., is predominantly local, in contrast to, for example, the terraced dynamics of Baroque music, or phrasing and dynamics based on the semantic or expressive content of song lyrics, which is common in classical, jazz and troubadour song. In traditional Swedish folk singing it is rare to find singers who interpret the narrative in a dramatised manner; instead, it is common to make phrasing by, for example, timing and dynamics, contrasting durations, contrasting sounds, ornamentation, etc., in a way that emphasizes the expressive quality of each phrase or figure (see for example Rosenberg 1986). One example of the effect of this type of interpretation is given in Nils Andersson's account of his experience of Finn Karin's singing:

The words in the hymn seemed at first to play a purely subordinate role, the melody seemed to be the main thing. So woven in and re-spun by tones became the text, that the syllables as well as the words themselves lost contact with each other. At first, the lyrics were not

understood at all, but one sank in joy over the glorious melody, which seemed genuine folk music with pure herding and song phrases. But soon the text was also perceived, and then it struck one, how the melody cherished, served, and gave relief to the text content, how everything blended together into a whole of poignant effect. (Andersson & Andersson 1922: 129)

Or as singer Björn Gardner puts it regarding folk singer Ingebjørg Liestøl interpretation of her songs: “The emotionally invested but non-theatrical portrayal does not hit one on the nose but takes place in a sung poetry that flows from existential blackness. Matter-of-fact as an Icelandic fairy tale” (Gardner 2021: 20).

Seeger offers a parallel characterisation of non-hierarchical interpretation in relation to loudness: “Thus, while continual variance in loudness is the rule in the twentieth-century concert music (and in the singing of folk songs by professional or professionally influenced performers), in the folk art the tendency is to invariance” (Seeger 1977: 284–285, cited by Gabrielsson & Johnson 1985: 297). Today this matter-of-fact interpretation is still very prominent amongst young singers when it comes to solo singing.

With these four basic foundations in mind, the following typical singing style elements can be identified and generalised from the viewpoint of performance and from the act of singing.

Language as a resource

The relevance of spoken language as a resource in folk singing is observed by several Scandinavian researchers, such as Ledang, Rosenberg, Gjertsen and Stubseid. Ledang points out the specific use of vowels and the nasal occlusive in Norwegian folk singing, and the difference both in relation to Western classical singing and to speaking¹⁵. Larsen Nygård (2018) presents in her master thesis how researchers in Scandinavian context have related to language as a specific topic in folk singing style. The spoken language has various rhythms and timbres that can influence musical style. Spoken language also contains various kinds of articulation, and the characteristics of the vowels contain a different harmonics profile.

As can be seen from the present study, Swedish traditional folk singers use features of the spoken language as a resource, not trying to equalise vowels and consonants or syllables but instead affirming differences that can be found in the spoken language when singing. The language is used as a toolbox for musical interpretations and ideas as it provides the basis for broad variation. This is in contrast with Western classical singing or modern Western choral singing, where vowel sounds are often equalised in order to produce a more homogeneous sound (Sundberg 2001).

As mentioned above, the analysis is based on earlier studies combined with new studies on how language is used by traditional singers. By means of melograph MONA

15. “It would be wrong to claim that the length of the various phonemes here stands in exactly the same relation to each other as in normal pronunciation. But in comparison with the art song, you see, that the semi-vowel m makes up a much larger part of the melody line.” (Ledang 1967: 88)

and more modern audio analysis software¹⁶ the contour, dynamics, and identity of specific sounds were identified and interplay in singing evaluated.

The variation between vowel¹⁷ sounds gives traditional singing a lot of its unique character. These differences are promoted in the same way as in spoken language, although the exaggerated differentiation of vowel sounds in traditional Swedish folk singing would not be a useful way of conveying the semantic signification of the words in the case of spoken language. Ledang (1967: 89) points out that the vowels keep their unique character in singing, for example, the formant profile. In other words, in this type of singing, the tendency to exploit the differences between vowel sounds would be for the purposes of variation.

The use of consonants¹⁸ in Swedish traditional singing promotes articulation in a varied way and thus creates possibilities for variation. In the same way that vowels are used in a more exaggerated manner in singing than in speaking, the consonants are often exaggerated or suppressed in the interpretation of the lyrics, becoming tools for variation. The explosive character of certain consonants creates space to use them for rhythmic effect, timing and for articulation in singing (see e.g., Rosenberg 1986).

The nasal occlusive consonants such as /n/, /m/, /ng/ could be considered a third important sound category in addition to vowels and other consonants in traditional singing, as pointed out by both Gjertsen (1985) and Rosenberg (1986, 2009). Ledang (1967) writes that the nasal occlusives are used as melodic elements and are meaningful in the singing itself. They also serve as a resource for variation and are found universally in nearly all spoken languages (Nasal consonant 2024). In Swedish it is common to end words on nasal occlusives, thus singing on them provides an opportunity to hold the last syllable in the same way as in words that end with a vowel, as shown in the description (below) of how the use of tonal consonants creates contrast and gives these consonants the role of a third category.

Lisa Boudré¹⁹ sings the lyric “För den vännen jag håller kär” (For the friend I hold dear) like this: “För de-en vän-ne-en ja’ håll-er kär”. The underlining of /n/ and /l/ indicate individual tonal syllables. (Rosenberg 1986: 16)

The phonetic structure of spoken language creates playful opportunities for certain features, such as binding syllables together into new entities, with /n/, /m/, /ng/ resulting in new sound gestalts that are unconnected with the semantics of the language; or splitting words and syllables, resulting in new non-semantic sound

16. MONA is a device used to analyse frequency curves (this functionality is included in modern software such as Apple Logic, Melodyne, Sonic Visualizer, Audacity). The melograph MONA (at the department of Musicology, Uppsala) provides a continuous analogue registration of the fundamental frequency and amplitude. MONA, which was constructed in the 1960s (Tove et al. 1966) on the initiative of Ingemar Bengtsson, is mainly used for monophonic music. It has proved to be extremely useful for the investigation of performances in different kinds of music, as evidenced in numerous reports.

17. In Swedish there are 9 vowels (long and short) and 17 vowel phonemes. Nearly all languages have at least three phonemic vowels, usually /i/, /a/, /u/. (Vowel 2024: Audio samples; Swedish phonology 2024: Vowels)

18. In Swedish there are 18 consonant phoneme sounds that are divided into fricatives, voiced and voiceless plosives, approximants, rhotics, and nasals. (Swedish phonology 2024: Consonants)

19. ULMA Gr 155A1.

gestalts. Thus, less focus is placed on creating a homogeneous sound – rather the opposite. This is shown in the following example of the interpretation of a phrase.

Words that when spoken do not belong together become ‘glued’ into a single long word when Lisa Boudré sings, e.g. ‘Liksomenblom’ ... On the contrary, strongly articulated consonants make syllables that are otherwise connected in words lose contact with each other and are sung as individual sound figures, in favour of articulation, e.g. “tär na deupp rann”. (Rosenberg 1986: 39)

This feature can also be found in the description of Finn Karin’s singing by Andersson (1922) in the previous section.

To summarise, using spoken language as a toolbox when singing firstly creates space for rich musical interpretation, where the different sounds and articulations contribute to the musical texture, providing the phrasing and musical structure with variation of the sound. Secondly, it promotes rhythmical timing in every moment of singing, articulating the syllables to create varied music. Using the language at every level – phonemes, sounds, syllables – gives a rich palette and creates a varied soundscape, in contrast to the homogeneous sound found in Western classical singing, where long equalised vowels and short consonants are the ideal (Sundberg 2001).

Individual pitch range

A general trait among traditional singers in Sweden is to use an individual pitch range close to that of the personal speaking voice, i.e., singing in the modal register, as described in the above-mentioned study (Rosenberg 1986). A study by Märta Ramsten and Margareta Jersild showed that folk singers in the earlier part of the 19th century chose a personally preferred pitch range independent of repertoire (Jersild & Ramsten 1988). A similar finding was reported in today’s folk singers, i.e. they chose a personal pitch range when solo singing folk chorales and lyrical folk songs (Rosenberg 2019, 2002). In these and other studies it is apparent that women’s and men’s pitch ranges tend to overlap partially, the mean pitch difference being much smaller than in neutral speech. Ledang (1967: 94) also points out that there might be a connection between gender and age regarding the pitch range used.

Similar results are reflected in Figure 3. Voice pitch ranges differ, both relating to age and gender (with some exceptions). The material used in this chapter came from young, old, male, and female singers.

In Figure 3 the scale on the Y-axis represents semitones, starting at A (110 Hz), shown as 10, and ending at a2 (880 Hz), indicated by the number 46. The singers are placed by gender and in order of age at the time of recording. Continuing the X-axis, the numbers 2–11 represent female singers between 20 and 40 years of age, and numbers 12–17 women over 64. In the last section, numbers 19–25 represent male singers, where numbers 19–21 are singers recorded at the ages of 35–50, and the last four points are men over the age of 64. The singer’s birth years differ greatly, spanning more than 100 years (from 1865 to 1978); the recordings were made between the 1940s and the early 21st century. The figures show that the singers mainly use the range below the point where both male and female adult registers shift (Sundberg

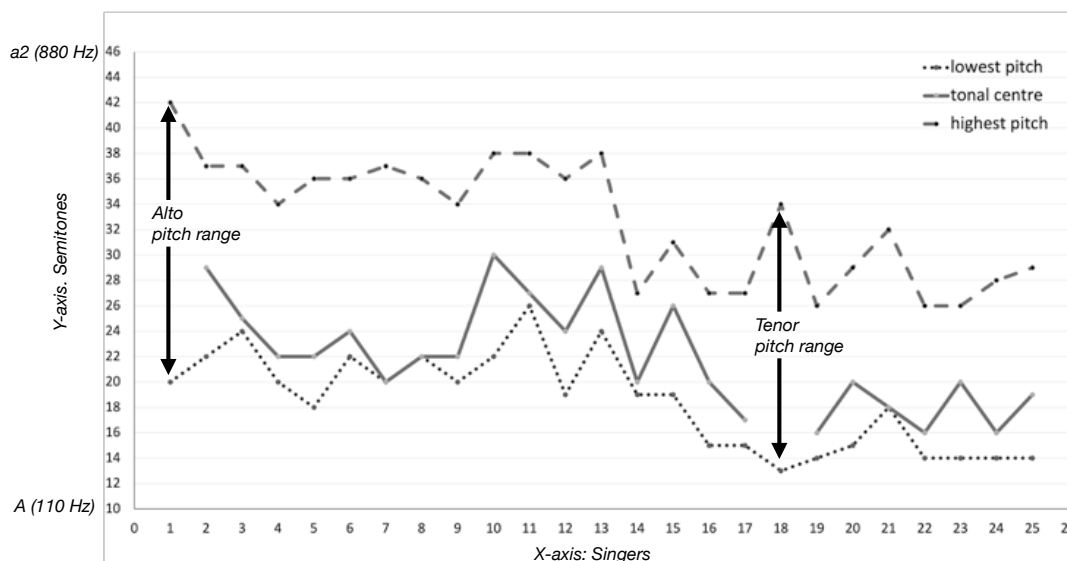


Figure 3. Pitch range and tonal centre in 23 singers' performances of different songs. Each number on the X-axis represents a separate recording, with two exceptions: number 1 shows the typical pitch range for alto voices in Western classical singing, and number 18 shows the pitch range of tenor voices. The material used comes from published sources (Jersild & Ramsten 1988; Rosenberg 2002), unpublished recordings in the possession of the author, and the following archival recordings kept at the Swedish Song Archive: SVA BB 05466, SVA BB 05393, SVA BB 08078.

2001), this typically occurs in the pitch range around 300–450 Hz²⁰. According to the present analysis singers generally use chest voice or modal register in their singing. The area that the singers share regardless of age, gender and individuality might be the octave between around g (196 Hz/20) and around g1 (392 Hz/32).

Nonetheless, the material was too narrow to draw wider conclusions, although the analysis confirms the following. Firstly, the approximate voice mode range in folk singing is primarily in modal register; secondly, men and women share a register to some degree; thirdly, every singer prefers an individual pitch range mirroring the singer's preference across their repertoire.

Even though these features of the primary singing register can be found in other genres – for example, American folksong – there are other styles of folk singing in different cultures where the difference between male and female registers is rather exaggerated, as Lomax has shown in *Cantometrics* and in *Folk Song Style and Culture* (Lomax 1976, 1994).

20. "In both male and female adults, register shifts typically occur in the range of approximately 300–450 Hz. The register above this shift is mostly referred to as 'falsetto' in male voices and 'middle register' in female voices, while the register below the shift is known as 'chest register' or 'modal register'". (Lewcock et al. 2001)

Articulation

Diverse types of articulation can be found in folk singing, which are, for example, manifested as various fundamental frequency (F0) movements. This entails using different kinds of vocal technique to express and form a tone or a phrase in a significant way. There are several ways of starting phrases or syllables, such as deep onsets/offsets, glottal stops/starts, pre/after beats, all of which come with specific fundamental frequency movements. To analyse articulation, different methods and devices for acoustic representation in singing have been used, such as melograph MONA in earlier studies and newer software such as Melodyne (Melodyne 2025) and Sonic Visualizer (Cannam et al. 2010).

The term ‘deep onset’ (Swe. *upphämtning*) is formulated and established by the author (Rosenberg 1986) to describe an articulation determined by a pitch that slides up from a low pitch that is not clearly defined, to the target pitch. This gives a kind of articulative, significant start that confirms or establishes tonality. Examining deep onset from a couple of singers makes it clear that, although the deep onset can be perceived as a non-identified pitch start, it actually starts from a point at which a pitch can be detected. As shown in the analysis displayed in the figure below, these pitches help to confirm and establish the tonality, emphasizing the tonal centre²¹.

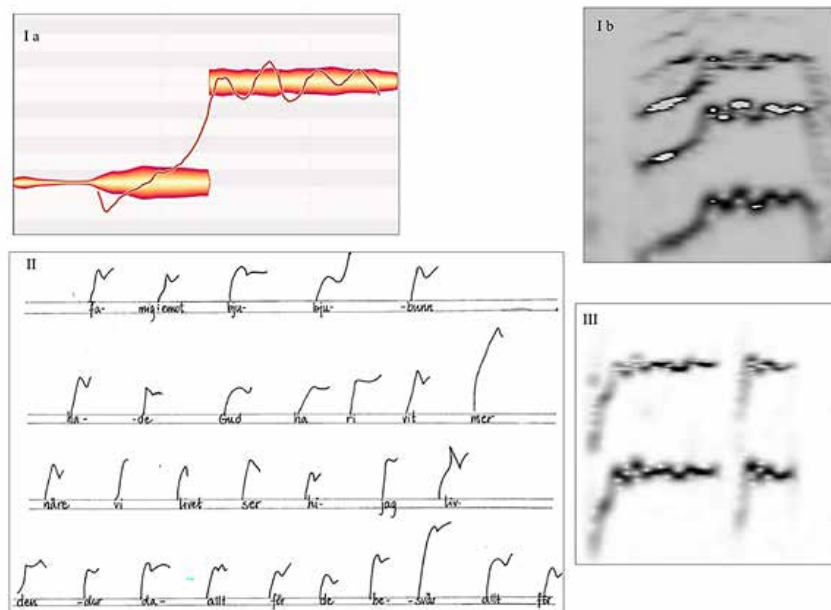


Figure 4. Examples of F0 curves (I b indicates the harmonics of I a) of deep onsets sung by three singers, measured with different means: I Martin Martinsson singing the word *mor*; II Lisa Boudré singing different syllables; III Ulrika Lindholm singing two variants of the word *spelfot* ('play foot'). Please note that in Figures I b and III, only the lower graphic represents the fundamental frequency contour of the melody; the curves above indicate the harmonics.

21. Deep onset can often be identified as starting or ending on a frequency that is part of the mode. Deep onset is not to be mistaken for regular pre-beats or slides with an identified pitch start. Sometimes the deep onset also rises above the targeted tone before landing on it.

In Figure 4, table I a and I b show the same deep onset by singer Martin Martinsson²² singing the Swedish word *mor* ('mother') as 'mo-or', analysed with Melodyne (I a), and Sonic Visualizer (I b). The pitch slide in this example is around a fourth, indicating a start from a fourth below the tonic – a typical interval and relationship in the use of deep onset (and also in pre-beats). The intervals of deep onset are not clearly audible but can be spotted through visualised acoustic analysis. Table II shows multiple deep onsets with the syllables within one song performed by Lisa Boudré²³, from an analysis made using melograph MONA (Rosenberg 1986). In this table the syllables can be seen under the deep onsets. In Table III two deep onsets are shown using Sonic Visualizer, from Ulrika Lindholm²⁴ singing the word *spe-el-fo-ot* (*spelfot*) twice.

One could argue that the deep onset has a vital function during singing, emphasizing the tonality of the song; and since the singer uses his or her own pitch range, this has importance. The study from 1986 drew the following conclusion about deep onset:

... if you constantly, when singing, relate to the tonic ... through e.g. the articulation frequency movement [deep onset], but also through pre-beats, the relationship with certain modus is strongly established in the singing itself. Perhaps it is then that you experience the tension that arises between the tonic and the other tones of a melody. It becomes like having a tonic tone, bottom tone etc. constantly sounding in your mind, as a reference point that creates excitement for the melody. In this type of music with a clear linear build-up, tension is created between different pitches.... A small variation of the intonation has then a major impact on tension in the music where relations with the reference tonic are clear. (Rosenberg 1986: 45)

When phrases or syllables are concluded with the fundamental frequency fall, this is referred to as a deep offset, like an articulated frequency drop. The deep offset is especially common in herding calls where it can be used to dip the voice down from a very high pitch into the singer's modal register and help confirm and establish the tonality, emphasizing the tonal centre. Once again, since the singer's own pitch range is used, this can be considered an important feature.

The use of glissandos, both upwards and downwards, is common in folk singing, and the example, analysed with the use of Melodyne is shown in Figure 5. The upper pane shows the fundamental frequency and the lower pane the spectrogram for singer Finn Jonas Jonsson's interpretation of the chorale *Bereden väg för Herran* (Prepare ye the way of the Lord)²⁵. As can be observed the singer uses a combination of glissando, deep onset, and other articulation tools throughout the verses. The same recording was used in a study (Gabrielsson & Johnson 1985), where two folk singers' interpretations of the folk chorale were compared with those of two singers in Western

22. SVA BA 0671.

23. ULMA Gr 155A1.

24. SVA BB 05338.

25. The melody of this hymn was first printed in the hymnal of 1697. The text is sometimes referred to as a meal prayer, often sung in private worship at home and is not that same as in that hymnal.

classical style. One finding in that study was a difference in the use of glissando: folk singers used it all the time, whereas classical singers made clear breaks between each tone, using no glissando at all.

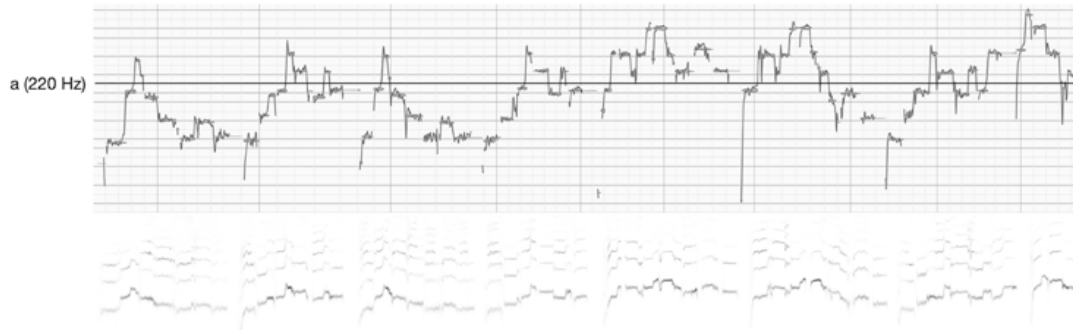


Figure 5. Glissando as used by the singer Finn Jonas Jonsson²⁶, analysed using Sonic Visualizer.

The articulation of glottal starts and stops in Swedish folk singing involves fundamental frequency glides that make a quick shift between different sounds, instead of smoothing them out, thereby creating rhythmic effect and indicating timing. Herding calls contain glottal starts and stops as identified by Anna Johnson (1986). The shift between two syllables can be very effective when emphasized.

The articulations mentioned above made by pitch sliding could also be described as ornamentation by articulation and contain features that are also important for promoting rhythm and timing, and, ultimately, phrasing and metre. Pre-beats and after-beats will be described from that perspective in the section below.

Ornamentation

Pre-beats, after-beats, mordents, turns, shakes, transportation ornaments, detour ornaments and melisma belong to the large variety of ornamentation used in folk singing in Sweden. Some can be characterised and transcribed with Western notation, and others not. Different words have been used by folk singers to describe ornamentation:²⁷ *krokar* (Eng. ‘twists’), *länkar* (‘linking’), *krus* (‘flourishes’) and *krull, trinn, sløyfer, småtrinn, vrioler, mellantoner, glidtoner, böj, krumelurer, vickla på ton*²⁸. The plethora of terms available for these small variations indicates their importance. Figure 6 shows some examples of the ornamentation that Western notation can transcribe and analyse.

26. SVA BB 05343.

27. Singer Katarina Utas (Andersson 2003), singer Ragnar Vigdal (RffNgf 14), Folk Music Collection *Svenska Låtar* (Andersson & Andersson 1922–1940).

28. These expressions for ornamentation are hard or nearly impossible to translate from Swedish, many of them in dialect.

5.

ett och tju - go år

rö - ö - ö ras må

var i Har - näs bygd ut - i

la - a - ra a - ra

tjän - te sol - dat då jag var

Figure 6. Some examples of quick ornaments that can be identified in folk singing, drawn from several Swedish singers' interpretations.²⁹

The names of the ornaments are drawn from descriptions of different musical styles, adapted to folk singing by the author. Hence, a pre-beat is an embellishment that starts before the beat, but from a distinct pitch. The tone arrived at is the stressed tone, and is usually longer than the pre-beat itself, whereas with the after-beat the ornament starts after the beat so that the first tone is longer before arriving at the ornament. A mordent is where the ornament starts on the beat (as a pre-beat on the beat) and the first tone is the shortest. A mordent can be either upper or lower depending on whether the ornament is a quick movement down-up or up-down. A shake trill involves several movements up-down or down-up, in quick succession. Turns are a type of ornamental detour that are on the beat and start either up or down. Western notation is not an optimal way to describe these ornaments. However, it gives some idea of how rich a folk singer's ornamentation toolbox could be.

The ornaments described in Figure 6 are examples of quick melodic movements, but it is also very common to use different types of melisma, somewhat slower transportation ornaments that involve inserting melodic notes between what could be considered the main melody to enrich the melody line. It is also common to use different kinds of ornamental detour, i.e., not always taking the most direct path to the next tone but instead using the opportunity to create an ornament and thus making a detour.

29. SVA BB 00091, SVA BB 09681 from the Swedish Song Archive.

Phrasing and metre

In the folk singing styles described here it is possible to identify different categories of the relationship with time: singing in relation to a pulse or a metre, pulse-based singing, or singing in relation to the phrase as the time entity (as in a breath), or phrase-based singing³⁰.

It is quite easy to identify two further categories that could fall between those two: semi-pulse or semi-phrased should be considered the most frequently used and can involve any kind of repertoire, except perhaps dance music. When singing is used for dancing or coordinating work, it usually has a pulse as its temporal framework. In contrast, the interpretation of love songs, chorales, herding songs and lullabies more commonly uses the phrase as the temporal framework. This form of temporal organisation is especially pronounced for herding calls, which are invariably non-metric.

A singer always needs to consider his or her breathing and listening to phrase-based singing reveals that the duration of breathing (inhalation and exhalation) has an effect on interpretation. However, it could be argued that phrase-based singing has developed in close proximity with the human ability to use breath duration. One might argue that inhalation works as a time limiter while phrasing serves as a time identifier, with exhaling breath being the overall factor that determines the duration of the phrase³¹. It seems as if singers make deliberate choices about phrasing³² and that these are not related solely to repertoire, but instead more likely to individual preference.

Figure 7 gives a visual rendering of two different types of temporal organisation: pulse-based versus phrase-based singing. The first two panes present a *diddling* by Måns Olsson³³ where a waveform and spectrogram illustrate the phrase lengths, the inhalation between phrases and the metric stresses. Olsson's way of singing can be identified from the waveform alone, which shows that he makes use of the metre by articulating the beat both with dynamics and pitch. The third and fourth panes show *kulning* performed of Elin Lisslass in 1948³⁴, where the phrases are performed more

30. There is a wide variety of ways to define the different categories in relation to time. One common way is to use the terms 'metrical' and 'non-metrical phrasing', which could be defined as either relating to pulse/metre or not. Since the phrase is such an important entity when singing I have chosen to use pulse (as in heartbeat) and phrase (as in breath) as the two different relations to time. However, metre is the more commonly used term. One other suggestion could be to turn things around and use the phrase as a time identifier in the following way: pulse phrasing, and breath phrasing. Bartók established two categories in relation to time, *tempo giusto* and *parlando rubato*, where the first is pulse-based and the second phrase-based. (Bartók 1959, 1997: 264)
31. Seeger: "The median unit of form is the phrase-breath or what is normally sung in one breath. It is most easily understood as the section in the stream between falls of breaks caused by the taking of fresh breath." (Seeger 1958: 8)
32. A phrase is to be considered a single unit either defined by the lyric and/or by the melody line and/or inhalation or exhalation.
33. A Lapp-Nilspolska after Munter-Johan, recorded by Matts Arnberg for Swedish Radio in 1951 (SVA BB 05333).
34. A *kulning* by Elin Lisslass recorded as *Locklåtar från Dalarna* by Matts Arnberg for Swedish Radio in 1948 (78F 0047).

irregularly and with longer breaks between them. One aspect common to both is the regularity of the pauses, which probably match inhalation. The *diddling* shows a short intake of breath fitted to the metre, while the herding call shows longer breaks.

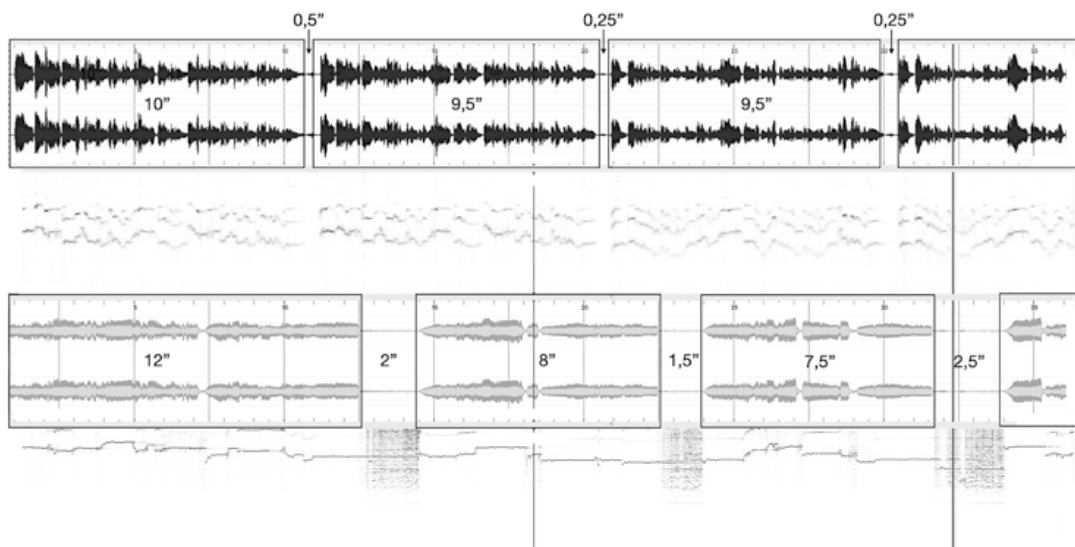


Figure 7. Two different types of organisation of time: the pulse-based (upper panes) and the phrase-based (lower panes), sung by Måns Olsson (1951) and Elin Lisslass (1948) respectively, analysed using Sonic Visualizer. The vertical lines through all panes indicate overall time.

Figure 8 gives an overview of the phrase duration in singing performances as made explicit from breaths and rests. The singers in this example represent different generations and genders, the youngest being born in the 1980s and the oldest in the late 1800s. The repertoire ranges from pulse-based to phrase-based singing. The number of phrases in each verse ranges from three to seven. The length of inhalation between the phrases is between 1 and 2 seconds in all the singers' performances. One observation in the present material is that the difference in phrase duration does not seem to relate to a folk song genre (such as lyrical songs, chorales, lullabies, etc.), so the difference probably relates to breathing cycle. The figure shows that the average phrase duration is 7.2 seconds regardless of genre, while the median is 8 seconds. There are no phrases shorter than 5 second and none longer than 11 seconds. The results coincide quite well with what is said to be the duration of the perceptual now: according to John Albertus Michon (2022) this is between 4 and 10 seconds, something confirmed in later research. Thus, a phrase in traditional singing tends to remain within that framework. Arguably, the fact that phrase duration coincides with breathing cycle and the perceptual (present) now is not a coincidence, but rather a condition for singing.

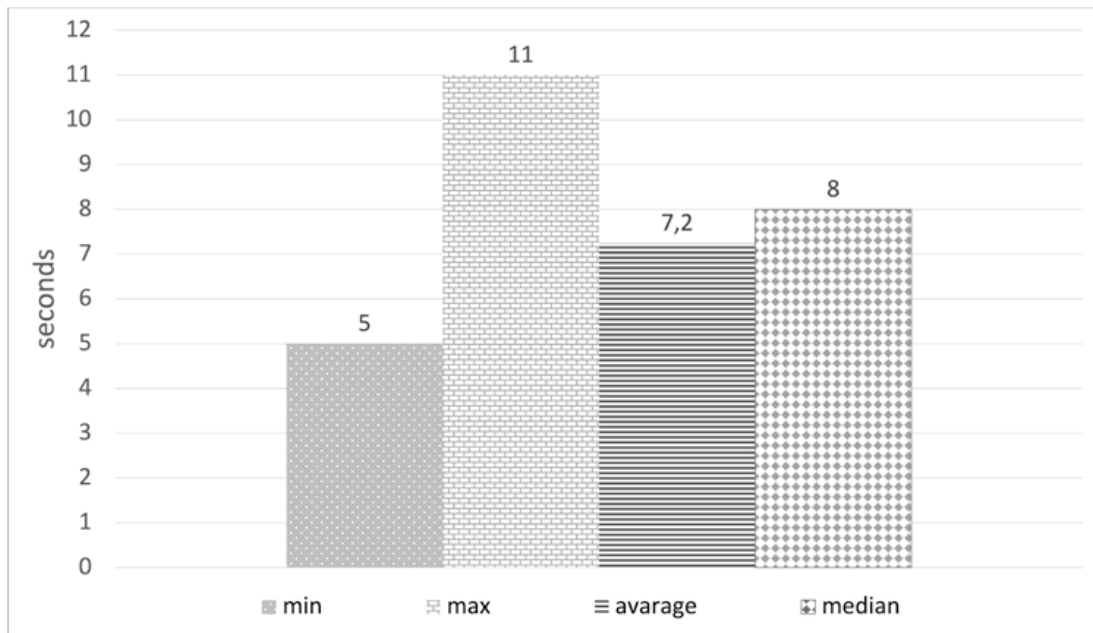


Figure 8. The minimum, maximum, average and median phrase durations collected from thirteen folk singers' performances of love songs, herding songs, chorales, and dance tunes³⁵.

Singing style

The stylistic features analysed above provide tools with which to describe the Swedish traditional singing style, as well the singer's individual styles and unique interpretations.

Merely listing some of features might not provide a sufficient description of a folk singing style, rather it is the specific combination of essential features that defines the style. A singing style might, then, be described as the occurrence and combination of a number of stylistic elements that are common in a certain style. In this case the features identified in the study are characteristic to the Swedish traditional singing style.

Thus, a singing style in this sense can be defined as: A collection of aesthetic and technical foundations and features that share a coherent aesthetic approach but do not in themselves form the singing style, rather they do so in combination.

35. Sources from the Swedish Song Archive SVA BB 05343, 78F 0047, SVA BB 03782, SVA BB 05393, SVA BB 03832, SVA BB 05333, SVA BB 05363, SVA BA 0581, SVA BA 2166, Uppsala Landsmålsarkiv ULMA Gr 155A1 and unpublished recordings made and kept by the author.

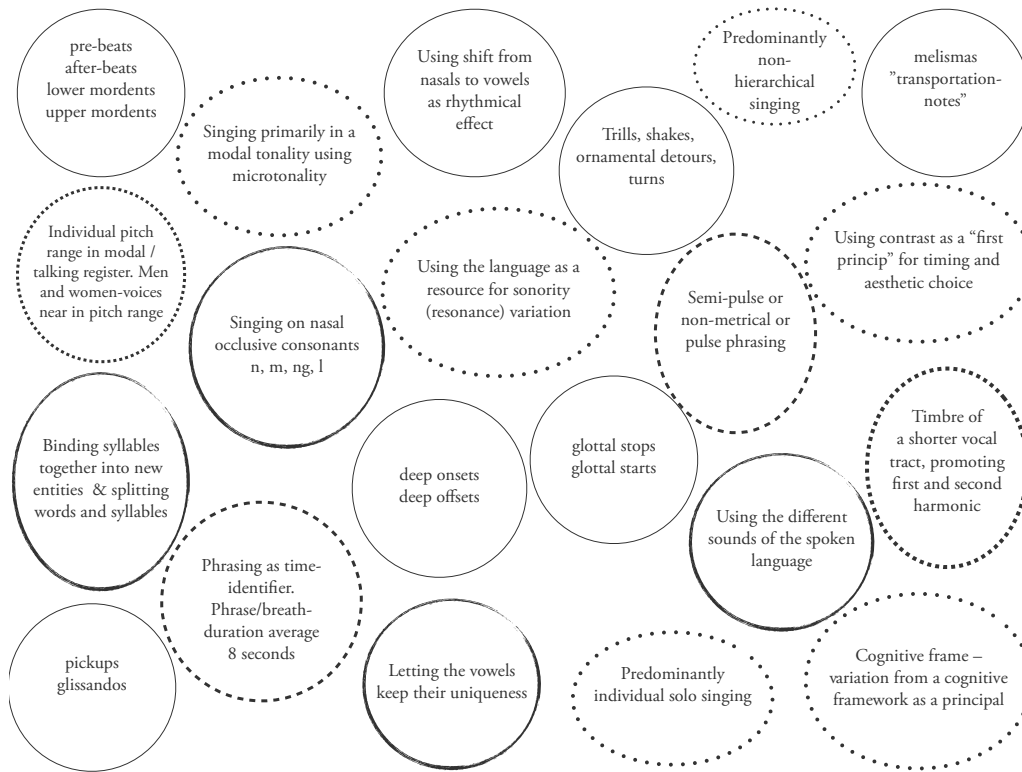


Figure 9. Stylistic foundations and aesthetic features that characterise Swedish traditional singing.

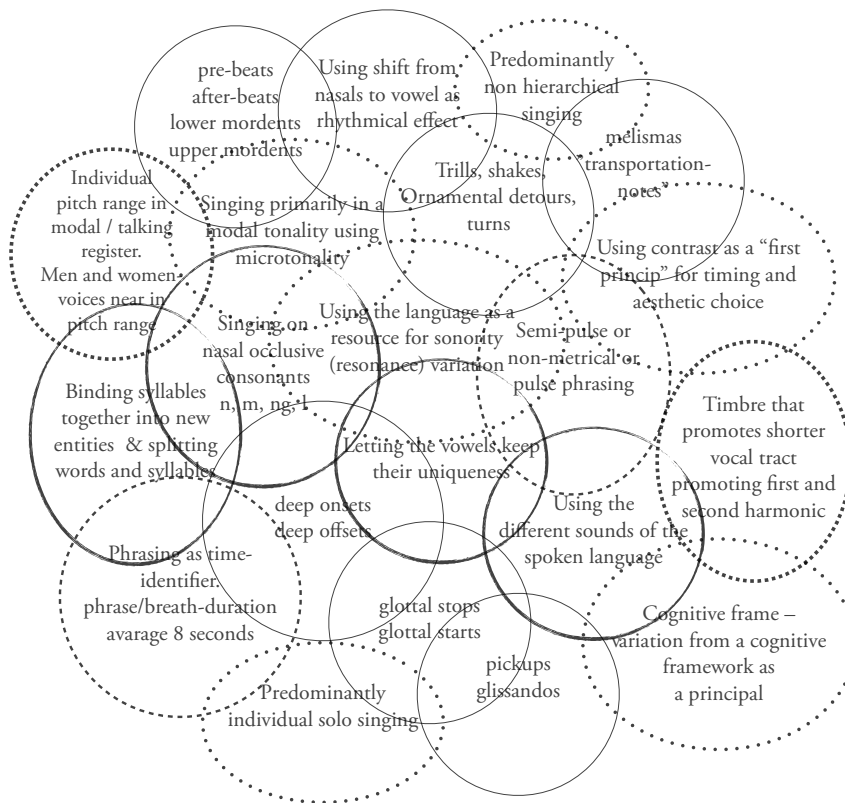


Figure 10. A singing style: sharing a coherent aesthetic approach.

The characteristic features of a singing style might be to some extent culture-specific. However, these are also features that, in different combinations and with different scales or variables, can formulate various singing styles. These styles share features or stylistic elements with each other, but in their unique combinations, giving them the unique *imprint* of a style. Swedish folk singing shares certain features with other singing styles, indeed some features are even more prominent in other styles, whereas some features exist but are less common or suppressed.

At the same time, each singing style, composed of individual features, does not suggest that every singer uses all of these features all the time and to the same extent. Singing style is not an exclusive feature set that applies to all individual performers within a style; rather, it may be more or less pronounced among different performers. The mapping into a singing style reflects a holistic way of showing the foundations and features of the genre or style. Singers use their own voices and expressions and apply the features of the singing style to differing extents, while at the same time sharing and manifesting the same aesthetic ideals. In the process of developing artistry within a style, the stylistic features can function as a toolbox, displaying possible avenues of exploration for artistic expression.

It is obvious that singers do not sound alike even if they use the same stylistic elements. Each set of stylistic features offers opportunities for various individual expressions, which together with the singer's individual voice and character help to define that singer's individual style. Thus, a musical personality shines through even if stylistic traits are shared.

Conclusion and Discussion

Four basic stylistic traits, or 'foundations', and four groups of more specific features were chosen to describe the essence of the Swedish traditional singing style. The basic stylistic foundations include the song as a cognitive framework, predominantly individual solo singing, modal tonality with variable intonation, and non-hierarchical interpretation. The four groups of features describe both musical and technical aspects of singing and include the language as an interpretative resource, individual pitch range, ornamentation, and phrasing and metre.

The features were formulated from the action of singing and from the singer's perspective in order to be useful in music making. Methods of description were not given, but they were developed based both on the earlier singing and teaching practice and on theoretical works, and thus partly mirrored the usefulness of these resources in bringing out the character of Swedish folk singing. Through the process of identifying the stylistic features of singing, and with the aim of teaching these features, tools that make it possible to become better at something, space is created to practice specifics outside the act of singing.

While studying and learning a singing tradition, it is important to focus on both repertoire and singing style as repositories of unique features that have something to say about the aesthetics of music. A methodology that addresses both repertoire and style could provide opportunities to highlight features that might otherwise be missed while keeping the focus on holistic learning, along with oral transmission, listening and mimicking, as the main model.

I argue, that being able to communicate both inside and outside a genre and being able to describe stylistic traits that reveal the tacit knowledge inherent in the practice is important today. It is important to provide communication tools, since having verbalised and conceptualised stylistic features also offers opportunities to those who are interested in obtaining knowledge and skills that might otherwise be veiled in mist. These stylistic features could also be useful for creating music outside the community of folk singing, for example, composers can obtain composition tools from these stylistic features. Descriptions of unique stylistic traits and singing styles can result in a methodology that is usable by and available to the many. The visibility of specific style elements helps us focus on them, thus it is valuable to describe the features individually as a starting point when seeking the ways of learning a style.

Tradition could be considered something that is moving, as if we were sitting in a boat rowing, looking back as we move forward into the future. The things chosen to be highlighted in a singing style will affect the future, but failing to highlight them will also affect the future. Things will change regardless. Tradition can be seen as a canvas or a platform for artistic and musical development. Promoting specific aspects in a singing style by describing them while not promoting others will shape the aesthetic choices of the future. And why shouldn't it?

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